LANCE R. LEFLEUR
DIRECTOR

KAY IVEY
GOVERNOR

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MARCH 3, 2025

Brian Puckett, Utility Board Chairman
City of Helena Utilities Board
Post Office Box 427
Helena, AL 35080

RE: Draft Permit
NPDES Permit No. AL0023116
Helena WWTP
Shelby County, Alabama

Dear Mr. Puckett:

Transmitted herein is a draft of the referenced permit.

We would appreciate your comments on the permit within **30 days** of the date of this letter. Please direct any comments of a technical or administrative nature to the undersigned.

By copy of this letter and the draft permit, we are also requesting comments within the same time frame from EPA.

Please be aware that Parts I.C.1.c and I.C.2.e of your permit require participation in the Department's Alabama Environmental Permitting and Compliance System (AEPACS) for submittal of DMRs and SSOs upon issuance of this permit unless valid justification as to why you cannot participate is submitted in writing. SSO hotline notifications and hard copy Form 415 SSO reports may be used only with the written approval from the Department. AEPACS allows ADEM to electronically validate and acknowledge receipt of the data. This improves the accuracy of reported compliance data and reduces costs to both the regulated community and ADEM. Please note that all AEPACS users can create the electronic DMRs and SSOs; however, only AEPACS users with certifier permissions will be able to submit the electronic DMRs and SSOs to ADEM.

Please also be aware that Part IV. of your permit requires that you develop, implement, and maintain a Sanitary Sewer Overflow Response Plan.

The Alabama Department of Environmental Management encourages you to voluntarily consider pollution prevention practices and alternatives at your facility. Pollution Prevention may assist you in complying with effluent limitations, and possibly reduce or eliminate monitoring requirements.

If you have questions regarding this permit or monitoring requirements, please contact Austin Dansby at austin.dansby@adem.alabama.gov or (334) 271-7812.

Sincerely,

Dustin Stokes, Chief
Municipal Section
Water Division

Enclosure

cc: Environmental Protection Agency Email
Ms. Elaine Snyder/U.S. Fish and Wildlife Service
Ms. Elizabeth Brown/Alabama Historical Commission
Advisory Council on Historic Preservation
Department of Conservation and Natural Resources

Birmingham Office
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

Decatur Office
2715 Sandlin Road, S.W.
Decatur, AL 35603-1333
(256) 353-1713
(256) 340-9359 (FAX)

Coastal Office
1615 South Broad Street
Mobile, AL 36605
(251) 450-3400
(251) 479-2593 (FAX)

ADEM
Alabama Department of Environmental Management

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

PERMITTEE: CITY OF HELENA UTILITIES BOARD
POST OFFICE BOX 427
HELENA, AL 35080

FACILITY LOCATION: HELENA WWTP (4.95 MGD)
590 OLD TOWNE PLACE
HELENA, ALABAMA
SHELBY COUNTY

PERMIT NUMBER: AL0023116

RECEIVING WATERS: BUCK CREEK

In accordance with and subject to the provisions of the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§1251-1388 (the "FWPCA"), the Alabama Water Pollution Control Act, as amended, ***Code of Alabama 1975****, §§ 22-22-1 to 22-22-14 (the "AWPCA"), the Alabama Environmental Management Act, as amended,* ***Code of Alabama 1975****, §§22-22A-1 to 22-22A-17, and rules and regulations adopted thereunder, and subject further to the terms and conditions set forth in this permit, the Permittee is hereby authorized to discharge into the above-named receiving waters.*

ISSUANCE DATE:

EFFECTIVE DATE:

EXPIRATION DATE:

Draft

Alabama Department of Environmental Management

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PART I: DISCHARGE LIMITATIONS, CONDITIONS, AND REQUIREMENTS

A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS

1. DSN 0012: Treated Domestic and Industrial Wastewater

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from Outfall 001, which is described more fully in the Permittee's application. Such discharge shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Freq See note (1)	Sample Type	Seasonal See note (2)
Oxygen, Dissolved (DO) (00300) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	*****	mg/l	3X Weekly test	Grab	W
Oxygen, Dissolved (DO) (00300) Effluent Gross Value	*****	*****	*****	6.5 Minimum Daily	*****	*****	mg/l	3X Weekly test	Grab	S
pH (00400) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	8.5 Maximum Daily	S.U.	3X Weekly test	Grab	Not Seasonal
Solids, Total Suspended (00530) Effluent Gross Value	1238 Monthly Average	1857 Weekly Average	lbs/day	*****	30.0 Monthly Average	45.0 Weekly Average	mg/l	3X Weekly test	24-Hr Composite	Not Seasonal
Solids, Total Suspended (00530) Raw Sew/Influent	(Report) Monthly Average	(Report) Weekly Average	lbs/day	*****	(Report) Monthly Average	(Report) Weekly Average	mg/l	3X Weekly test	24-Hr Composite	Not Seasonal
Nitrogen, Ammonia Total (As N) (00610) Effluent Gross Value	103 Monthly Average	154 Weekly Average	lbs/day	*****	2.5 Monthly Average	3.75 Weekly Average	mg/l	3X Weekly test	24-Hr Composite	W
Nitrogen, Ammonia Total (As N) (00610) Effluent Gross Value	41.2 Monthly Average	61.9 Weekly Average	lbs/day	*****	1.0 Monthly Average	1.5 Weekly Average	mg/l	3X Weekly test	24-Hr Composite	S

See Part II.C.1. for Bypass and Part II.C.2. for Upset conditions.

(1) Sample Frequency – See also Part I.B.2

(2) S = Summer (May – November)
W = Winter (December - April)
NTS = Nutrient Summer (April – October)
NTW = Nutrient Winter (November - March)
ECS = E. coli Summer (May - October)
ECW = E. coli Winter (November - April)

(3) See Part IV.C. for Total Residual Chlorine (TRC). Monitoring for TRC is applicable if chlorine is utilized for disinfection purposes. If monitoring is not applicable during the monitoring period, enter "*9" on the monthly DMR.

(4) A measurement of TRC below 0.05 mg/L shall be considered in compliance with the permit limitations above and should be reported as "*B" on the monthly DMR.

(5) From the permit effective date through March 31, 2032 – Monthly average limit = 0.20 mg/l during the summer season (NTS)

(6) From April 1, 2032 forward – Monthly average limit = 0.043 mg/l during the NTS

(7) For complete schedule, see Part I.E.2.

DSN 0012 (Continued): Treated Domestic and Industrial Wastewater

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from Outfall 001, which is described more fully in the Permittee's application. Such discharge shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Freq See note (1)	Sample Type	Seasonal See note (2)
Nitrogen, Kjeldahl Total (As N) (00625) Effluent Gross Value	309 Monthly Average	464 Weekly Average	lbs/day	*****	7.5 Monthly Average	11.2 Weekly Average	mg/l	3X Weekly test	24-Hr Composite	W
Nitrogen, Kjeldahl Total (As N) (00625) Effluent Gross Value	165 Monthly Average	247 Weekly Average	lbs/day	*****	4.0 Monthly Average	6.0 Weekly Average	mg/l	3X Weekly test	24-Hr Composite	S
Nitrite Plus Nitrate Total 1 Det. (As N) (00630) Effluent Gross Value	(Report) Monthly Average	(Report) Weekly Average	lbs/day	*****	(Report) Monthly Average	(Report) Weekly Average	mg/l	Monthly	24-Hr Composite	Not Seasonal
Phosphorus, Total (As P) (00665) Effluent Gross Value	(Report) Monthly Average	(Report) Weekly Average	lbs/day	*****	(Report) Monthly Average	(Report) Weekly Average	mg/l	3X Weekly test	24-Hr Composite	NTW
Phosphorus, Total (As P) (00665) See notes (5, 7) Effluent Gross Value	(Report) Monthly Average	(Report) Weekly Average	lbs/day	*****	0.20 Monthly Average	(Report) Weekly Average	mg/l	3X Weekly test	24-Hr Composite	NTS
Phosphorus, Total (As P) (00665) See notes (6, 7) Effluent Gross Value	(Report) Monthly Average	(Report) Weekly Average	lbs/day	*****	0.043 Monthly Average	(Report) Weekly Average	mg/l	3X Weekly test	24-Hr Composite	NTS
Flow, In Conduit or Thru Treatment Plant (50050) Effluent Gross Value	(Report) Monthly Average	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Daily	Continuous	Not Seasonal

See Part II.C.1. for Bypass and Part II.C.2. for Upset conditions.

(1) Sample Frequency – See also Part I.B.2

(2) S = Summer (May – November)

W = Winter (December - April)

NTS = Nutrient Summer (April - October)

NTW = Nutrient Winter (November - March)

ECS = E. coli Summer (May - October)

ECW = E. coli Winter (November - April)

(3) See Part IV.C. for Total Residual Chlorine (TRC). Monitoring for TRC is applicable if chlorine is utilized for disinfection purposes. If monitoring is not applicable during the monitoring period, enter "*9" on the monthly DMR.

(4) A measurement of TRC below 0.05 mg/L shall be considered in compliance with the permit limitations above and should be reported as "*B" on the monthly DMR.

(5) From the permit effective date through March 31, 2032 – Monthly average limit = 0.20 mg/l during the summer season (NTS)

(6) From April 1, 2032 forward – Monthly average limit = 0.043 mg/l during the NTS

(7) For complete schedule, see Part I.E.2.

DSN 0012 (Continued): Treated Domestic and Industrial Wastewater

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from Outfall 001, which is described more fully in the Permittee's application. Such discharge shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Freq See note (1)	Sample Type	Seasonal See note (2)
Chlorine, Total Residual (50060) See notes (3, 4) Effluent Gross Value	*****	*****	*****	*****	0.03 Monthly Average	0.05 Maximum Daily	mg/l	3X Weekly test	Grab	Not Seasonal
E. Coli (51040) Effluent Gross Value	*****	*****	*****	*****	548 Monthly Average	2507 Maximum Daily	col/100mL	3X Weekly test	Grab	ECW
E. Coli (51040) Effluent Gross Value	*****	*****	*****	*****	126 Monthly Average	298 Maximum Daily	col/100mL	3X Weekly test	Grab	ECS
BOD, Carbonaceous 05 Day, 20C (80082) Effluent Gross Value	412 Monthly Average	619 Weekly Average	lbs/day	*****	10.0 Monthly Average	15.0 Weekly Average	mg/l	3X Weekly test	24-Hr Composite	W
BOD, Carbonaceous 05 Day, 20C (80082) Effluent Gross Value	165 Monthly Average	247 Weekly Average	lbs/day	*****	4.0 Monthly Average	6.0 Weekly Average	mg/l	3X Weekly test	24-Hr Composite	S
BOD, Carbonaceous 05 Day, 20C (80082) Raw Sew/Influent	(Report) Monthly Average	(Report) Weekly Average	lbs/day	*****	(Report) Monthly Average	(Report) Weekly Average	mg/l	3X Weekly test	24-Hr Composite	Not Seasonal
BOD, Carb-5 Day, 20 Deg C, Percent Remvl (80091) Percent Removal	*****	*****	*****	85.0 Monthly Average Minimum	*****	*****	%	Monthly	Calculated	Not Seasonal
Solids, Suspended Percent Removal (81011) Percent Removal	*****	*****	*****	85.0 Monthly Average Minimum	*****	*****	%	Monthly	Calculated	Not Seasonal

See Part II.C.1. for Bypass and Part II.C.2. for Upset conditions.

(1) Sample Frequency – See also Part I.B.2

(2) S = Summer (May – November)
W = Winter (December – April)
NTS = Nutrient Summer (April – October)
NTW = Nutrient Winter (November - March)
ECS = E. coli Summer (May - October)
ECW = E. coli Winter (November - April)

(3) See Part IV.C. for Total Residual Chlorine (TRC). Monitoring for TRC is applicable if chlorine is utilized for disinfection purposes. If monitoring is not applicable during the monitoring period, enter "*9" on the monthly DMR.

(4) A measurement of TRC below 0.05 mg/L shall be considered in compliance with the permit limitations above and should be reported as "*B" on the monthly DMR.

(5) From the permit effective date through March 31, 2032 – Monthly average limit = 0.20 mg/l during the summer season (NTS)

(6) From April 1, 2032 forward – Monthly average limit = 0.043 mg/l during the NTS

(7) For complete schedule, see Part I.E.2.

2. **DSN 001T: Toxicity**

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from Outfall 001, which is described more fully in the Permittee's application. Such discharge shall be limited and monitored by the Permittee as specified below:

Parameter	Quantity or Loading		Units	Quality or Concentration			Units	Sample Freq See note (1)	Sample Type	Seasonal See note (2)
Toxicity, Ceriodaphnia Chronic (61426) Effluent Gross Value	*****	0 Single Sample	pass=0;fail=1	*****	*****	*****	*****	See Permit Requirements	24-Hr Composite	Nov
Toxicity, Pimephales Chronic (61428) Effluent Gross Value	*****	0 Single Sample	pass=0;fail=1	*****	*****	*****	*****	See Permit Requirements	24-Hr Composite	Nov

See Part II.C.1. for Bypass and Part II.C.2. for Upset conditions.

(1) Sample Frequency – See also Part I.B.2

(2) See Permit Requirements for Effluent Toxicity Testing in Part IV.B.

B. DISCHARGE MONITORING AND RECORD KEEPING REQUIREMENTS

1. Representative Sampling

Sample collection and measurement actions shall be representative of the volume and nature of the monitored discharge and shall be in accordance with the provisions of this permit. The effluent sampling point shall be at the nearest accessible location just prior to discharge and after final treatment, unless otherwise specified in the permit.

2. Measurement Frequency

Measurement frequency requirements found in Provision I.A. shall mean:

a. Seven days per week shall mean daily.

b. Five days per week shall mean any five days of discharge during a calendar weekly period of Sunday through Saturday.

c. Three days per week shall mean any three days of discharge during a calendar week.

d. Two days per week shall mean any two days of discharge during a calendar week

e. One day per week shall mean any day of discharge during a calendar week.

f. Two days per month shall mean any two days of discharge during the month that are no less than seven days apart. However, if discharges occur only during one seven-day period in a month, then two days per month shall mean any two days of discharge during that seven day period.

g. One day per month shall mean any day of discharge during the calendar month.

h. Quarterly shall mean any day of discharge during each calendar quarter.

i. The Permittee may increase the frequency of sampling, listed in Provisions I.B.2.a through I.B.2.h; however, all sampling results are to be reported to the Department.

3. Test Procedures

For the purpose of reporting and compliance, permittees shall use one of the following procedures:

a. For parameters with an EPA established Minimum Level (ML), report the measured value if the analytical result is at or above the ML and report "0" or "*B" for values below the ML. Test procedures for the analysis of pollutants shall conform to 40 CFR Part 136 and guidelines published pursuant to Section 304(h) of the FWPCA, 33 U.S.C. Section 1314(h). If more than one method for analysis of a substance is approved for use, a method having a minimum level lower than the permit limit shall be used. If the minimum level of all methods is higher than the permit limit, the method having the lowest minimum level shall be used and a report of less than the minimum level shall be reported as zero and will constitute compliance, however should EPA approve a method with a lower minimum level during the term of this permit the permittee shall use the newly approved method.

b. For pollutants parameters without an established ML, an interim ML may be utilized. The interim ML shall be calculated as 3.18 times the Method Detection Level (MDL) calculated pursuant to 40 CFR Part 136, Appendix B.

Permittees may develop an effluent matrix-specific ML, where an effluent matrix prevents attainment of the established ML. However, a matrix specific ML shall be based upon proper laboratory method and technique. Matrix-specific MLs must be approved by the Department, and may be developed by the permittee during permit issuance, reissuance, modification, or during compliance schedule.

In either case the measured value should be reported if the analytical result is at or above the ML and "0" or "*B" reported for values below the ML.

c. For parameters without an EPA established ML, interim ML, or matrix-specific ML, a report of less than the detection limit shall constitute compliance if the detection limit of all analytical methods is higher than the permit limit. For the purpose of calculating a monthly average, "0" shall be used for values reported less than the detection limit.

The Minimum Level utilized for procedures a and b above shall be reported on the permittee's DMR. When an EPA approved test procedure for analysis of a pollutant does not exist, the Director shall approve the procedure to be used.

4. **Recording of Results**

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The facility name and location, point source number, date, time and exact place of sampling;

b. The name(s) of person(s) who obtained the samples or measurements;

c. The dates and times the analyses were performed;

d. The name(s) of the person(s) who performed the analyses;

e. The analytical techniques or methods used, including source of method and method number; and

f. The results of all required analyses.

5. Records Retention and Production

a. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the above reports or the application for this permit, for a period of at least three years from the date of the sample measurement, report or application. This period may be extended by request of the Director at any time. If litigation or other enforcement action, under the AWPCA and/or the FWPCA, is ongoing which involves any of the above records, the records shall be kept until the litigation is resolved. Upon the written request of the Director or his designee, the permittee shall provide the Director with a copy of any record required to be retained by this paragraph. Copies of these records should not be submitted unless requested.

b. All records required to be kept for a period of three years shall be kept at the permitted facility or an alternate location approved by the Department in writing and shall be available for inspection.

6. **Reduction, Suspension or Termination of Monitoring and/or Reporting**

a. The Director may, with respect to any point source identified in Provision I.A. of this permit, authorize the permittee to reduce, suspend or terminate the monitoring and/or reporting required by this permit upon the submission of a written request for such reduction, suspension or termination by the permittee, supported by sufficient data which demonstrates to the satisfaction of the Director that the discharge from such point source will continuously meet the discharge limitations specified in Provision I.A. of this permit.

b. It remains the responsibility of the permittee to comply with the monitoring and reporting requirements of this permit until written authorization to reduce, suspend or terminate such monitoring and/or reporting is received by the permittee from the Director.

7. **Monitoring Equipment and Instrumentation**

All equipment and instrumentation used to determine compliance with the requirements of this permit shall be installed, maintained, and calibrated in accordance with the manufacturer's instructions or, in the absence of manufacturer's instructions, in accordance with accepted practices. At a minimum, flow measurement devices shall be calibrated at least once every 12 months.

C. DISCHARGE REPORTING REQUIREMENTS

1. **Reporting of Monitoring Requirements**

a. The permittee shall conduct the required monitoring in accordance with the following schedule:

(1) **MONITORING REQUIRED MORE FREQUENTLY THAN MONTHLY AND MONTHLY** shall be conducted during the first full month following the effective date of coverage under this permit and every month thereafter.

(2) **QUARTERLY MONITORING** shall be conducted at least once during each calendar quarter. Calendar quarters are the periods of January through March, April through June, July through September, and October through December. The permittee shall conduct the quarterly monitoring during the first complete calendar quarter following the effective date of this permit and is then required to monitor once during each quarter thereafter. Quarterly monitoring should be reported on the last DMR due for the quarter (i.e., March, June, September and December DMRs).

(3) **SEMIANNUAL MONITORING** shall be conducted at least once during the period of January through June and at least once during the period of July through December. The permittee shall conduct the semiannual monitoring during the first complete calendar semiannual period following the effective date of this permit and is then required to monitor once during each semiannual period thereafter. Semiannual monitoring may be done anytime during the semiannual period, unless restricted elsewhere in this permit, but it should be reported on the last DMR due for the month of the semiannual period (i.e., June and December DMRs).

(4) **ANNUAL MONITORING** shall be conducted at least once during the period of January through December. The permittee shall conduct the annual monitoring during the first complete calendar annual period following the effective date of this permit and is then required to monitor once during each annual period thereafter. Annual monitoring may be done anytime during the year, unless restricted elsewhere in this permit, but it should be reported on the December DMR.

b. The permittee shall submit discharge monitoring reports (DMRs) in accordance with the following schedule:

(1) **REPORTS OF MORE FREQUENTLY THAN MONTHLY AND MONTHLY TESTING** shall be submitted on a monthly basis. The first report is due on the 28th day of the month following the month the permit becomes effective. The reports shall be submitted so that they are received by the Department no later than the 28th day of the month following the reporting period, unless otherwise directed by the Department.

(2) **REPORTS OF QUARTERLY TESTING** shall be submitted on a quarterly basis. The first report is due on the 28th day of the month following the first complete calendar quarter the permit becomes effective. The reports shall be submitted so that they are received by the Department no later than the 28th day of the month following the reporting period, unless otherwise directed by the Department.

(3) **REPORTS OF SEMIANNUAL TESTING** shall be submitted on a semiannual basis. The reports are due on the 28th day of JANUARY and the 28th day of JULY. The reports shall be submitted so that they are received by the Department no later than the 28th day of the month following the reporting period, unless otherwise directed by the Department.

(4) **REPORTS OF ANNUAL TESTING** shall be submitted on an annual basis. Unless specified elsewhere in the permit, the first report is due on the 28th day of JANUARY. The reports shall be submitted so that they are received by the Department no later than the 28th day of the month following the reporting period, unless otherwise directed by the Department.

c. Except as allowed by Provision I.C.1.c.(1) or (2), the permittee shall submit all Discharge Monitoring Reports (DMRs) required by Provision I.C.1.b. electronically.

(1) If the permittee is unable to complete the electronic submittal of DMR data due to technical problems originating with the Department's electronic system (this could include entry/submittal issues with an entire set of DMRs or individual parameters), the permittee is not relieved of their obligation to submit DMR data to the Department by the date specified in Provision I.C.1.b., unless otherwise directed by the Department.

If the Department's electronic system is down on the 28th day of the month in which the DMR is due or is down for an extended period of time, as determined by the Department, when a DMR is required to be submitted, the permittee may submit the data in an alternate manner and format acceptable to the Department. Preapproved alternate acceptable methods include faxing, e-mailing, mailing, or hand-delivery of data such that they are received by the required reporting date. Within five calendar days of the Department's electronic system resuming operation, the permittee shall enter the data into the Department's electronic system, unless an alternate timeframe is approved by the Department. A comment should be included on the electronic DMR submittal verifying the original submittal date (date of the fax, copy of dated e-mail, or hand-delivery stamped date), if applicable.

(2) The permittee may submit a request to the Department for a temporary electronic reporting waiver for DMR submittals. The waiver request should include the permit number; permittee name; facility/site name; facility address; name, address, and contact information for the responsible official or duly authorized representative; a detailed statement regarding the basis for requesting such a waiver; and the duration for which the waiver is requested. Approved electronic reporting waivers are not transferrable.

(3) A permittee with an approved electronic reporting waiver for DMRs may submit hard copy DMRs for the period that the approved electronic reporting waiver request is effective. The permittee shall submit the Department-approved DMR forms to the address listed in Provision I.C.1.e.

(4) If a permittee is allowed to submit a hard copy DMR, the DMR must be legible and bear an original signature. Photo and electronic copies of the signature are not acceptable and shall not satisfy the reporting requirements of this permit.

(5) If the permittee, using approved analytical methods as specified in Provision I.B.2, monitors any discharge from a point source for a limited substance identified in Provision I.A. of this permit more frequently than required by this permit, the results of such monitoring shall be included in the calculation and reporting of values on the DMR and the increased frequency shall be indicated on the DMR.

(6) In the event no discharge from a point source identified in Provision I.A. of this permit and described more fully in the permittee's application occurs during a monitoring period, the permittee shall report "No Discharge" for such period on the appropriate DMR.

d. All reports and forms required to be submitted by this permit, the AWPCA and the Department's Rules and Regulations, shall be electronically signed (or, if allowed by the Department, traditionally signed) by a "responsible official" of the permittee as defined in ADEM Administrative Code Rule 335-6-6-.09 or a "duly authorized representative" of such official as defined in ADEM Administrative Code Rule 335-6-6-.09 and shall bear the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

e. Discharge Monitoring Reports required by this permit, the AWPCA, and the Department's Rules that are being submitted in hard copy shall be addressed to:

Alabama Department of Environmental Management
Office of Water Services, Water Division
Post Office Box 301463
Montgomery, Alabama 36130-1463

Certified and Registered Mail containing Discharge Monitoring Reports shall be addressed to:

Alabama Department of Environmental Management
Office of Water Services, Water Division
1400 Coliseum Boulevard
Montgomery, Alabama 36110-2400

f. All other correspondence and reports required to be submitted by this permit, the AWPCA, and the Department's Rules shall be addressed to:

Alabama Department of Environmental Management
Municipal Section, Water Division
Post Office Box 301463
Montgomery, Alabama 36130-1463

Certified and Registered Mail shall be addressed to:

Alabama Department of Environmental Management
Municipal Section, Water Division
1400 Coliseum Boulevard
Montgomery, Alabama 36110-2400

g. If this permit is a reissuance, then the permittee shall continue to submit DMRs in accordance with the requirements of their previous permit until such time as DMRs are due as discussed in Part I.C.1.b. above.

2. **Noncompliance Notifications and Reports**

a. The Permittee shall notify the Department if, for any reason, the Permittee's discharge:

(1) Does not comply with any daily minimum or maximum discharge limitation for an effluent characteristic specified in Provision I.A. of this permit which is denoted by an "(X)";

(2) Potentially threatens human health or welfare;

(3) Threatens fish or aquatic life;

(4) Causes an in-stream water quality criterion to be exceeded;

(5) Does not comply with an applicable toxic pollutant effluent standard or prohibition established under Section 307(a) of the FWPCA, 33 U.S.C. Section 1317(a);

(6) Contains a quantity of a hazardous substance that may be harmful to public health or welfare under Section 311(b)(4) of the FWPCA, 33 U.S.C. Section 1321(b)(4);

(7) Exceeds any discharge limitation for an effluent parameter listed in Part I.A. as a result of an unanticipated bypass or upset; or

(8) Is an unpermitted direct or indirect discharge of a pollutant to a water of the state. (Note that unpermitted discharges properly reported to the Department under any other requirement are not required to be reported under this provision.)

The Permittee shall orally or electronically provide notification of any of the above occurrences, describing the circumstances and potential effects, to the Director or Designee within 24-hours after the Permittee becomes aware of the occurrence of such discharge. In addition to the oral or electronic notification, the Permittee shall submit a report to the Director or Designee, as provided in Provision I.C.2.c. or I.C.2.e., no later than five days after becoming aware of the occurrence of such discharge or occurrence.

b. If, for any reason, the Permittee's discharge does not comply with any limitation of this permit, then the Permittee shall submit a written report to the Director or Designee, as provided in Provision I.C.2.c below. This report must be submitted with the next Discharge Monitoring Report required to be submitted by Provision I.C.1 of this permit after becoming aware of the occurrence of such noncompliance.

c. Except for notifications and reports of notifiable SSOs which shall be submitted in accordance with the applicable Provisions of this permit, the Permittee shall submit the reports required under Provisions I.C.2.a. and b. to the Director or Designee on ADEM Form 421, available on the Department's website (http://www.adem.state.al.us/DeptForms/Form421.pdf). The completed Form must document the following information:

(1) A description of the discharge and cause of noncompliance;

(2) The period of noncompliance, including exact dates, times, and duration of the noncompliance. If the noncompliance is not corrected by the due date of the written report, then the Permittee shall provide an estimated date by which the noncompliance will be corrected; and

(3) A description of the steps taken by the Permittee and the steps planned to be taken by the Permittee to reduce or eliminate the noncompliant discharge and to prevent its recurrence.

d. Immediate notification

The Permittee shall provide notification to the Director, the public, the county health department, and any other affected entity such as public water systems, as soon as possible upon becoming aware of any notifiable sanitary sewer overflow. Notification to the Director shall be completed utilizing the Department's web-based electronic environmental SSO reporting system in accordance with Provision I.C.2.e.

e. The Department is utilizing an electronic system for notification and submittal of SSO reports. Except as noted below, the Permittee must submit all SSO reports electronically in the Department's electronic system. If requested, waivers from utilization of the electronic system shall be submitted in accordance with ADEM Admin. Code 335-6-1-.04(6). The Department's electronic reporting system shall be utilized unless a written waiver has been granted. A waiver is not effective until receipt of written approval from the Department. Utilization of verbal notifications and hard copy SSO report submittals is allowed only if approved in writing by the Department. The Permittee shall include in the SSO reports the information requested by ADEM Form 415. In addition, the Permittee shall include the latitude and longitude of the SSO in the report except when the SSO is a result of an extreme weather event (e.g., hurricane). To participate in the electronic system for SSO reports, an account may be created at https://aepacs.adem.alabama.gov/nviro/ncore/external/home. If the electronic system is down (i.e., electronic submittal of SSO data cannot be completed due to technical problems originating with the Department's system), the Permittee is not relieved of its obligation to notify the Department or submit SSO reports to the Department by the required submittal date, and the Permittee shall submit the data in an alternate manner and format acceptable to the Department. Preapproved alternate acceptable methods include verbal reports, reports submitted via the SSO hotline, or reports submitted via fax, e-mail, mail, or hand-delivery such that they are

received by the required reporting date. Within five calendar days of the electronic system resuming operation, the Permittee shall enter the data into the electronic system, unless an alternate timeframe is approved by the Department. For any alternate notification, records of the date, time, notification method, and person submitting the notification should be maintained by the Permittee. If a Permittee is allowed to submit SSO reports via an alternate method, the SSO report must be in a format approved by the Department and must be legible.

f. The Permittee shall maintain a record of all known wastewater discharge points that are not authorized as permitted outfalls, including but not limited to SSOs. The Permittee shall include this record in its **Municipal Water Pollution Prevention (MWPP) Annual Reports**, which shall be submitted to the Department each year by May 31st for the prior calendar year period beginning January 1st and ending December 31st. The MWPP Annual Reports shall contain a list of all known wastewater discharge points that are not authorized as permitted outfalls and any discharges that occur prior to the headworks of the wastewater treatment plant covered by this permit. The Permittee shall also provide in the MWPP Annual Reports a list of any discharges reported during the applicable time period in accordance with Provision I.C.2.a. The Permittee shall include in its MWPP Annual Reports the following information for each known unpermitted discharge that occurred:

(1) The cause of the discharge;

(2) Date, duration and volume of discharge (estimate if unknown);

(3) Description of the source (e.g., manhole, lift station);

(4) Location of the discharge, by latitude and longitude (or other appropriate method as approved by the Department);

(5) The ultimate destination of the flow (e.g., surface waterbody, municipal separate storm sewer to surface waterbody); and

(6) Corrective actions taken and/or planned to eliminate future discharges.

D. OTHER REPORTING AND NOTIFICATION REQUIREMENTS

1. Anticipated Noncompliance

The permittee shall give the Director written advance notice of any planned changes or other circumstances regarding a facility which may result in noncompliance with permit requirements.

2. Termination of Discharge

The permittee shall notify the Director, in writing, when all discharges from any point source(s) identified in Provision I. A. of this permit have permanently ceased. This notification shall serve as sufficient cause for instituting procedures for modification or termination of the permit.

3. Updating Information

a. The permittee shall inform the Director of any change in the permittee's mailing address or telephone number or in the permittee's designation of a facility contact or office having the authority and responsibility to prevent and abate violations of the AWPCA, the Department's Rules and the terms and conditions of this permit, in writing, no later than ten (10) days after such change. Upon request of the Director or his designee, the permittee shall furnish the Director with an update of any information provided in the permit application.

b. If the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information with a written explanation for the mistake and/or omission.

4. Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director or his designee may request to determine whether cause exists for modifying, revoking and re-issuing, suspending, or terminating this permit, in whole or in part, or to determine compliance with this permit.

E. SCHEDULE OF COMPLIANCE

1. Compliance with discharge limits

The permittee shall achieve compliance with the discharge limitations specified in Provision I. A. in accordance with the following schedule:

COMPLIANCE SHALL BE ATTAINED ON THE EFFECTIVE DATE OF THIS PERMIT

2. Compliance with Total Phosphorus limits (Note: Summer Nutrient Season is April – October)

The Permittee shall achieve compliance with the discharge limitations for Total Phosphorus (TP) specified in Provision I.A according to the following schedule:

July 1, 2025 July 1, 2026 July 1, 2027 July 1, 2028 July 1, 2029 July 1, 2030 July 1, 2031	Submit report describing the Permittee's progress towards achieving compliance with TP limit of 0.043 mg/L. The report should include a discussion of the projects completed to date and a schedule for any projects that remain to be completed. The following should be included in the report, where applicable: pollution abatement program and preliminary plans; final plans, specifications, and drawings; date(s) of initiation of construction; and date(s) of attainment of operational status.
April 1, 2032	**Achieve compliance with TP limit of 0.043 mg/L (growing season monthly average)**

3. Schedule

No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

PART II: OTHER REQUIREMENTS, RESPONSIBILITIES, AND DUTIES

A. OPERATIONAL AND MANAGEMENT REQUIREMENTS

1. Facilities Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of the permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities only when necessary to achieve compliance with the conditions of the permit.

2. Best Management Practices

a. Dilution water shall not be added to achieve compliance with discharge limitations except when the Director or his designee has granted prior written authorization for dilution to meet water quality requirements.

b. The permittee shall prepare, implement, and maintain a Spill Prevention, Control and Countermeasures (SPCC) Plan in accordance with 40 C.F.R. Section 112 if required thereby.

c. The permittee shall prepare, submit for approval and implement a Best Management Practices (BMP) Plan for containment of any or all process liquids or solids, in a manner such that these materials do not present a significant potential for discharge, if so required by the Director or his designee. When submitted and approved, the BMP Plan shall become a part of this permit and all requirements of the BMP Plan shall become requirements of this permit.

3. Certified Operator

The permittee shall not operate any wastewater treatment plant unless the competency of the operator to operate such plant has been duly certified by the Director pursuant to AWPCA, and meets the requirements specified in ADEM Administrative Code, Rule 335-10-1.

B. OTHER RESPONSIBILITIES

1. Duty to Mitigate Adverse Impacts

The permittee shall promptly take all reasonable steps to mitigate and minimize or prevent any adverse impact on human health or the environment resulting from noncompliance with any discharge limitation specified in Provision I. A. of this permit, including such accelerated or additional monitoring of the discharge and/or the receiving waterbody as necessary to determine the nature and impact of the noncomplying discharge.

2. Right of Entry and Inspection

a. The permittee shall allow the Director, or an authorized representative, upon the presentation of proper credentials and other documents as may be required by law to:

(1) Enter upon the permittee's premises where a regulated facility or activity or point source is located or conducted, or where records must be kept under the conditions of the permit;

(2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permits;

(3) Inspect any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under the permit; and

(4) Sample or monitor, for the purposes of assuring permit compliance or as otherwise authorized by the AWPCA, any substances or parameters at any location.

C. BYPASS AND UPSET

1. Bypass

a. Any bypass is prohibited except as provided in b. and c. below:

b. A bypass is not prohibited if:

(1) It does not cause any discharge limitation specified in Provision I. A. of this permit to be exceeded;

(2) It enters the same receiving stream as the permitted outfall; and

(3) It is necessary for essential maintenance of a treatment or control facility or system to assure efficient operation of such facility or system.

c. A bypass is not prohibited and need not meet the discharge limitations specified in Provision I. A. of this permit if:

(1) It is unavoidable to prevent loss of life, personal injury, or severe property damage;

(2) There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime (this condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance); and

(3) The permittee submits a written request for authorization to bypass to the Director at least ten (10) days prior to the anticipated bypass (if possible), the permittee is granted such authorization, and the permittee complies with any conditions imposed by the Director to minimize any adverse impact on human health or the environment resulting from the bypass.

d. The permittee has the burden of establishing that each of the conditions of Provision II. C. 1. b. or c. have been met to qualify for an exception to the general prohibition against bypassing contained in a. and an exemption, where applicable, from the discharge limitations specified in Provision I. A. of this permit.

2. **Upset**

a. A discharge which results from an upset need not meet the discharge limitations specified in Provision I. A. of this permit if:

(1) No later than 24-hours after becoming aware of the occurrence of the upset, the Permittee orally reports the occurrence and circumstances of the upset to the Director or his designee; and

(2) No later than five (5) days after becoming aware of the occurrence of the upset, the Permittee furnishes the Director with evidence, including properly signed, contemporaneous operating logs, or other relevant evidence, demonstrating that:

(i) An upset occurred;

(ii) The Permittee can identify the specific cause(s) of the upset;

(iii) The Permittee's facility was being properly operated at the time of the upset; and

(iv) The Permittee promptly took all reasonable steps to minimize any adverse impact on human health or the environment resulting from the upset.

b. The permittee has the burden of establishing that each of the conditions of Provision II. C. 2. a. of this permit have been met to qualify for an exemption from the discharge limitations specified in Provision I. A. of this permit.

D. DUTY TO COMPLY WITH PERMIT, RULES, AND STATUTES

1. **Duty to Comply**

a. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the AWPCA and the FWPCA and is grounds for enforcement action, permit termination, revocation and reissuance, suspension, modification, or denial of a permit renewal application.

b. The necessity to halt or reduce production or other activities in order to maintain compliance with the conditions of the permit shall not be a defense for a permittee in an enforcement action.

c. The discharge of a pollutant from a source not specifically identified in the permit application for this permit and not specifically included in the description of an outfall in this permit is not authorized and shall constitute noncompliance with this permit.

d. The permittee shall take all reasonable steps, including cessation of production or other activities, to minimize or prevent any violation of this permit or to minimize or prevent any adverse impact of any permit violation.

e. Nothing in this permit shall be construed to preclude or negate the Permittee's responsibility to apply for, obtain, or comply with other Federal, State, or Local Government permits, certifications,or licenses or to preclude from obtaining other federal, state, or local approvals, including those applicable to other ADEM programs and regulations.

2. **Removed Substances**

Solids, sludges, filter backwash, or any other pollutant or other waste removed in the course of treatment or control of wastewaters shall be disposed of in a manner that complies with all applicable Department Rules.

3. **Loss or Failure of Treatment Facilities**

Upon the loss or failure of any treatment facilities, including but not limited to the loss or failure of the primary source of power of the treatment facility, the permittee shall, where necessary to maintain compliance with the discharge limitations specified in Provision I. A. of this permit, or any other terms or conditions of this permit, cease, reduce, or otherwise control production and/or all discharges until treatment is restored. If control of discharge during loss or failure of the primary source of power is to be accomplished by means of alternate power sources, standby generators, or retention of inadequately treated effluent, the permittee must furnish to the Director within six months a certification that such control mechanisms have been installed.

4. **Compliance with Statutes and Rules**

a. This permit has been issued under ADEM Administrative Code, Chapter 335-6-6. All provisions of this chapter, that are applicable to this permit, are hereby made a part of this permit. A copy of this chapter may be obtained for a small charge from the Office of General Counsel, Alabama Department of Environmental Management, 1400 Coliseum Boulevard Montgomery, Alabama 36110-2059.

b. This permit does not authorize the noncompliance with or violation of any Laws of the State of Alabama or the United States of America or any regulations or rules implementing such laws. FWPCA, 33 U.S.C. Section 1319, and Code of Alabama 1975, Section 22-22-14.

E. PERMIT TRANSFER, MODIFICATION, SUSPENSION, REVOCATION, AND REISSUANCE

1. **Duty to Reapply or Notify of Intent to Cease Discharge**

a. If the permittee intends to continue to discharge beyond the expiration date of this permit, the permittee shall file a complete permit application for reissuance of this permit at least 180 days prior to its expiration. If the permittee does not intend to continue discharge beyond the expiration of this permit, the permittee shall submit written notification of this intent which shall be signed by an individual meeting the signatory requirements for a permit application as set forth in ADEM Administrative Code Rule 335-6-6-.09.

b. Failure of the permittee to apply for reissuance at least 180 days prior to permit expiration will void the automatic continuation of the expiring permit provided by ADEM Administrative Code Rule 335-6-6-.06 and should the permit not be reissued for any reason any discharge after expiration of this permit will be an unpermitted discharge.

2. **Change in Discharge**

Prior to any facility expansion, process modification or any significant change in the method of operation of the permittee's treatment works, the permittee shall provide the Director with information concerning the planned expansion, modification or change. The permittee shall apply for a permit modification at least 180 days prior to any facility expansion, process modification, significant change in the method of operation of the permittee's treatment works, or other actions that could result in the discharge of additional pollutants or increase the quantity of a discharged pollutant or could result in an additional discharge point. This condition applies to pollutants that are or that are not subject to discharge limitations in this permit. No new or increased discharge may begin until the Director has authorized it by issuance of a permit modification or a reissued permit.

3. **Transfer of Permit**

This permit may not be transferred or the name of the permittee changed without notice to the Director and subsequent modification or revocation and reissuance of the permit to identify the new permittee and to incorporate any other changes as may be required under the FWPCA or AWPCA. In the case of a change in name, ownership or control of the permittee's premises only, a request for permit modification in a format acceptable to the Director is required at least 30 days prior to the change. In the case of a change in name, ownership, or control of the permittee's premises accompanied by a change or proposed change in effluent characteristics, a complete permit application is required to

be submitted to the Director at least 180 days prior to the change. Whenever the Director is notified of a change in name, ownership, or control, he may decide not to modify the existing permit and require the submission of a new permit application.

4. **Permit Modification and Revocation**

a. This permit may be modified or revoked and reissued, in whole or in part, during its term for cause, including but not limited to, the following:

(1) If cause for termination under Provision II. E. 5. of this permit exists, the Director may choose to revoke and reissue this permit instead of terminating the permit;

(2) If a request to transfer this permit has been received, the Director may decide to revoke and reissue or to modify the permit; or

(3) If modification or revocation and reissuance is requested by the permittee and cause exists, the Director may grant the request.

b. This permit may be modified during its term for cause, including but not limited to, the following:

(1) If cause for termination under Provision II. E. 5. of this permit exists, the Director may choose to modify this permit instead of terminating this permit;

(2) There are material and substantial alterations or additions to the facility or activity generating wastewater which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit;

(3) The Director has received new information that was not available at the time of permit issuance and that would have justified the application of different permit conditions at the time of issuance;

(4) A new or revised requirement(s) of any applicable standard or limitation is promulgated under Sections 301(b)(2)(C), (D), (E), and (F), and 307(a)(2) of the FWPCA;

(5) Errors in calculation of discharge limitations or typographical or clerical errors were made;

(6) To the extent allowed by ADEM Administrative Code, Rule 335-6-6-.17, when the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued;

(7) To the extent allowed by ADEM Administrative Code, Rule 335-6-6-.17, permits may be modified to change compliance schedules;

(8) To agree with a granted variance under 301(c), 301(g), 301(h), 301(k), or 316(a) of the FWPCA or for fundamentally different factors;

(9) To incorporate an applicable 307(a) FWPCA toxic effluent standard or prohibition;

(10) When required by the reopener conditions in this permit;

(11) When required under 40 CFR 403.8(e) (compliance schedule for development of pretreatment program);

(12) Upon failure of the state to notify, as required by Section 402(b)(3) of the FWPCA, another state whose waters may be affected by a discharge permitted by this permit;

(13) When required to correct technical mistakes, such as errors in calculation, or mistaken interpretations of law made in determining permit conditions; or

(14) When requested by the permittee and the Director determines that the modification has cause and will not result in a violation of federal or state law, regulations or rules; or

5. **Termination**

This permit may be terminated during its term for cause, including but not limited to, the following:

a. Violation of any term or condition of this permit;

b. The permittee's misrepresentation or failure to disclose fully all relevant facts in the permit application or during the permit issuance process or the permittee's misrepresentation of any relevant facts at any time;

c. Materially false or inaccurate statements or information in the permit application or the permit;

d. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge;

e. The permittee's discharge threatens human life or welfare or the maintenance of water quality standards;

f. Permanent closure of the facility generating the wastewater permitted to be discharged by this permit or permanent cessation of wastewater discharge;

g. New or revised requirements of any applicable standard or limitation that is promulgated under Sections 301(b)(2)(C), (D), (E), and (F), and 307(a)(2) of the FWPCA that the Director determines cannot be complied with by the permittee.

h. Any other cause allowed by the ADEM Administrative Code, Chapter 335-6-6.

6. **Suspension**

This permit may be suspended during its term for noncompliance until the permittee has taken action(s) necessary to achieve compliance.

7. **Stay**

The filing of a request by the permittee for modification, suspension, or revocation of this permit, in whole or in part, does not stay any permit term or condition.

F. COMPLIANCE WITH TOXIC POLLUTANT STANDARD OR PROHIBITION

If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the FWPCA, 33 U.S.C. Section 1317(a), for a toxic pollutant discharged by the permittee and such standard or prohibition is more stringent than any discharge limitation on the pollutant specified in Provision I. A. of this permit, or controls a pollutant not limited in Provision I. A. of this permit, this permit shall be modified to conform to the toxic pollutant effluent standard or prohibition and the permittee shall be notified of such modification. If this permit has not been modified to conform to the toxic pollutant effluent standard or prohibition before the effective date of such standard or prohibition, the permittee shall attain compliance with the requirements of the standard or prohibition within the time period required by the standard or prohibition and shall continue to comply with the standard or prohibition until this permit is modified or reissued.

G. NOTICE TO DIRECTOR OF INDUSTRIAL USERS

1. The permittee shall not allow the introduction of wastewater, other than domestic wastewater, from a new indirect discharger prior to approval and permitting, if applicable, of the discharge by the Department.

2. The permittee shall not allow an existing indirect discharger to increase the quantity or change the character of its wastewater, other than domestic wastewater, prior to approval and permitting, if applicable, of the increased discharge by the Department.

3. The permittee shall report to the Department any adverse impact caused or believed to be caused by an indirect discharger on the treatment process, quality of discharged water or quality of sludge. Such report shall be submitted within seven days of the permittee becoming aware of the adverse impacts.

H. PROHIBITIONS

The permittee shall not allow, and shall take effective enforcement action to prevent and terminate, the introduction of any of the following into its treatment works by industrial users:

1. Pollutants which may create a fire or explosive hazard, including, but not limited to, waste streams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees Centigrade using the test methods specified in 40 CFR 261.21;

2. Pollutants which may cause corrosive structural damage to the treatment works, but in no case discharges with a pH lower than 5.0;

3. Solid or viscous pollutants in amounts which may cause obstruction to the flow in sewers, or other interference in the treatment works;

4. Any pollutant, including oxygen demanding pollutants (BOD, etc.) of such volume or strength as to cause interference in the treatment works;

5. Heat in amounts which may inhibit biological activity in the treatment plant resulting in interference but in no case in such quantities that the temperature of the influent, at the treatment plant, exceeds 40 degrees centigrade or 104 degrees Fahrenheit;
6. Pollutants which may result in the presence of toxic gases, vapors, or fumes within the treatment works in a quantity that may cause acute worker health and safety problems;
7. Unless specifically authorized by this permit, any pollutants not generated at the facility for which this permit was issued; or
8. Petroleum oil, biodegradable cutting oil, or products of mineral oil origin in amounts that will cause pass through or interference.

PART III: ADDITIONAL REQUIREMENTS, CONDITIONS, AND LIMITATIONS

A. CIVIL AND CRIMINAL LIABILITY

1. **Tampering**

   Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained or performed under the permit shall, upon conviction, be subject to penalties as provided by the AWPCA.

2. **False Statements**

   Any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be subject to penalties as provided by the AWPCA.

3. **Permit Enforcement**

   a. Any NPDES permit issued or reissued by the Department is a permit for the purpose of the AWPCA and the FWPCA and as such any terms, conditions, or limitations of the permit are enforceable under state and federal law.

   b. Any person required to have a NPDES permit pursuant to ADEM Administrative Code Chapter 335-6-6 and who discharges pollutants without said permit, who violates the conditions of said permit, who discharges pollutants in a manner not authorized by the permit, or who violates applicable orders of the Department or any applicable rule or standard of the Department, is subject to any one or combination of the following enforcement actions under applicable state statutes:

      (1) An administrative order requiring abatement, compliance, mitigation, cessation, clean-up, and/or penalties:

      (2) An action for damages:

      (3) An action for injunctive relief; or

      (4) An action for penalties.

   c. If the permittee is not in compliance with the conditions of an expiring or expired permit the Director may choose to do any or all of the following provided the permittee has made a timely and complete application for reissuance of the permit:

      (1) Initiate enforcement action based upon the permit which has been continued;

      (2) Issue a notice of intent to deny the permit reissuance. If the permit is denied, the owner or operator would then be required to cease the activities authorized by the continued permit or be subject to enforcement action for operating without a permit;

      (3) Reissue the new permit with appropriate conditions; or

      (4) Take other actions authorized by these rules and AWPCA.

4. **Relief from Liability**

   Except as provided in Provision II. C. 1. (Bypass) and Provision II. C. 2. (Upset), nothing in this permit shall be construed to relieve the permittee of civil or criminal liability under the AWPCA or FWPCA for noncompliance with any term or condition of this permit.

B. OIL AND HAZARDOUS SUBSTANCE LIABILITY

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject under Section 311 of the FWPCA, 33 U.S.C. Section 1321.

C. PROPERTY AND OTHER RIGHTS

This permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to persons or property or invasion of other private rights, or any infringement of federal, state, or local laws or regulations, nor does it authorize or approve the construction of any physical structures or facilities or the undertaking of any work in any waters of the state or of the United States.

D. AVAILABILITY OF REPORTS

Except for data determined to be confidential under Code of Alabama 1975, Section 22-22-9(c), all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. Effluent data shall not be considered confidential.

E. EXPIRATION OF PERMITS FOR NEW OR INCREASED DISCHARGES

1. If this permit was issued for a new discharger or new source, this permit shall expire eighteen months after the issuance date if construction of the facility has not begun during the eighteen-month period.
2. If this permit was issued or modified to allow the discharge of increased quantities of pollutants to accommodate the modification of an existing facility, and if construction of this modification has not begun during the eighteen month period after issuance of this permit or permit modification, this permit shall be modified to reduce the quantities of pollutants allowed to be discharged to those levels that would have been allowed if the modification of the facility had not been planned.
3. Construction has begun when the owner or operator has:
   a. Begun, or caused to begin as part of a continuous on-site construction program:
      (1) Any placement, assembly, or installation of facilities or equipment; or
      (2) Significant site preparation work including clearing, excavation, or removal of existing buildings, structures, or facilities which are necessary for the placement, assembly, or installation of new source facilities or equipment; or
   b. Entered into a binding contractual obligation for the purpose of placement, assembly, or installation of facilities or equipment which are intended to be used in its operation within a reasonable time. Options to purchase or contracts which can be terminated or modified without substantial loss, and contracts for feasibility, engineering, and design studies do not constitute a contractual obligation under this paragraph.
4. Final plans and specifications for a waste treatment facility at a new source or new discharger, or a modification to an existing waste treatment facility must be submitted to and examined by the Department prior to initiating construction of such treatment facility by the permittee.
5. Upon completion of construction of waste treatment facilities and prior to operation of such facilities, the permittee shall submit to the Department a certification from a registered professional engineer, licensed to practice in the State of Alabama, that the treatment facilities have been built according to plans and specifications submitted to and examined by the Department.

F. COMPLIANCE WITH WATER QUALITY STANDARDS

1. On the basis of the permittee's application, plans, or other available information, the Department has determined that compliance with the terms and conditions of this permit should assure compliance with the applicable water quality standards.
2. Compliance with permit terms and conditions notwithstanding, if the permittee's discharge(s) from point sources identified in Provision I. A. of this permit cause or contribute to a condition in contravention of state water quality standards, the Department may require abatement action to be taken by the permittee in emergency situations or modify the permit pursuant to the Department's Rules, or both.
3. If the Department determines, on the basis of a notice provided pursuant to this permit or any investigation, inspection or sampling, that a modification of this permit is necessary to assure maintenance of water quality standards or compliance with other provisions of the AWPCA or FWPCA, the Department may require such modification and, in cases of emergency, the Director may prohibit the discharge until the permit has been modified.

G. GROUNDWATER

Unless specifically authorized under this permit, this permit does not authorize the discharge of pollutants to groundwater. Should a threat of groundwater contamination occur, the Director may require groundwater monitoring to properly assess the degree of the problem, and the Director may require that the permittee undertake measures to abate any such discharge and/or contamination.

H. DEFINITIONS

1. **Average monthly discharge limitation** - means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month (zero discharge days shall not be included in the number of "daily discharges" measured and a less than detectable test result shall be treated as a concentration of zero if the most sensitive EPA approved method was used).
2. **Average weekly discharge limitation** - means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week (zero discharge days shall not be included in the number of "daily discharges" measured and a less than detectable test result shall be treated as a concentration of zero if the most sensitive EPA approved method was used).
3. **Arithmetic Mean** – means the summation of the individual values of any set of values divided by the number of individual values.
4. **AWPCA** - means the Alabama Water Pollution Control Act.
5. **BOD** – means the five-day measure of the pollutant parameter biochemical oxygen demand.
6. **Bypass** - means the intentional diversion of waste streams from any portion of a treatment facility.
7. **CBOD** – means the five-day measure of the pollutant parameter carbonaceous biochemical oxygen demand.
8. **Daily discharge** - means the discharge of a pollutant measured during any consecutive 24-hour period in accordance with the sample type and analytical methodology specified by the discharge permit.
9. **Daily maximum** - means the highest value of any individual sample result obtained during a day.
10. **Daily minimum** - means the lowest value of any individual sample result obtained during a day.
11. **Day** - means any consecutive 24-hour period.
12. **Department** - means the Alabama Department of Environmental Management.
13. **Director** - means the Director of the Department.
14. **Discharge** - means "[t]he addition, introduction, leaking, spilling or emitting of any sewage, industrial waste, pollutant or other waste into waters of the state". Code of Alabama 1975, Section 22-22-1(b)(9).
15. **Discharge Monitoring Report (DMR)** - means the form approved by the Director to accomplish reporting requirements of an NPDES permit.
16. **DO** – means dissolved oxygen.
17. **8HC** – means 8-hour composite sample, including any of the following:
    a. The mixing of at least 8 equal volume samples collected at constant time intervals of not more than 1 hour over a period of not less than 8 hours between the hours of 6:00 a.m. and 6:00 p.m. If the sampling period exceeds 8 hours, sampling may be conducted beyond the 6:00 a.m. to 6:00 p.m. period.
    b. A sample continuously collected at a constant rate over period of not less than 8 hours between the hours of 6:00 a.m. and 6:00 p.m. If the sampling period exceeds 8 hours, sampling may be conducted beyond the 6:00 a.m. to 6:00 p.m. period.
18. **EPA** - means the United States Environmental Protection Agency.
19. **FC** – means the pollutant parameter fecal coliform.
20. **Flow** – means the total volume of discharge in a 24-hour period.
21. **FWPCA** - means the Federal Water Pollution Control Act.
22. **Geometric Mean** – means the Nth root of the product of the individual values of any set of values where N is equal to the number of individual values. The geometric mean is equivalent to the antilog of the arithmetic mean of the logarithms of the individual values. For purposes of calculating the geometric mean, values of zero (0) shall be considered one (1).

23. **Grab Sample** – means a single influent or effluent portion which is not a composite sample. The sample(s) shall be collected at the period(s) most representative of the discharge.

24. **Indirect Discharger** – means a nondomestic discharger who discharges pollutants to a publicly owned treatment works or a privately owned treatment facility operated by another person.

25. **Industrial User** – means those industries identified in the Standard Industrial Classification manual, Bureau of the Budget 1967, as amended and supplemented, under the category "Division D – Manufacturing" and such other classes of significant waste producers as, by regulation, the Director deems appropriate.

26. **MGD** – means million gallons per day.

27. **Monthly Average** – means the arithmetic mean of all the composite or grab samples taken for the daily discharges collected in one month period. The monthly average for flow is the arithmetic mean of all flow measurements taken in a one month period.

28. **New Discharger** – means a person, owning or operating any building, structure, facility, or installation:

    a) From which there is or may be a discharge of pollutants;

    b) That did not commence the discharge of pollutants prior to August 13, 1979, and which is not a new source; and

    c) Which has never received a final effective NPDES permit for dischargers at that site.

29. **NH3-N** – means the pollutant parameter ammonia, measured as nitrogen.

30. **Notifiable sanitary sewer overflow** - means an overflow, spill, release or diversion of wastewater from a sanitary sewer system that:

    a) Reaches a surface water of the State; or

    b) May imminently and substantially endanger human health based on potential for public exposure including but not limited to close proximity to public or private water supply wells or in areas where human contact would be likely to occur.

31. **Permit application** - means forms and additional information that is required by ADEM Administrative Code Rule 335-6-6-.08 and applicable permit fees.

32. **Point source** - means "any discernible, confined and discrete conveyance, including but not limited to any pipe, channel, ditch, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, . . . from which pollutants are or may be discharged." Section 502(14) of the FWPCA, 33 U.S.C. Section 1362(14).

33. **Pollutant** - includes for purposes of this permit, but is not limited to, those pollutants specified in Code of Alabama 1975, Section 22-22-1(b)(3) and those effluent characteristics specified in Provision I. A. of this permit.

34. **Privately Owned Treatment Works** – means any devices or system which is used to treat wastes from any facility whose operator is not the operator of the treatment works, and which is not a "POTW".

35. **Publicly Owned Treatment Works (POTW)** – means a wastewater collection and treatment facility owned by the State, municipality, regional entity composed of two or more municipalities, or another entity created by the State or local authority for the purpose of collecting and treating municipal wastewater.

36. **Receiving Stream** – means the "waters" receiving a "discharge" from a "point source".

37. **Severe property damage** - means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

38. **Significant Source** – means a source which discharges 0.025 MGD or more to a POTW or greater than five percent of the treatment work's capacity, or a source which is a primary industry as defined by the U.S. EPA or which discharges a priority or toxic pollutant.

39. **TKN** – means the pollutant parameter Total Kjeldahl Nitrogen.

40. **TON** – means the pollutant parameter Total Organic Nitrogen.

41. **TRC** – means Total Residual Chlorine.

42. **TSS** – means the pollutant parameter Total Suspended Solids.

43. **24HC** – means 24-hour composite sample, including any of the following:

    a) The mixing of at least 8 equal volume samples collected at constant time intervals of not more than 2 hours over a period of 24 hours;

    b) A sample collected over a consecutive 24-hour period using an automatic sampler composite to one sample. As a minimum, samples shall be collected hourly and each shall be no more than one twenty-fourth (1/24) of the total sample volume collected;

    c) A sample collected over a consecutive 24-hour period using an automatic composite sampler composited proportional to flow.

44. **Upset** - means an exceptional incident in which there is an unintentional and temporary noncompliance with technology-based permit discharge limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

45. **Waters** - means "[a]ll waters of any river, stream, watercourse, pond, lake, coastal, ground or surface water, wholly or partially within the state, natural or artificial. This does not include waters which are entirely confined and retained completely upon the property of a single individual, partnership or corporation unless such waters are used in interstate commerce." Code of Alabama 1975, Section 22-22-1(b)(2). Waters "include all navigable waters" as defined in Section 502(7) of the FWPCA, 22 U.S.C. Section 1362(7), which are within the State of Alabama.

46. **Week** - means the period beginning at twelve midnight Saturday and ending at twelve midnight the following Saturday.

47. **Weekly (7-day and calendar week) Average** – is the arithmetic mean of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. The calendar week is defined as beginning on Sunday and ending on Saturday. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for the calendar week shall be included in the data for the month that contains the Saturday.

I. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

PART IV: SPECIFIC REQUIREMENTS, CONDITIONS, AND LIMITATIONS

A. SLUDGE MANAGEMENT PRACTICES

1. **Applicability**

   a. Provisions of Provision IV.A. apply to a sewage sludge generated or treated in treatment works that is applied to agricultural and non-agricultural land, or that is otherwise distributed, marketed, incinerated, or disposed in landfills or surface disposal sites.

   b. Provisions of Provision IV.A. do not apply to:

   (1) Sewage sludge generated or treated in a privately owned treatment works operated in conjunction with industrial manufacturing and processing facilities and which receive no domestic wastewater.

   (2) Sewage sludge that is stored in surface impoundments located at the treatment works prior to ultimate disposal.

2. **Submitting Information**

   a. If applicable, the Permittee must submit annually with its Municipal Water Pollution Prevention (MWPP) report the following:

   (1) Type of sludge stabilization/digestion method;

   (2) Daily or annual sludge production (dry weight basis);

   (3) Ultimate sludge disposal practice(s).

   b. The Permittee shall provide sludge inventory data to the Director as requested. These data may include, but are not limited to, sludge quantity and quality reported in Provision IV.A.2.a as well as other specific analyses required to comply with State and Federal laws regarding solid and hazardous waste disposal.

   c. The Permittee shall give prior notice to the Director of at least 30 days of any change planned in the Permittee's sludge disposal practices.

3. **Reopener or Modification**

   a. Upon review of information provided by the Permittee as required by Provision IV.A.2. or, based on the results of an on-site inspection, the permit shall be subject to modification to incorporate appropriate requirements.

   b. If an applicable "acceptable management practice" or if a numerical limitation for a pollutant in sewage sludge promulgated under Section 405 of FWPCA is more stringent than the sludge pollutant limit or acceptable management practice in this permit. This permit shall be modified or revoked or reissued to conform to requirements promulgated under Section 405. The Permittee shall comply with the limitations no later than the compliance deadline specified in applicable regulations as required by Section 405 of FWPCA.

B. EFFLUENT TOXICITY LIMITATIONS AND BIOMONITORING REQUIREMENTS FOR CHRONIC TOXICITY

1. **Chronic Toxicity Test**

   a. The permittee shall perform short-term chronic toxicity tests on the wastewater at Outfall 001.

   b. The samples shall be diluted using appropriate control water to the Instream Waste Concentration (IWC) which is **58 percent effluent**. The IWC is the actual concentration of effluent, after mixing, in the receiving stream during a 7-day, 10-year low flow period.

   c. Any test result that shows a statistically significant reduction in survival, growth, or reproduction between the control and test samples at the 95% confidence level indicates chronic toxicity and shall constitute noncompliance with this permit.

2. **General Test Requirements**

   a. A minimum of three (3) 24-hour composite samples shall be obtained for use in the above biomonitoring tests. Samples shall be collected every other day so that the laboratory receives water samples on the first, third, and fifth day of the seven-day test period. The holding time for each composite sample shall not exceed 36 hours. The control water shall be a water prepared in the laboratory in accordance with the EPA procedure described in EPA

821-R-02-013 (most current edition) or another control water selected by the Permittee and approved by the Department.

b. Test results shall be deemed unacceptable and the Permittee shall rerun the tests as soon as practical within the monitoring period for the following:

(1) For testing with P. promelas: effluent toxicity tests with control survival of less than 80% or if dry weight per surviving control organism is less than 0.25 mg;

(2) For testing with C. dubia: if the number of young per surviving control organism is less than 15 or if less than 60% of surviving control females produce three broods; or

(3) If the other requirements of the EPA Test Procedure are not met.

c. In the event of an invalid test, upon subsequent completion of a valid test, the results of all tests, valid and invalid, are to be reported to the Department along with an explanation of the tests performed and the test results.

d. Toxicity tests shall be conducted for the duration of this permit in the month of **NOVEMBER**. Should results from the Annual Toxicity test indicate that Outfall 001T exhibits chronic toxicity, then the Permittee must conduct the follow-up testing described in Part IV.B.4.a. In addition, the Permittee may then also be required to conduct toxicity testing in the months of FEBRUARY, MAY, AUGUST, and NOVEMBER.

3. **Reporting Requirements**

a. The Permittee shall notify the Department in writing within 48 hours after toxicity has been demonstrated by the scheduled test(s).

b. Biomonitoring test results obtained during each monitoring period shall be summarized and reported using the appropriate Discharge Monitoring Report (DMR) form approved by the Department. In accordance with Section 2 of this part, an effluent toxicity report containing the information in Sections 2 and 6 shall be included with the DMR. The test results must be submitted to the Department no later than 28 days after the month that tests were performed.

4. **Additional Testing Requirements**

a. If chronic toxicity is indicated (i.e., noncompliance with permit limit), then the Permittee must perform two additional valid chronic toxicity tests in accordance with these procedures to determine the extent and duration of the toxic condition. The toxicity tests shall run consecutively beginning on the first calendar week following the date that the Permittee became aware of the permit noncompliance. The results of these follow-up tests shall be submitted to the Department no later than 28 days following the month the tests were performed.

b. After evaluation of the results of the follow-up tests, the Department will determine if additional action is appropriate and may require additional testing and/or toxicity reduction measures. The permittee may be required to perform a Toxicity Identification Evaluation (TIE) and/or a Toxicity Reduction Evaluation (TRE). The TIE/TRE shall be performed in accordance with the most recent protocols and guidance outlined by EPA (e.g., EPA/600/2-88/062, EPA/600/R-92/080, EPA/600/R-91-003, EPA/600/R-92/081, EPA/833/B-99/022, and/or EPA/600/6-91/005F)

5. **Test Methods**

The tests shall be performed in accordance with the latest edition of the "EPA Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms." The Larval Survival and Growth Test, Method 1000.0, shall be used for the fathead minnow (*Pimephales promelas*) test and the Survival and Reproduction Test, Method 1002.0, shall be used for the cladoceran (*Ceriodaphnia dubia*) test.

6. **Effluent Toxicity Testing Reports**

The following information shall be submitted with each DMR unless otherwise directed by the Department. The Department may at any times suspend or reinstate this requirement or may decrease or increase the frequency of submittals.

a. Introduction

(1) Facility name, location and county

(2) Permit number

(3) Toxicity testing requirements of permit

(4) Name of receiving water body

(5) Contract laboratory information (if tests are performed under contract)

(i) Name of firm

(ii) Telephone number

(iii) Address

(6) Objective of test

b. Plant Operations

(1) Discharge Operating schedule (if other than continuous)

(2) Volume of discharge during sample collection to include Mean daily discharge on sample collection dates (MGD, CFS, GPM)

(3) Design flow of treatment facility at time of sampling

c. Source of Effluent and Dilution Water

(1) Effluent samples

(2) Sampling point

(3) Sample collection dates and times (to include composite sample start and finish times)

(4) Sample collection method

(5) Physical and chemical data of undiluted effluent samples (water temperature, pH, alkalinity, hardness, specific conductance, total residual chlorine (if applicable), etc.)

(6) Lapsed time from sample collection to delivery

(7) Lapsed time from sample collection to test initiation

(8) Sample temperature when received at the laboratory

(9) Dilution Water

(10) Source

(11) Collection/preparation date(s) and time(s)

(12) Pretreatment (if applicable)

(13) Physical and chemical characteristics (water temperature, pH, alkalinity, hardness, specific conductance, etc.)

d. Test Conditions

(1) Toxicity test method utilized

(2) End point(s) of test

(3) Deviations from referenced method, if any, and reason(s)

(4) Date and time test started

(5) Date and time test terminated

(6) Type and volume of test chambers

(7) Volume of solution per chamber

(8) Number of organisms per test chamber

(9) Number of replicate test chambers per treatment

(10) Test temperature, pH, and dissolved oxygen as recommended by the method (to include ranges)

(11) Specify if aeration was needed

(12) Feeding frequency, amount, and type of food

(13) Specify if (and how) pH control measures were implemented

(14) Light intensity (mean)

e. Test Organisms

(1) Scientific name

(2) Life stage and age

(3) Source

(4) Disease(s) treatment (if applicable)

f. Quality Assurance

(1) Reference toxicant utilized and source

(2) Date and time of most recent chronic reference toxicant test(s), raw data, and current control chart(s). (The most recent chronic reference toxicant test shall be conducted within 30 days of the routine.)

(3) Dilution water utilized in reference toxicant test

(4) Results of reference toxicant test(s) (NOEC, IC25, etc.); report concentration-response relationship and evaluate test sensitivity

(5) Physical and chemical methods utilized

g. Results

(1) Provide raw toxicity data in tabular form, including daily records of affected organisms in each concentration (including controls) and replicate

(2) Provide table of endpoints: NOECs, IC25s, PASS/FAIL, etc. (as required in the applicable NPDES permit)

(3) Indicate statistical methods used to calculate endpoints

(4) Provide all physical and chemical data required by method

(5) Results of test(s) (NOEC, IC25, PASS/FAIL, etc.), report concentration-response relationship (definitive test only), report percent minimum significant difference (PMSD) calculated for sublethal endpoints determined by hypothesis testing.

h. Conclusions and Recommendations

(1) Relationship between test endpoints and permit limits

(2) Actions to be taken

Adapted from "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms", Fourth Edition, October 2002 (EPA 821-R-02-013), Section 10, Report Preparation.

C. TOTAL RESIDUAL CHLORINE (TRC) REQUIREMENTS

1. If chlorine is not utilized for disinfection purposes, TRC monitoring under Part I of this Permit is not required. If TRC monitoring is not required (conditional monitoring), "*9" should be reported on the DMR forms.

2. Testing for TRC shall be conducted according to either the amperometric titration method or the DPD colorimetric method as specified in Section 408(C) or (E), Standards Methods for the Examination of Water and Wastewater, 18th edition. If the analytical result is less than the detection level or a value otherwise indicated in this permit, the Permittee shall report on the DMR form "*B" or "0". The Permittee shall then be considered to be in compliance with the daily maximum concentration limit for TRC.

3. This permit contains a maximum allowable TRC level in the effluent. The Permittee is responsible for determining the minimum TRC level needed in the chlorine contact chamber to comply with E.coli limits. The effluent shall be dechlorinated if necessary to meet the maximum allowable effluent TRC level.

4. The sample collection point for effluent TRC shall be at a point downstream of the chlorine contact chamber (downstream of dechlorination, if applicable). The exact location is to be approved by the Director.

D. PLANT CLASSIFICATION

The Permittee shall report to the Director within 30 days of the effective date of this permit, the name, address and operator number of the certified wastewater operator in responsible charge of the facility. Unless specified elsewhere in this permit, this facility shall be classified in accordance with ADEM Admin. Code R. 335-10-1-.03.

E. SANITARY SEWER OVERFLOW RESPONSE PLAN

1. SSO Response Plan

Within 120 days of the effective date of this Permit, the Permittee shall develop a Sanitary Sewer Overflow (SSO) Response Plan to establish timely and effective methods for responding to notifiable sanitary sewer overflows. The SSO Response Plan shall address each of the following:

a. General Information

(1) Approximate population of City/Town, if applicable

(2) Approximate number of customers served by the Permittee

(3) Identification of any subbasins designated by the Permittee, if applicable

(4) Identification of estimated linear feet of sanitary sewers

(5) Number of Pump/Lift Stations in the collection system

b. Responsibility Information

(1) The title(s) and contact information of key position(s) who will coordinate the SSO response, including information for a backup coordinator in the event that the primary SSO coordinator is unavailable. The SSO coordinator is the person responsible for assessing the SSO and initiating a series of response actions based on the type, severity, and destination of the SSO, except for routine SSOs for which the coordinator may pre-approve written procedures. Routine SSOs are those for which the corrective action procedures are generally consistent.

(2) The title(s), and contact information of key position(s) who will respond to SSOs, including information for backup responder(s) in the event the primary responder(s) are unavailable (i.e., position(s) who provide notification to the Department, the public, the county health department, and other affected entities such as public water systems; position(s) responsible for organizing crews for response; position(s) responsible for addressing public inquiries)

c. SSO and Surface Water Assessment

(1) Identification of locations within the collection system at which an SSO is likely to occur (e.g., based upon historical SSOs, lift stations where electricity may be lost, etc.)

(2) A map of the general collection system area, including identification of surface waterbodies and the location(s) of public drinking water source(s). Mapping of all collection system piping, pump stations, etc. is not required; however, if this information is already available, it should be included.

(3) Identification of surface waterbodies within the collection system area which are classified as Swimming according to ADEM Admin. Code chap. 335-6-11. References available to assist in this requirement include the following: http://adem.alabama.gov/alEnviroRegLaws/files/Division6Vol1.pdf and http://adem.alabama.gov/wqmap.

(4) Identification of surface waterbodies within the collection system area which are not classified as Swimming as indicated in paragraph c above, but are known locally as areas where swimming occurs or as areas that are heavily recreated

d. Public Reporting of SSOs

(1) Contact information for the public to report an SSO to the Permittee, during both normal and outside of normal business hours (e.g., telephone number, website, email address, etc.)

(2) Information requested from the person reporting an SSO to assist the Permittee in identifying the SSO (e.g., date, time, location, contact information)

(3) Procedures for communication of the SSO report to the appropriate positions for follow-up investigation and response, if necessary

e. Procedures to immediately notify the Department, the county health department, and other affected entities (such as public water systems) upon becoming aware of notifiable SSOs

f. Public Notification Methods for SSOs

(1) A listing of methods that are feasible, as determined by the Permittee, for public notifications (e.g., flyers distributed to nearby residents; signs posted at the location of the SSO, where the SSO enters a water of the state, and/or at a central public location; signs posted at fishing piers, boat launches, parks, swimming waterbodies, etc.; website and/or social media notifications; local print or radio and broadcast media notifications; "opt in" email, text message, or automated phone message notifications)

(i) If signage is a feasible method for public notification, procedures for use and removal of signage (e.g., availability and maintenance of signs, appropriate duration of postings)

(2) Minimum information to be included in public notifications (e.g., identification that an SSO has occurred, date, duration if known, estimated volume if known, location of the SSO by street address or other appropriate method, initial destination of the SSO)

(3) Procedures developed by the Permittee for determining the appropriate public notification method(s) based upon the potential for public exposure to health risks associated with the SSO

g. Standard Procedures shall be developed by the Permittee and shall include, at a minimum

(1) General SSO Response Procedures (e.g., procedures for dispatching staff to assess/correct an SSO; procedures for routine SSO corrective actions such as those for sewer blockages, overflowing manholes, line breakages, pump station power failure, etc.; procedures for disinfection of affected area, if applicable);

(2) Procedures for collection and proper disposal of the SSO, if feasible.

(3) General procedures for coordinating instream water quality monitoring, including, but not limited to, procedures for mobilizing staff, collecting samples, and typical test methods should the Department or the Permittee determine monitoring is appropriate following an SSO. Identification of a contractor who will collect and analyze the sample(s) may be listed in lieu of the procedures.

(4) References to other documents (such as Standard Operating Procedures for SSO Responses) may be acceptable for this section; however, the referenced document shall be identified and shall be reviewed at a frequency of at least that required by the Administrative Procedures Section.

h. Date of the SSO Response Plan, dates of all modifications and/or reviews, the title and signature of the reviewer(s) for each date and the signature of the responsible official or the appropriate designee.

2. SSO Response Plan Implementation

Except as otherwise required by this Permit, the Permittee shall fully implement the SSO Response Plan as soon as practicable, but no later than 180 days after the effective date of this Permit.

3. Department Review of the SSO Response Plan

a. When requested by the Director or his designee, the Permittee shall make the SSO Response Plan available for review by the Department.

b. Upon review, the Director or his designee may notify the Permittee that the SSO Response Plan is deficient and require modification of the Plan.

c. Within thirty days of receipt of notification, or an alternate timeframe as approved by the Department, the Permittee shall modify any SSO Response Plan deficiency identified by the Director or his designee and shall certify to the Department that the modification has been made.

4. SSO Response Plan Administrative Procedures

a. The Permittee shall maintain a copy of the SSO Response Plan at the permitted facility or an alternate location approved by the Department in writing and shall make it available for inspection by the Department.

b. The Permittee shall make a copy of the SSO Response Plan available to the public upon written request within 30 days of such request. The Permittee may redact information which may present security issues, such as location of public water supplies, identification of specific details of vulnerabilities, employee information, etc.

c. The Permittee shall provide training for any personnel required to implement the SSO Response Plan and shall retain at the facility documentation of such training. This documentation shall be available for inspection by the Department. Training shall be provided for existing personnel prior to the date by which implementation of the SSO Response Plan is required and for new personnel as soon as possible. Should significant revisions be made to the SSO Response Plan, training regarding the revisions shall be conducted as soon as possible.

d. The Permittee shall complete a review and evaluation of the SSO Response Plan at least once every three years. Documentation of the SSO Response Plan review and evaluation shall be signed and dated by the responsible official or the appropriate designee as part of the SSO Response Plan.

F. POLLUTANT SCANS

The Permittee shall sample and analyze for the pollutants listed in 40 CFR 122 Appendix J Table 2. The Permittee shall provide data from a minimum of three samples collected within the four and one-half years prior to submitting a permit application. Samples must be representative of the seasonal variation in the discharge from each outfall.

NPDES PERMIT RATIONALE

NPDES Permit No: **AL0023116** Date: January 2, 2025

Permit Applicant: City of Helena Utilities Board
Post Office Box 427
Helena, AL 35080

Location: **Helena WWTP**
590 Old Towne Place
Helena, AL 35080

Draft Permit is:

Initial Issuance:	
Reissuance due to expiration:	X
Modification of existing permit:	
Revocation and Reissuance:	

Basis for Limitations:

Water Quality Model:	DO, NH_3-N, TKN, CBOD
Reissuance with no modification:	pH, TSS, E. coli, CBOD % Removal, TSS % Removal
Instream calculation at 7Q10:	58%
Toxicity based:	TRC
Secondary Treatment Levels:	TSS, TSS % Removal, CBOD % Removal
Other (described below):	pH, E. coli, TP

Design Flow in Million Gallons per Day: 4.95 MGD

Major: Yes

Description of Discharge:

Feature ID	Description	Receiving Water	Waterbody Use Classification	303(d)	TMDL
001	Treated Domestic and Industrial Wastewater	Buck Creek	Fish and Wildlife (F&W)	No	Yes

Discussion:

This is a permit reissuance due to expiration. Limits for Five Day Carbonaceous Biochemical Oxygen Demand (CBOD), Total Ammonia-Nitrogen (NH_3-N), Total Kjeldahl Nitrogen (TKN), and Dissolved Oxygen (DO) were developed based on a Waste Load Allocation (WLA) model that was completed by ADEM's Water Quality Branch (WQB) on May 31, 2024. The monthly average limits for CBOD summer (May-November) and winter (December-April) are 4.0 mg/L and 10.0 mg/L, respectively. The monthly average limits for NH_3-N summer (May-November) and winter (December-April) are 1.0 mg/L and 2.5 mg/L, respectively. The monthly average limits for TKN summer (May-November) and winter (December-April) are 4.0 mg/L and 7.5 mg/L, respectively. The daily minimum limits for DO summer (May-November) and winter (December-April) are 6.5 mg/L and 6.0 mg/L, respectively. North Shelby WRRF (Permit No. AL0056251) being removed from the model and the model being developed differently from the October 20, 2010 WLA resulted in increased average limitations for CBOD, NH_3-N, and TKN. The increased CBOD, NH_3-N, and TKN limitation are not backsliding since the

increase would result in water quality standards being obtained and the revision is consistent with the Department's anti-degradation policy.

This discharge is included as a point source in the Cahaba River Watershed Nutrient Total Maximum Daily Load (TMDL), which was approved by EPA in October 2006. The TMDL states that major dischargers must attain a growing season (April – October) Total Phosphorus (TP) limit of 0.043 mg/L. The Permittee was required to achieve compliance with this TP limit in accordance with the compliance schedule previously provided to the Department. The schedule required compliance with a growing season monthly average TP limit of 0.2 mg/l through March 31, 2027, and compliance with the final growing season monthly average TP limit of 0.043 mg/l effective April 1, 2027. The Permittee has since requested that the final effective date of the 0.043 mg/l limit be extended by a length equal to a permit cycle to April 1, 2032.

The permit has a current growing season monthly average limitation of 0.20 mg/l in effect until the final effective date of the 0.043 mg/l limit.

The Permittee's January 3, 2023 NPDES Permit Requirements for Effluent Total Phosphorus letter indicates the Conceptual Cost Estimates (in 2013 dollars) to meeting the 0.043 mg/L TP limit is $29,681,000. The letter also indicates that delaying the implementation of the 0.043 mg/L TP limit will allow ADEM to further study whether the goals of the TMDL have been met, will allow Helana to defer costs to meet the limit until it can be demonstrated that the limit is necessary, and to allow time for laboratories to develop methods to more consistently measure low TP levels.

Section 6.3 (Adaptive Management) of the Cahaba River Nutrient TMDL states the following:

> It is possible during the implementation of this TMDL that further evaluation of instream conditions in the Cahaba River, including biological and chemical monitoring, will reveal trends of improvement in water quality and biological conditions. If so, any required implementation in the future may be revised according to the best available science at that time.
>
> The Department has a program to systematically collect additional nutrient data at the ecoregional reference sites used to develop the Cahaba TMDL nutrient target, in addition to other reference sites and candidate reference sites throughout Alabama. Adaptive management, in conjunction with the implementation schedule as determined by ADEM's NPDES permitting program, will allow the TMDL target to be validated or adjusted as necessary based on additional data that becomes available in the future.

The TMDL establishes a final instream TP target of 0.035 mg/L. The Department's WQB collects instream TP samples within the Cahaba River. From 2018 through 2023, the WQB collected 122 samples, of which 25 of those results showed a TP greater than 0.035 mg/L. Nine of those greater than 0.035 mg/L were collected in 2020. Since then, the number of results greater than 0.035 mg/L has declined, with only one result showing greater than 0.035 mg/L in 2022 and six in 2023.

Additionally, the TMDL endpoint to address the nutrient impairment is a growing season (April – October) TP median of 0.035 mg/L. Per the samples taken by the WQB from 2018 through 2023, all six growing season medians were less than 0.035 mg/L.

The Department's 2016 WQ monitoring plan for the Cahaba River included the following: sampling fish in May; performing a periphyton study in September; macroinvertebrate sampling in October; diurnal studies in both June and September. The summary of this study is as follows:

> Water quality sampling in 2005 and 2016 show a distinct decrease in water column total phosphorus concentrations in the Cahaba River. Annual sampling at seven locations show total phosphorus concentrations to be meeting the instream target established by the Cahaba River Watershed Nutrient

TMDL, with median total phosphorus concentrations at Cahaba River stations ranging from 14 µg/L to 24 µg/L in 2016.

During the 2002-2016 surveys of the Cahaba River, diatoms have consistently proved to be the most effective tool to document nutrient impacts to aquatic communities, and to link community conditions to nutrient concentrations. In the 2002-2005 surveys, the diatom community was dominated by species tolerant of nutrient enrichment. Results of the 2016 diatom community suggest that the community is responding to decreased total phosphorus concentrations with a shift to taxa intolerant of nutrient enrichment.

The decreased nutrient concentrations were not generally reflected in macroinvertebrate or fish community metric results. Both communities are less sensitive to nutrient enrichment issues. Conditions within these communities may reflect other impairments to the Cahaba River, such as siltation/habitat alteration.

As indicated in ADEM Admin. Code r. 335-6-6-.16(a)(2), the Department has the authority to establish a compliance schedule within the timeframe determined by the Director for implementation of an applicable TMDL. Based upon the facts presented to the Department as discussed above, the final compliance deadline for the TMDL limit of 0.043 mg/l has been modified and implemented in the permit for April 1, 2032.

This permit imposes monitoring for Total Nitrite plus Nitrate (NO_2+NO_3-N) and winter monitoring (November – March) for TP. Monitoring for these nutrient-related parameters is imposed so that sufficient information will be available regarding the nutrient contribution from this point source, should it be necessary at some later time to impose further nutrient limits on this discharge.

The pH daily minimum and daily maximum limits of 6.0 and 8.5 S.U. respectively, were developed to be supportive of the water-use classification of the receiving stream. The Total Residual Chlorine (TRC) limits of 0.03 mg/L (monthly average) and 0.05 mg/L (daily maximum) are based on EPA's recommended water quality values and on the current Toxicity Rationale, which considers the available dilution in the receiving stream. The increased TRC monthly average and daily maximum limitations are not backsliding since the increase would result in water quality standards being obtained and the revision is consistent with the Department's anti-degradation policy. In accordance with a letter dated August 11, 1998 from EPA Headquarters and a 1991 memorandum from EPA Region 4's Environmental Services Division (ESD), due to testing and method detection limitations, a Total Residual Chlorine measurement below 0.05 mg/L shall be considered below detection for compliance purposes. Monitoring for TRC is only applicable if chlorine is utilized for disinfection purposes.

The imposed E. coli limits were determined based on the water-use classification of the receiving stream. Since the segment of Buck Creek containing the discharge is classified as Fish & Wildlife, the limits for May – October are 126 col/100ml (monthly average) and 298 col/100ml (daily maximum), while the limits for November – April are 548 col/100ml (monthly average) and 2507 col/100ml (daily maximum).

The Total Suspended Solids (TSS) and TSS % removal limits of 30.0 mg/L monthly average and 85.0%, respectively, are based on the requirements of 40 CFR part 133.102 regarding Secondary Treatment. A minimum percent removal limit of 85.0% is imposed for CBOD also in accordance with 40 CFR 133.102 regarding Secondary Treatment.

Because this is a major facility (design capacity greater than 1 MGD), chronic toxicity testing with two species (Ceriodaphnia and Pimephales) is being imposed on this permit. Toxicity testing is imposed for both survival and life-cycle impairment (i.e., growth and reproduction). Chronic toxicity at the IWC of 58 percent is required once per year during the month of November. If the toxicity tests of the effluent from Outfall 001 indicate chronic toxicity, then toxicity tests may be required to be conducted during the months of February, May, August and November.

Because this is a major facility, the Department completed a numerical reasonable potential analysis (RPA) of the discharge based on the application data, DMR data, and background data from stations BUCS-13. The RPA indicates whether pollutants in treated effluent have potential to contribute to excursions of Alabama's in-stream water quality standards. Per the Department's request, the Permittee performed additional low level Mercury testing in order to more accurately determine if a reasonable potential exists for in-stream water quality to be exceeded. Based on the analytical Mercury data submitted by the Permittee, it does not appear there is reasonable potential to cause an in-stream water quality criteria exceedance at this time. Additionally per the Department's request, the Permittee performed additional Cyanide testing in the form of Amenable Cyanide in order to more accurately determine if a reasonable potential exists for in-stream water quality to be exceeded. Based on the analytical Cyanide data submitted by the Permittee, it does not appear there is reasonable potential to cause an in-stream water quality criteria exceedance at this time. The reasonable potential for arsenic WQC to be exceeded appears to be caused by the background data. All the application arsenic sample results were below detect. Arsenic is not expected in the discharges. Based on the DMR data submitted by the Permittee for the previous Permit cycle, it appears no reasonable potential exists for zinc or copper, which were in the previous permit. Therefore, the monitoring /limits for zinc and copper were removed. The removal of zinc and copper monitoring /limits is not backsliding since the removal would result in water quality standards being obtained and the revision is consistent with the Department's anti-degradation policy.

The monitoring frequency for DO, pH, TSS, NH_3-N, TKN, TP, TRC, E. coli and CBOD is thrice per week. The monitoring frequency for $N0_2$+$N0_3$-N is once per month. TSS % removal and CBOD % removal are to be calculated once per month. Flow is to be continuously monitored daily.

The Permittee has asserted that there are no storm drains at the plant and that all storm water drainage at the facility flows via sheet flow across the plant site. Therefore, no storm water outfalls will be included with this Permit reissuance.

Buck Creek is a Tier I stream in the Cahaba River Basin and is not listed on the most recent 303(d) list. The limits imposed in this permit are consistent with the Cahaba River Watershed Nutrient TMDL. This facility is included in the Buck Creek Pathogens TMDL (Fecal Coliform), which does not require any Fecal Coliform reductions for this facility. This facility is also included in the Cahaba River Watershed Pathogens (E. coli) and the Cahaba River Siltation and Habitat Alteration Total Maximum Daily Loads (TMDLs), which were approved in August 2013. The Cahaba River Pathogens TMDL (E. coli) also does not require any E. coli reductions for this facility. The Siltation and Habitat Alteration TMDL indicates that TSS associated with WWTPs is typically comprised primarily of organic matter and is not considered to be significantly impacting the Cahaba River with respect to sediment impairment and was not included in the WLA of the TMDL.

ADEM Administrative Rule 335-6-10-.12 requires applicants for new or expanded discharges to Tier II waters demonstrate that the proposed discharge is necessary for important economic or social development in the area in which the waters are located. The application submitted by the facility is not for a new or expanded discharge to a Tier II water body, so the applicant is not required to demonstrate that the discharge is necessary for economic and social development.

Prepared by: Dustin Stokes

TOXICITY AND DISINFECTION RATIONALE

Facility Name:	**Helena WWTP**	
NPDES Permit Number:	**AL0023116**	
Receiving Stream:	**Buck Creek**	
Facility Design Flow (Q_w):	**4.950 MGD**	
Receiving Stream $7Q_{10}$:	**5.630 cfs**	7Q10 excludes flow from from upstream discharger(s).
Receiving Stream $1Q_{10}$:	**4.260 cfs**	1Q10 excludes flow from from upstream discharger(s).
Winter Headwater Flow (WHF):	**11.79 cfs**	7Q2 excludes flow from from upstream discharger(s).
Summer Temperature for CCC:	**28 deg. Celsius**	
Winter Temperature for CCC:	**17 deg. Celsius**	
Headwater Background NH_3-N Level:	**1.609 mg/l**	
Receiving Stream pH:	**7.3 s.u.**	
Headwater Background FC Level (summer):	**N./A.**	**(Only applicable for facilities with diffusers.)**
(winter	**N./A.**	

TOXICITY TESTING REQUIREMENTS (REFERENCE: MUNICIPAL BRANCH TOXICITY PERMITTING STRATEGY)

The following factors trigger toxicity testing requirements:

1. Facility design flow is equal to or greater than 1.0 MGD (major facility).
2. There are significant industrial contributors (SID permits).

Acute toxicity testing is specified for A&I receiving streams, or for stream dilution ratios of 1% or less.
Chronic toxicity testing is specified for all other situations requiring toxicity testing.

Chronic toxicity testing is required

$$\text{Instream Waste Concentration (IWC)} = \frac{Qw}{7Q10 + Qw} = \mathbf{57.63\%}$$

Note: This number will be rounded up for toxicity testing purposes.

Prepared By: Dustin Stokes Date: 7/10/2024

TOXICITY AND DISINFECTION RATIONALE

Facility Name:	**Helena WWTP**	
NPDES Permit Number:	**AL0023116**	
Receiving Stream:	**Buck Creek**	
Facility Design Flow (Q_w):	**4.950 MGD**	
Receiving Stream $7Q_{10}$:	**12.970 cfs**	7Q10 includes flow from from upstream discharger(s).
Receiving Stream $1Q_{10}$:	**11.600 cfs**	1Q10 includes flow from from upstream discharger(s).
Winter Headwater Flow (WHF):	**19.13 cfs**	7Q2 includes flow from from upstream discharger(s).
Summer Temperature for CCC:	**28 deg. Celsius**	
Winter Temperature for CCC:	**17 deg. Celsius**	
Headwater Background NH_3-N Level:	**1.609 mg/l**	
Receiving Stream pH:	**7.3 s.u.**	
Headwater Background FC Level (summer):	**N./A.**	**(Only applicable for facilities with diffusers.)**
(winter	**N./A.**	

The Stream Dilution Ration (SDR) is calculated using the 7Q10 for all stream classifications.

$$\text{Stream Dilution Ration (SDR)} = \frac{Qw}{7Q10 + Qw} = \textbf{37.13\%}$$

AMMONIA TOXICITY LIMITATIONS

Toxicity-based ammonia limits are calculated in accordance with the *Ammonia Toxicity Protocol* and the *General Guidance for Writing Water Quality Based Toxicity Permits.*

If the Limiting Dilution is less than 1%, the waterbody is considered stream-dominated and the CMC applies.
If the Limiting Dilution is greater than 1%, the waterbody is considered effluent-dominated and the CCC applies.

$$\text{Limiting Dilution} = \frac{Q_w}{7Q_{10} + Q_w}$$

= **37.13%** **Effluent-Dominated, CCC Applies**

Criterion Maximum Concentration (CMC): $CMC=0.411/(1+10^{(7.204-pH)}) + 58.4/(1+10^{(pH-7.204)})$

Criterion Continuous Concentration (CCC): $CCC=[0.0577/(1+10^{(7.688-pH)}) + 2.487/(1+10^{(pH-7.688)})] * Min[2.85, 1.45*10^{(0.028*(25-T))}]$

	CMC	CCC
Allowable Summer Instream NH_3-N:	**27.21 mg/l**	**2.11 mg/l**
Allowable Winter Instream NH_3-N:	**27.21 mg/l**	**4.50 mg/l**

$$\text{Summer } NH_3\text{-N Toxicity Limit} = \frac{[(\text{Allowable Instream } NH_3\text{-N}) * (7Q_{10} + Q_w)] - [(\text{Headwater } NH_3\text{-N}) * (7Q_{10})]}{Q_w}$$

= **3.0 mg/l NH3-N at 7Q10**

$$\text{Winter } NH_3\text{-N Toxicity Limit} = \frac{[(\text{Allowable Instream } NH_3\text{-N}) * (WHF + Q_w)] - [(\text{Headwater } NH_3\text{-N}) * (WHF)]}{Q_w}$$

= **11.8 mg/l NH3-N at Winter Flow**

The ammonia limits established in the permit will be the lesser of the DO-based ammonia limit (from the wasteload allocation model) or the toxicity limits calculated above.

	DO-based NH3-N limit	Toxicity-based NH3-N limit
Summer	**1.00 mg/l NH3-N**	**3.00 mg/l NH3-N**
Winter	**2.50 mg/l NH3-N**	**11.80 mg/l NH3-N**

Summer: The DO based limit of 1.00 mg/l NH3-N applies.
Winter: The DO based limit of 2.50 mg/l NH3-N applies.

DISINFECTION REQUIREMENTS

Bacteria limits are required, and will be the water quality limit for the receiving stream, except where diffusers are used the limit may be adjusted for the dilution provided by the diffuser.

See the attached Disinfection Guidance for applicable stream standards.

(Non-coastal limits apply)
Applicable Stream Classification: **Fish & Wildlife**
Disinfection Type: **Chlorination**
Limit calculation method: **Limits based on meeting stream standards at the point of discharge.**

	Stream Standard (colonies/100ml)	Effluent Limit (colonies/100ml)
E. Coli (applies to Non-coastal and Shellfish Harvesting Coastal)		
Monthly limit as monthly average (November through April):	548	**548**
Monthly limit as monthly average (May through October):	126	**126**
Daily Max (November through April):	2507	**2507**
Daily Max (May through October):	298	**298**
Enterococci (applies to Coastal)		
Monthly limit as geometric mean (November through April):	Not applicable	**Not applicable**
Monthly limit as geometric mean (May through October):	Not applicable	**Not applicable**
Daily Max (November through April):	Not applicable	**Not applicable**
Daily Max (May through October):	Not applicable	**Not applicable**

MAXIMUM ALLOWABLE CHLORINATION LIMITS

Toxicity-based chlorine limits are calculated in accordance with the General Guidance for Writing Water Quality Based Toxicity Permits.

Chlorine has been shown to be acutely toxic at 0.019 mg/l and chronically toxic at 0.011 mg/l.

Maximum allowable TRC in effluent:	0.03 mg/l (chronic)	(0.011)/(SDR)
Maximum allowable TRC in effluent:	0.05 mg/l (acute)	(0.019)/(SDR)

NOTE: A maximum chlorine limit will be imposed such that the instream concentration will not exceed acutely toxic concentrations in A & I streams and chronically toxic concentrations in all other streams, but may not exceed 1.0 mg/l.

Prepared By: Dustin Stokes Date: 7/10/2024

Waste Load Allocation Summary

REQUEST INFORMATION

Request Number: 3898

From:	Dustin Stokes	In Branch/Section	Municipal		
Date Submitted	9/7/2022	Date Required	10/7/2022	FUND Code	605
Receiving Waterbody	Buck Creek	Date Permit application received by NPDES program	9/2/2022		
Previous Stream					
Facility	Helena WWTP	(Name of Discharger-WQ will use to file)			
		Previous Discharger Name			
River Basin	Cahaba	Outfall Latitude	33.297199	(decimal degrees)	
*County	Shelby	Outfall Longitude	-86.842796	(decimal degrees)	
Permit Number	AL0023116	Permit Type	Permit Reissuance		
		Permit Status	Active		
		Type of Discharger	MUNICIPAL		

Do other discharges exist that may impact the model? ☑ Yes ☐ No

If yes, impacting dischargers names.	Impacting dischargers permit numbers.
Alabaster Pelham	AL0025828 AL0054666

Existing Discharge Design Flow	4.95	MGD
Proposed Discharge Design Flow	4.95	MGD

Note: The flow rates given should be those requested for modeling.

Comments included ☑ ☐

Information Verified By

Year File Was Created

Response ID Number 1919

Lat/Long Method GPS

12 Digit HUC Code 031502020203

Use Classification F&W

Site Visit Completed? ☑ ☐

Date of Site Visit 4/14/2022

Waterbody Impaired? ☑ ☐

Date of WLA Response 6/21/2024

Antidegradation ☐ Yes ☑ No

Approved TMDL? ☑ ☐

Waterbody Tier Level Tier I

Use Support Category 4A

Approval Date of TMDL 10/26/2006

Waste Load Allocation Information

Modeled Reach Length	11.47	Miles	Date of Allocation	5/31/2024	
Name of Model	QUAL2K		Allocation Type	2 Seasons	
Model Completed by	Nicholas Caraway		Type of Model Used	Calibrated / Verified	
Allocation Developed by	Water Quality Branch				

Waste Load Allocation Summary

Annual Effluent Limits	Conventional Parameters		Other Parameters	
	Qw 4.95 MGD	Qw 4.95 MGD	Qw MGD	Qw MGD
	Season Summer	Season Winter	Season Growing	Season
	From May	From Dec	From Apr	From
	Through Nov	Through Apr	Through Oct	Through
Qw MGD	CBOD5 4 mg/L	CBOD5 10 mg/L	TP 0.043 mg/L	TP
CBOD5	NH3-N 1 mg/L	NH3-N 2.5 mg/L	TN	TN
NH3-N	TKN 4 mg/L	TKN 7.5 mg/L	TSS	TSS
TKN	D.O. 6.5 mg/L	D.O. 6 mg/L		
D.O.				

"Monitor Only" Parameters for Effluent:	Parameter	Frequency	Parameter	Frequency
	NO2+NO3-N	Monthly		
	TP	Monthly (Nov-Mar)		

Water Quality Characteristics Immediately Upstream of Discharge

Parameter	Summer		Winter	
CBODu	3.54	mg/l	8.13	mg/l
NH3-N	0.9386	mg/l	1.6092	mg/l
Temperature	28.41	°C	16.96	°C
pH	7.38	su	7.27	su

Hydrology at Discharge Location

Drainage Area Qualifier: Exact

			Method Used to Calculate
Drainage	70.3	sq mi	
Stream 7Q10	5.63	cfs	ADEM Estimate w/USGS Gage Data
Stream 1Q1	4.26	cfs	ADEM Estimate w/USGS Gage Data
Stream 7Q2	11.79	cfs	ADEM Estimate w/USGS Gage Data
Annual Average	119.65	cfs	ADEM Estimate w/USGS Gage Data

Comments and/or Notations

There are four different TMDLS that are applicable to the Helena WWTP. A pathogens TMDL for Buck Creek was approved September 23, 2009. There are also Cahaba River watershed TMDLs for nutrients (10/26/2006); siltation (10/27/2013); and pathogens 11/21/2013). The TP limit of 0.043 mg/l is established according to the Cahaba River Nutrient TMDL and is applied as a monthly average for the months of April - October. Implemention of the TP limit will be based on a compliance schedule established by ADEM's NPDES Program. The NH3-N limitations are water quality based.

LANCE R. LEFLEUR
DIRECTOR

KAY IVEY
GOVERNOR

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(334) 271-7700 ■ FAX (334) 271-7950

June 21, 2024

MEMORANDUM:

To: Alabaster WWTP, Pelham WWTP, and Helena WWTP WLA files
Facilities: Alabaster WWTP (AL0025828), Pelham (AL0054666), Helena WWTP (AL0023116)
Receiving Waterbody: Buck Creek
Basin: Cahaba River

Wasteload allocations (WLAs) were completed for the Alabaster WWTP, Pelham WWTP, and Helena WWTP, each located in Shelby County, Alabama, on May 31, 2024. All three facilities discharge to Buck Creek, which is a tributary to the Cahaba River. Buck Creek at the Alabaster WWTP and Pelham WWTP discharge points has a use classification of Limited Warmwater Fishery (LWF). The Helena WWTP discharges to a segment of Buck Creek with a use classification of Fish & Wildlife (F&W). The North Shelby WRRF previously discharged to Cahaba Valley Creek, which is a tributary to Buck Creek; however, the facility no longer discharges to Cahaba Valley Creek and was therefore not included in this WLA.

The model utilized for these WLAs was QUAL2K, which was also utilized in 2010 when the last WLAs were completed. Based upon the model output, the necessary effluent limitations for these facilities that are expected to be protective of water quality are given in the table below.

	Alabaster WWTP (7.6 MGD)		**Pelham WWTP (4 MGD)**		**Helena WWTP (4.95 MGD)**	
Parameter	Effluent Limit (May – Nov)	Effluent Limit (Dec – April)	Effluent Limit (May – Nov)	Effluent Limit (Dec – April)	Effluent Limit (May – Nov)	Effluent Limit (Dec – April)
$CBOD_5$ (mg/l)	4	10	4	10	4	10
NH_3-N (mg/l)	1	2.5	1	2.5	1	2.5
TKN (mg/l)	4	7.5	4	7.5	4	7.5
Min DO (mg/l)	6.5	6	6.5	6	6.5	6

A TP limit of 0.043 mg/L is required for all major facilities located within the Cahaba River watershed as stipulated in the Cahaba River Nutrients TMDL. The TP limit is applicable during the growing season (April through October).

Should low flows that include upstream POTW flow be needed for permit limit calculations:

- For the Alabaster WWTP, there is zero additional flow from upstream POTWs.
- The Alabaster WWTP discharges upstream of the Pelham WWTP; therefore, an additional flow of 4.27 cfs could be added to the low flow calculations found on the WLA summary for the Pelham WWTP.
- The Alabaster and Pelham WWTPs discharge upstream of the Helena WWTP; therefore, an additional flow of 7.34 cfs could be added to the low flow calculations found on the WLA summary for the Helena WWTP.

Birmingham Branch
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

Decatur Branch
2715 Sandlin Road, S.W.
Decatur, AL 35603-1333
(256) 353-1713
(256) 340-9359 (FAX)

Mobile Branch
2204 Perimeter Road
Mobile, AL 36615-1131
(251) 450-3400
(251) 479-2593 (FAX)

Mobile-Coastal
4171 Commanders Drive
Mobile, AL 36615-1421
(251) 432-6533
(251) 432-6598 (FAX)

Facility Name: **Helena WWTP**

NPDES No.: **AL0023116**

8/13/2017

$$Q_d*C_d + Q_{d2}*C_{d2} + Q_s*C_s = Q_r*C_r$$

ID	Pollutant	Carcinogen "yes"	Type	Background from upstream source (C_{d2}) Daily Max (µg/l)	Background from upstream source (C_{d2}) Monthly Ave (µg/l)	Background Instream (C_s) Daily Max (µg/l)	Background Instream (C_s) Monthly Ave (µg/l)	Enter Max Daily Discharge as reported by Applicant (C_d) Max (µg/l)	Enter Avg Daily Discharge as reported by Applicant (C_d) Ave (µg/l)	Partition Coefficient (Stream / Lake)
1	Antimony		Metals	0	0	0	0	0	0	-
2	**Arsenic*,****	YES	Metals	0	0	0	0	0	0	0.574
3	Berylium		Metals	0	0	0	0	0	0	-
4	Cadmium**		Metals	0	0	0	0	0	0	0.236
5	Chromium / Chromium III**		Metals	0	0	0	0	0	0	0.210
6	Chromium / Chromium VI**		Metals	0	0	0	0	0	0	
7	Copper**		Metals	0	0	3.32	1.41	22	5.1	0.388
8	Lead**		Metals	0	0	0	0	0	0	0.206
9	Mercury**		Metals	0	0	0	0	0.0007	0.0006	0.302
10	Nickel**		Metals	0	0	2.93	2.25	0	0	0.505
11	Selenium		Metals	0	0	0	0	0	0	-
12	Silver		Metals	0	0	0	0	0	0	-
13	Thallium		Metals	0	0	0	0	0	0	-
14	Zinc**		Metals	0	0	8.88	6.31	217	29.3	0.330
15	Cyanide		Metals	0	0	0	0	0	0	-
16	Total Phenolic Compounds		Metals	0	0	0	0	0	0	-
17	Hardness (As CaCO3)		Metals	0	0	182000	159200	215000	196000	-
18	Acrolein		VOC	0	0	0	0	0	0	-
19	**Acrylonitrile***	YES	VOC	0	0	0	0	0	0	-
20	**Aldrin**	YES	VOC	0	0	0	0	0	0	-
21	**Benzene***	YES	VOC	0	0	0	0	0	0	-
22	**Bromoform***	YES	VOC	0	0	0	0	0	0	-
23	**Carbon Tetrachloride***	YES	VOC	0	0	0	0	0	0	-
24	**Chlordane**	YES	VOC	0	0	0	0	0	0	-
25	Clorobenzene		VOC	0	0	0	0	0	0	-
26	**Chlorodibromo-Methane***	YES	VOC	0	0	0	0	0	0	-
27	Chloroethane		VOC	0	0	0	0	0	0	-
28	2-Chloro-Ethylvinyl Ether		VOC	0	0	0	0	0	0	-
29	**ChloroForm***	YES	VOC	0	0	0	0	0	0	-
30	**4,4'-DDD**	YES	VOC	0	0	0	0	0	0	-
31	**4,4'-DDE**	YES	VOC	0	0	0	0	0	0	-
32	**4.4'-DDT**	YES	VOC	0	0	0	0	0	0	-
33	**Dichlorobromo-Methane***	YES	VOC	0	0	0	0	0	0	-
34	1, 1-Dichloroethane		VOC	0	0	0	0	0	0	-
35	**1, 2-Dichloroethane***	YES	VOC	0	0	0	0	0	0	-
36	Trans-1, 2-Dichloro-Ethylene		VOC	0	0	0	0	0	0	-
37	**1, 1-Dichloroethylene***	YES	VOC	0	0	0	0	0	0	-
38	1, 2-Dichloropropane		VOC	0	0	0	0	0	0	-
39	1, 3-Dichloro-Propylene		VOC	0	0	0	0	0	0	-
40	**Dieldrin**	YES	VOC	0	0	0	0	0	0	-
41	Ethylbenzene		VOC	0	0	0	0	0	0	-
42	Methyl Bromide		VOC	0	0	0	0	0	0	-
43	Methyl Chloride		VOC	0	0	0	0	0	0	-
44	**Methylene Chloride***	YES	VOC	0	0	0	0	0	0	-
45	**1, 1, 2, 2-Tetrachloro-Ethane***	YES	VOC	0	0	0	0	0	0	-
46	**Tetrachloro-Ethylene***	YES	VOC	0	0	0	0	0	0	-
47	Toluene		VOC	0	0	0	0	0	0	-
48	**Toxaphene**	YES	VOC	0	0	0	0	0	0	-
49	**Tributyltine (TBT)**	YES	VOC	0	0	0	0	0	0	-
50	1, 1, 1-Trichloroethane		VOC	0	0	0	0	0	0	-
51	**1, 1, 2-Trichloroethane***	YES	VOC	0	0	0	0	0	0	-
52	**Trichlorethylene***	YES	VOC	0	0	0	0	0	0	-
53	**Vinyl Chloride***	YES	VOC	0	0	0	0	0	0	-
54	P-Chloro-M-Cresol		Acids	0	0	0	0	0	0	-
55	2-Chlorophenol		Acids	0	0	0	0	0	0	-
56	2, 4-Dichlorophenol		Acids	0	0	0	0	0	0	-
57	2, 4-Dimethylphenol		Acids	0	0	0	0	0	0	-
58	4, 6-Dinitro-O-Cresol		Acids	0	0	0	0	26	19	-
59	2, 4-Dinitrophenol		Acids	0	0	0	0	41	28	-
60	**4,6-Dintro-2-methylophenol**	YES	Acids	0	0	0	0	0	0	-
61	**Dioxin (2,3,7,8-TCDD)**	YES	Acids	0	0	0	0	0	0	-
62	2-Nitrophenol		Acids	0	0	0	0	0	0	-
63	4-Nitrophenol		Acids	0	0	0	0	41	28	-
64	**Pentachlorophenol***	YES	Acids	0	0	0	0	41	28	-
65	Phenol		Acids	0	0	0	0	0	0	-
66	**2, 4, 6-Trichlorophenol***	YES	Acids	0	0	0	0	0	0	-
67	Acenaphthene		Bases	0	0	0	0	0	0	-
68	Acenaphthylene		Bases	0	0	0	0	0	0	-
69	Anthracene		Bases	0	0	0	0	0	0	-
70	Benzidine		Bases	0	0	0	0	31	23	-
71	**Benzo(A)Anthracene***	YES	Bases	0	0	0	0	0	0	-
72	**Benzo(A)Pyrene***	YES	Bases	0	0	0	0	0	0	-
73	3, 4 Benzo-Fluoranthene		Bases	0	0	0	0	0	0	-
74	Benzo(GHI)Perylene		Bases	0	0	0	0	0	0	-
75	Benzo(K)Fluoranthene		Bases	0	0	0	0	0	0	-
76	Bis (2-Chloroethoxy) Methane		Bases	0	0	0	0	0	0	-
77	**Bis (2-Chloroethyl)-Ether***	YES	Bases	0	0	0	0	0	0	-
78	Bis (2-Chloroiso-Propyl) Ether		Bases	0	0	0	0	0	0	-
79	**Bis (2-Ethylhexyl) Phthalate***	YES	Bases	0	0	0	0	0	0	-
80	4-Bromophenyl Phenyl Ether		Bases	0	0	0	0	0	0	-
81	Butyl Benzyl Phthalate		Bases	0	0	0	0	0	0	-
82	2-Chloronaphthalene		Bases	0	0	0	0	0	0	-
83	4-Chlorophenyl Phenyl Ether		Bases	0	0	0	0	0	0	-
84	**Chrysene***	YES	Bases	0	0	0	0	0	0	-
85	Di-N-Butyl Phthalate		Bases	0	0	0	0	0	0	-
86	Di-N-Octyl Phthalate		Bases	0	0	0	0	0	0	-
87	**Dibenzo(A,H)Anthracene***	YES	Bases	0	0	0	0	0	0	-
88	1, 2-Dichlorobenzene		Bases	0	0	0	0	0	0	-
89	1, 3-Dichlorobenzene		Bases	0	0	0	0	0	0	-
90	1, 4-Dichlorobenzene		Bases	0	0	0	0	0	0	-
91	**3, 3-Dichlorobenzidine***	YES	Bases	0	0	0	0	0	0	-
92	Diethyl Phthalate		Bases	0	0	0	0	0	0	-
93	Dimethyl Phthalate		Bases	0	0	0	0	0	0	-
94	**2, 4-Dinitrotoluene***	YES	Bases	0	0	0	0	0	0	-
95	2, 6-Dinitrotoluene		Bases	0	0	0	0	0	0	-
96	1,2-Diphenylhydrazine		Bases	0	0	0	0	0	0	-
97	**Endosulfan (alpha)**	YES	Bases	0	0	0	0	0	0	-
98	**Endosulfan (beta)**	YES	Bases	0	0	0	0	0	0	-
99	**Endosulfan sulfate**	YES	Bases	0	0	0	0	0	0	-
100	**Endrin**	YES	Bases	0	0	0	0	0	0	-
101	**Endrin Aldeyhide**	YES	Bases	0	0	0	0	0	0	-
102	Fluoranthene		Bases	0	0	0	0	0	0	-
103	Fluorene		Bases	0	0	0	0	0	0	-
104	Heptochlor	YES	Bases	0	0	0	0	0	0	-
105	Heptachlor Epoxide	YES	Bases	0	0	0	0	0	0	-
106	**Hexachlorobenzene***	YES	Bases	0	0	0	0	0	0	-
107	**Hexachlorobutadiene***	YES	Bases	0	0	0	0	0	0	-
108	**Hexachlorocyclohexan (alpa)**	YES	Bases	0	0	0	0	0	0	-
109	**Hexachlorocyclohexan (beta)**	YES	Bases	0	0	0	0	0	0	-
110	**Hexachlorocyclohexan (gamma)**	YES	Bases	0	0	0	0	0	0	-
111	HexachlorocycloPentadiene		Bases	0	0	0	0	0	0	-
112	Hexachloroethane		Bases	0	0	0	0	0	0	-
113	**Indeno(1, 2, 3-CK)Pyrene***	YES	Bases	0	0	0	0	0	0	-
114	Isophorone		Bases	0	0	0	0	0	0	-
115	Naphthalene		Bases	0	0	0	0	0	0	-
116	Nitrobenzene		Bases	0	0	0	0	0	0	-
117	**N-Nitrosodi-N-Propylamine***	YES	Bases	0	0	0	0	0	0	-
118	**N-Nitrosodi-N-Methylamine***	YES	Bases	0	0	0	0	0	0	-
119	**N-Nitrosodi-N-Phenylamine***	YES	Bases	0	0	0	0	0	0	-
120	**PCB-1016**	YES	Bases	0	0	0	0	0	0	-
121	**PCB-1221**	YES	Bases	0	0	0	0	0	0	-
122	**PCB-1232**	YES	Bases	0	0	0	0	0	0	-
123	**PCB-1242**	YES	Bases	0	0	0	0	0	0	-
124	**PCB-1248**	YES	Bases	0	0	0	0	0	0	-
125	**PCB-1254**	YES	Bases	0	0	0	0	0	0	-
126	**PCB-1260**	YES	Bases	0	0	0	0	0	0	-
127	Phenanthrene		Bases	0	0	0	0	0	0	-
128	Pyrene		Bases	0	0	0	0	0	0	-
129	1, 2, 4-Trichlorobenzene		Bases	0	0	0	0	0	0	-

4.95	Enter Q_d = wastewater discharge flow from facility (MGD)
7.65878355	Q_d = wastewater discharge flow (cfs) (this value is caluclated from the MGD)
0	Enter flow from upstream discharge Qd2 = background stream flow in MGD above point of discharge
0	Qd2 = background stream flow from upstream source (cfs)
12.97	Enter 7Q10, Q_s = background stream flow in cfs above point of discharge
11.6	Enter or estimated, 1Q10, Q_s = background stream flow in cfs above point of discharge (1Q10 estimated at 75% of 7Q10)
119.65	Enter Mean Annual Flow, Q_s = background stream flow in cfs above point of discharge
19.13	Enter 7Q2, Q_s = background stream flow in cfs above point of discharge (For LWF class streams)
[illegible]	Enter C_s = background in-stream pollutant concentration in µg/l (assuming this is zero "0" unless there is data)
Q_d +Qd2+Q_s	Q_r = resultant in-stream flow, after discharge
Calculated on other	C_r = resultant in-stream pollutant concentration in µg/l in the stream (after complete mixing occurs)
159	Enter, Background Hardness above point of discharge (assumed 50 South of Birmingham and 100 North of Birmingham)
7.00 s.u.	Enter, Background pH above point of discharge
YES	Enter, Is discharge to a stream? "YES" Other option would be to a Lake (This changes the partition coefficients for the metals)

** Using Partition Coefficients

January 2, 2025

Facility Name Helena WWTP

NPDES No. AL0023116

ID	Pollutant	RP?	Carcinogen yes	Background from upstream source (Cd2) Daily Max	Max Daily Discharge as reported by Applicant (C_{dmax})	Freshwater Acute (µg/l) Q_s = 1Q10: Water Quality Criteria (C_s)	Freshwater Acute: Draft Permit Limit (C_{dmax})	Freshwater Acute: 20% of Draft Permit Limit	Freshwater Acute: RP?	Background from upstream source (Cd2) Monthly Ave	Avg Daily Discharge as reported by Applicant (C_{davg})	Freshwater Chronic (µg/l) Q_s = 7Q10: Water Quality Criteria (C_s)	Freshwater Chronic: Draft Permit Limit (C_{davg})	Freshwater Chronic: 20% of Draft Permit Limit	Freshwater Chronic: RP?	Human Health Consumption Fish only (µg/l), Carcinogen Q_s = Annual Average, Non-Carcinogen Q_s = 7Q10: Water Quality Criteria (C_s)	Human Health: Draft Permit Limit (C_{davg})	Human Health: 20% of Draft Permit Limit	Human Health: RP?
1	Antimony			0	0	-	-	-	-	0	0	-	-	-	-	3.73E+02	1.01E+03	2.01E+02	No
2	Arsenic		YES	0	0	592.384	1489.485	297.897	No	0	0	281.328	703.871	140.774	No	3.03E-01	5.04E+00	1.01E+00	No
3	Berylium			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
4	Cadmium			0	0	13.389	33.673	6.735	No	0	0	1.536	3.874	0.775	No	-	-	-	-
5	Chromium/ Chromium III			0	0	3965.619	9974.442	1994.888	No	0	0	519.873	1389.767	277.953	No	-	-	-	-
6	Chromium/ Chromium VI			0	0	16.000	40.234	8.047	No	0	0	11.000	29.828	5.926	No	-	-	-	-
7	Copper			0	22	51.610	129.795	25.959	No	0	5.1	34.308	90.013	18.003	No	-	-	-	-
8	Lead			0	0	517.414	1301.069	260.218	No	0	0	20.163	54.308	10.862	No	-	-	-	-
9	Mercury			0	0.0007	2.400	6.035	1.207	No	0	0.0006	0.012	0.032	0.006	No	4.24E-02	1.14E-01	2.29E-02	No
10	Nickel			0	0	1372.626	3447.192	689.438	No	0	0	162.457	406.831	81.366	No	9.93E+02	2.67E+03	5.34E+02	No
11	Selenium			0	0	20.000	50.292	10.058	No	0	0	5.000	13.467	2.693	No	2.43E+03	6.55E+03	1.31E+03	No
12	Silver			0	0	7.142	17.959	3.592	No	0	0	-	-	-	-	-	-	-	-
13	Thallium			0	0	-	-	-	-	0	0	-	-	-	-	2.74E-01	7.37E-01	1.47E-01	No
14	Zinc			0	217	520.996	1307.714	261.543	No	0	29.3	530.302	1417.672	283.534	No	1.49E+04	4.01E+04	8.02E+03	No
15	Cyanide			0	0	22.000	55.321	11.064	No	0	0	5.200	14.006	2.801	No	9.33E+03	2.51E+04	5.03E+03	No
16	Total Phenolic Compounds			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
17	Hardness (As CaCO3)			0	215000	-	-	-	-	0	196000	-	-	-	-	-	-	-	-
18	Acrolein			0	0	-	-	-	-	0	0	-	-	-	-	5.43E+00	1.46E+01	2.92E+00	No
19	Acrylonitrile		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.44E-01	2.39E+00	4.79E-01	No
20	Aldrin		YES	0	0	3.000	7.544	1.509	No	0	0	-	-	-	-	2.94E-05	4.89E-04	9.77E-05	No
21	Benzene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.55E+01	2.57E+02	5.14E+01	No
22	Bromoform		YES	0	0	-	-	-	-	0	0	-	-	-	-	7.86E+01	1.31E+03	2.62E+02	No
23	Carbon Tetrachloride		YES	0	0	-	-	-	-	0	0	-	-	-	-	9.57E-01	1.59E+01	3.18E+00	No
24	Chlordane		YES	0	0	2.400	6.035	1.207	No	0	0	0.0043	0.012	0.002	No	4.73E-04	7.86E-03	1.57E-03	No
25	Clorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	9.06E+02	2.44E+03	4.88E+02	No
26	Chlorodibromo-Methane		YES	0	0	-	-	-	-	0	0	-	-	-	-	7.41E+00	1.23E+02	2.46E+01	No
27	Chloroethane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
28	2-Chloro-Ethylvinyl Ether			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
29	ChloroForm		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.02E+02	1.70E+03	3.39E+02	No
30	4,4' - DDD		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.81E-04	3.02E-03	6.03E-04	No
31	4,4' - DDE		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.28E-04	2.13E-03	4.26E-04	No
32	4,4' - DDT		YES	0	0	1.100	2.766	0.553	No	0	0	0.001	0.003	0.001	No	1.28E-04	2.13E-03	4.26E-04	No
33	Dichlorobromo-Methane		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.00E+01	1.67E+02	3.34E+01	No
34	1, 1-Dichloroethane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
35	1, 2-Dichloroethane		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.14E+01	3.55E+02	7.10E+01	No
36	Trans-1, 2-Dichloro-Ethylene			0	0	-	-	-	-	0	0	-	-	-	-	5.91E+03	1.59E+04	3.18E+03	No
37	1, 1-Dichloroethylene		YES	0	0	-	-	-	-	0	0	-	-	-	-	4.17E+03	6.93E+04	1.39E+04	No
38	1, 2-Dichloropropane			0	0	-	-	-	-	0	0	-	-	-	-	8.49E+00	2.29E+01	4.58E+00	No
39	1, 3-Dichloro-Propylene			0	0	-	-	-	-	0	0	-	-	-	-	1.23E+01	3.31E+01	6.62E+00	No
40	Dieldrin		YES	0	0	0.240	0.604	0.121	No	0	0	0.056	0.151	0.030	No	3.12E-05	5.19E-04	1.04E-04	No
41	Ethylbenzene			0	0	-	-	-	-	0	0	-	-	-	-	1.24E+03	3.35E+03	6.70E+02	No
42	Methyl Bromide			0	0	-	-	-	-	0	0	-	-	-	-	8.71E+02	2.35E+03	4.69E+02	No
43	Methyl Chloride			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
44	Methylene Chloride		YES	0	0	-	-	-	-	0	0	-	-	-	-	3.46E+02	5.75E+03	1.15E+03	No
45	1, 1, 2, 2-Tetrachloro-Ethane		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.33E+00	3.88E+01	7.76E+00	No
46	Tetrachloro-Ethylene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.92E+00	3.19E+01	6.37E+00	No
47	Toluene			0	0	-	-	-	-	0	0	-	-	-	-	8.72E+03	2.35E+04	4.70E+03	No
48	Toxaphene		YES	0	0	0.730	1.836	0.367	No	0	0	0.0002	0.001	0.000	No	1.62E-04	2.69E-03	5.38E-04	No
49	Tributyltin (TBT)		YES	0	0	0.460	1.157	0.231	No	0	0	0.072	0.194	0.039	No	-	-	-	-
50	1, 1, 1-Trichloroethane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
51	1, 1, 2-Trichloroethane		YES	0	0	-	-	-	-	0	0	-	-	-	-	9.10E+00	1.51E+02	3.02E+01	No
52	Trichlorethylene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.78E+01	2.90E+02	5.81E+01	No
53	Vinyl Chloride		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.42E+00	2.37E+01	4.74E+00	No
54	P-Chloro-M-Cresol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
55	2-Chlorophenol			0	0	-	-	-	-	0	0	-	-	-	-	8.71E+01	2.35E+02	4.69E+01	No
56	2, 4-Dichlorophenol			0	0	-	-	-	-	0	0	-	-	-	-	1.72E+02	4.63E+02	9.27E+01	No
57	2, 4-Dimethylphenol			0	0	-	-	-	-	0	0	-	-	-	-	4.98E+02	1.34E+03	2.68E+02	No
58	4, 6-Dinitro-O-Cresol			0	26	-	-	-	-	0	19	-	-	-	-	-	-	-	-
59	2, 4-Dinitrophenol			0	41	-	-	-	-	0	28	-	-	-	-	3.11E+03	8.38E+03	1.68E+03	No
60	4,6-Dinitro-2-methylphenol		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.65E+02	2.75E+03	5.50E+02	No
61	Dioxin (2,3,7,8-TCDD)		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.67E-08	4.43E-07	8.87E-08	No
62	2-Nitrophenol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
63	4-Nitrophenol			0	41	-	-	-	-	0	28	-	-	-	-	-	-	-	-
64	Pentachlorophenol	YES	YES	0	41	8.723	21.938	4.387	Yes	0	28	6.603	18.026	3.605	Yes	1.77E+00	2.94E+01	5.88E+00	Yes
65	Phenol			0	0	-	-	-	-	0	0	-	-	-	-	5.00E+05	1.35E+06	2.69E+05	No
66	2, 4, 6-Trichlorophenol		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.41E+00	2.35E+01	4.70E+00	No
67	Acenaphthene			0	0	-	-	-	-	0	0	-	-	-	-	5.79E+02	1.56E+03	3.12E+02	No
68	Acenaphthylene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
69	Anthracene			0	0	-	-	-	-	0	0	-	-	-	-	2.33E+04	6.28E+04	1.26E+04	No
70	Benzidine	YES		0	31	-	-	-	-	0	23	-	-	-	-	1.88E-05	3.12E-04	6.25E-05	Yes
71	Benzo(A)Anthracene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	1.77E-01	3.54E-02	No
72	Benzo(A)Pyrene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	1.77E-01	3.54E-02	No
73	Benzo(b)fluoranthene			0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	2.87E-02	5.74E-03	No
74	Benzo(GHI)Perylene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
75	Benzo(K)Fluoranthene			0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	2.87E-02	5.74E-03	No
76	Bis (2-Chloroethoxy) Methane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
77	Bis (2-Chloroethyl)-Ether		YES	0	0	-	-	-	-	0	0	-	-	-	-	3.07E-01	5.11E+00	1.02E+00	No
78	Bis (2-Chloroiso-Propyl) Ether			0	0	-	-	-	-	0	0	-	-	-	-	3.78E+04	1.02E+05	2.04E+04	No
79	Bis (2-Ethylhexyl) Phthalate		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.28E+00	2.13E+01	4.26E+00	No
80	4-Bromophenyl Phenyl Ether			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
81	Butyl Benzyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	1.12E+03	3.04E+03	6.07E+02	No
82	2-Chloronaphthalene			0	0	-	-	-	-	0	0	-	-	-	-	9.24E+02	2.49E+03	4.98E+02	No
83	4-Chlorophenyl Phenyl Ether			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
84	Chrysene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	1.77E-01	3.54E-02	No
85	Di-N-Butyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	2.62E+03	7.06E+03	1.41E+03	No
86	Di-N-Octyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
87	Dibenzo(A,H)Anthracene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	1.77E-01	3.54E-02	No
88	1, 2-Dichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	7.56E+02	2.03E+03	4.07E+02	No
89	1, 3-Dichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	5.62E+02	1.51E+03	3.03E+02	No
90	1, 4-Dichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	1.12E+02	3.03E+02	6.06E+01	No
91	3, 3-Dichlorobenzidine		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.66E-02	2.76E-01	5.53E-02	No
92	Diethyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	2.55E+04	6.89E+04	1.38E+04	No
93	Dimethyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	6.48E+05	1.75E+06	3.49E+05	No
94	2, 4-Dinitrotoluene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.98E+00	3.29E+01	6.59E+00	No
95	2, 6-Dinitrotoluene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
96	1,2-Diphenylhydrazine			0	0	-	-	-	-	0	0	-	-	-	-	1.17E-01	3.16E-01	6.31E-02	No
97	Endosulfan (alpha)		YES	0	0	0.22	0.553	0.111	No	0	0	0.056	0.151	0.030	No	3.19E+01	8.62E+02	1.72E+02	No
98	Endosulfan (beta)		YES	0	0	0.22	0.553	0.111	No	0	0	0.056	0.151	0.030	No	3.19E+01	8.62E+02	1.72E+02	No
99	Endosulfan sulfate		YES	0	0	-	-	-	-	0	0	-	-	-	-	3.19E+01	8.62E+02	1.72E+02	No
100	Endrin		YES	0	0	0.086	0.216	0.043	No	0	0	0.036	0.097	0.019	No	3.03E-02	5.86E-01	1.17E-01	No
101	Endrin Aldeyhde		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.76E-01	2.93E+00	5.86E-01	No
102	Fluoranthene			0	0	-	-	-	-	0	0	-	-	-	-	8.12E+01	2.19E+02	4.37E+01	No
103	Fluorene			0	0	-	-	-	-	0	0	-	-	-	-	3.11E+03	8.38E+03	1.68E+03	No
104	Heptochlor		YES	0	0	0.52	1.308	0.262	No	0	0	0.0038	0.010	0.002	No	4.63E-05	7.70E-04	1.54E-04	No
105	Heptachlor Epoxide		YES	0	0	0.52	1.308	0.262	No	0	0	0.0038	0.010	0.002	No	2.29E-05	3.81E-04	7.61E-05	No
106	Hexachlorobenzene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.68E-04	2.79E-03	5.58E-04	No
107	Hexachlorobutadiene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.08E+01	1.79E+02	3.58E+01	No
108	Hexachlorocyclohexan (alpha)		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.85E-03	4.74E-02	9.47E-03	No
109	Hexachlorocyclohexan (beta)		YES	0	0	-	-	-	-	0	0	-	-	-	-	9.97E-03	1.66E-01	3.32E-02	No
110	Hexachlorocyclohexan (gamma)		YES	0	0	0.95	2.389	0.478	No	0	0	-	-	-	-	1.08E+00	1.79E+01	3.58E+00	No
111	HexachlorocycloPentadiene			0	0	-	-	-	-	0	0	-	-	-	-	6.46E+02	1.74E+03	3.48E+02	No
112	Hexachloroethane			0	0	-	-	-	-	0	0	-	-	-	-	1.92E+00	5.17E+00	1.03E+00	No
113	Indeno(1, 2, 3-CK)Pyrene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	1.77E-01	3.54E-02	No
114	Isophorone			0	0	-	-	-	-	0	0	-	-	-	-	5.61E+02	1.51E+03	3.02E+02	No
115	Naphthalene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
116	Nitrobenzene			0	0	-	-	-	-	0	0	-	-	-	-	4.04E+02	1.09E+03	2.17E+02	No
117	N-Nitrosodi-N-Propylamine		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.95E-01	4.90E+00	9.81E-01	No
118	N-Nitrosodimethylamine		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.76E+00	2.93E+01	5.85E+00	No
119	N-Nitrosodiphenylamine		YES	0	0	-	-	-	-	0	0	-	-	-	-	3.50E+00	5.82E+01	1.16E+01	No
120	PCB-1016		YES	0	0	-	-	-	-	0	0	0.014	0.038	0.008	No	3.74E-05	6.22E-04	1.24E-04	No
121	PCB-1221		YES	0	0	-	-	-	-	0	0	0.014	0.038	0.008	No	3.74E-05	6.22E-04	1.24E-04	No
122	PCB-1232		YES	0	0	-	-	-	-	0	0	0.014	0.038	0.008	No	3.74E-05	6.22E-04	1.24E-04	No
123	PCB-1242		YES	0	0	-	-	-	-	0	0	0.014	0.038	0.008	No	3.74E-05	6.22E-04	1.24E-04	No
124	PCB-1248		YES	0	0	-	-	-	-	0	0	0.014	0.038	0.008	No	3.74E-05	6.22E-04	1.24E-04	No
125	PCB-1254		YES	0	0	-	-	-	-	0	0	0.014	0.038	0.008	No	3.74E-05	6.22E-04	1.24E-04	No
126	PCB-1260		YES	0	0	-	-	-	-	0	0	0.014	0.038	0.008	No	3.74E-05	6.22E-04	1.24E-04	No
127	Phenanthrene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
128	Pyrene			0	0	-	-	-	-	0	0	-	-	-	-	2.32E+03	6.26E+03	1.26E+03	No
129	1, 2, 4-Trichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	4.09E+01	1.10E+02	2.21E+01	No

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	Zinc		Copper	
Report End Date	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum
7/31/2019	33	33	10	10
8/31/2019	86	86	10	10
9/30/2019	40	40	10	10
10/31/2019	142	142	14	14
11/30/2019	36	36	10	10
12/31/2019	27	27	3.4	3.4
1/31/2020	16	16	10	10
2/29/2020	20	20	10	10
3/31/2020	17	17	10	10
4/30/2020	20	20	3.5	3.5
5/31/2020	20	20	10	10
6/30/2020	23	23	5.3	5.3
7/31/2020	19	19	3.9	3.9
8/31/2020	27	27	22	22
9/30/2020	23	23	3.5	3.5
10/31/2020	21	21	5.4	5.4
11/30/2020	19	19	4.8	4.8
12/31/2020	18	18	3.5	3.5
1/31/2021	20	20	10	10
2/28/2021	18	18	10	10
3/31/2021	19	19	10	10
4/30/2021	20	20	1.8	1.8
5/31/2021	20	20	2.3	2.3
6/30/2021	23	23	3.6	3.6
7/31/2021	18	18	5.7	5.7
8/31/2021	*K	*K	*K	*K
9/30/2021	19.2	19.2	6.5	6.5
10/31/2021	18	18	5	5
11/30/2021	20	20	7.7	7.7
12/31/2021	20	20	3.1	3.1
1/31/2022	20	20	2.9	2.9
1/31/2022	20	20	2.9	2.9
2/28/2022	20	20	3.6	3.6
3/31/2022	18	18	5.4	5.4
4/30/2022	20	20	2.3	2.3
5/31/2022	17	17	2.4	2.4
6/30/2022	16	16	2.8	2.8
7/31/2022	22	22	3.1	3.1
8/31/2022	16	16	10	10
9/30/2022	24	24	2	2
10/31/2022	31	31	5.1	5.1
11/30/2022	91	91	8.7	8.7
12/31/2022	20	20	2	2
1/31/2023	20	20	10	10
2/28/2023	20	20	2.7	2.7
3/31/2023	20	20	10	10
4/30/2023	20	20	1.7	1.7
5/31/2023	31	31	2.7	2.7
5/31/2023	31	31	2.7	2.7
6/30/2023	22	22	2.2	2.2
6/30/2023	22	22	2.2	2.2
7/31/2023	21	21	4.6	4.6
7/31/2023	21	21	4.6	4.6
8/31/2023	17	17	1.1	1.1
9/30/2023	41	41	1.6	1.6
10/31/2023	37	37	1.5	1.5
11/30/2023	20	20	1.2	1.2
12/31/2023	18.2	18.2	10	10
12/31/2023	18.2	18.2	10	10
1/31/2024	20	20	1.2	1.2
2/29/2024	28	28	10	10
3/31/2024	26	26	1.6	1.6
4/30/2024	23	23	1.1	1.1
5/31/2024	37	37	2.9	2.9
6/30/2024	23	23	2.5	2.5
7/31/2024	33	33	3.4	3.4
8/31/2024	31	31	3.1	3.1
9/30/2024	73	73	3.4	3.4
10/31/2024	21	21	1.3	1.3
11/30/2024	217	217	0	0
5/6/2021 App	13	13	0	0
7/21/2021 App	10	10	0	0
4/5/2022 App	17	17	0	0

Maximum		**217**		**22**
Average	**29.3**		**5.1**	

**K - Natural Disaster*

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Sample Date	Cyanide (ug/L)	Hardness (ug/L)
5/6/2021	0	179,000
7/29/2021	1900	194,000
4/5/2022	0	215,000
Maximum	1900	215000
Average	633.3	196000

Sample Date	Amenable Cyanide (ug/L)	Mercury (ug/L)
9/26/2024	0	0.0004
11/7/2024	0	0.0007
11/20/2024	-	0.0006
12/13/2024	0	-
Maximum	0	0.0007
Average	0.0	0.0006

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (ADEM)
NPDES INDIVIDUAL PERMIT APPLICATION
SUPPLEMENTARY INFORMATION FOR PUBLICLY-OWNED TREATMENT WORKS (POTW), OTHER TREATMENT WORKS TREATING DOMESTIC SEWAGE (TWTDS), AND PUBLIC WATER SUPPLY TREATMENT PLANTS

Instructions: This form should be used to submit the required supplementary information for an application for an NPDES individual permit for Publicly Owned Treatment Works (POTW) and other Treatment Works Treating Domestic Sewage (TWTDS). The completed application should be submitted to ADEM in duplicate. If insufficient space is available to address any item, please continue on an attached sheet of paper. Please mark "N/A" in the appropriate box when an item is not applicable to the applicant. **Please type or print legibly in blue or black ink.** Mail the completed application to:

ADEM-Water Division
Municipal Section
P O Box 301463
Montgomery, AL 36130-1463

PURPOSE OF THIS APPLICATION

- ☐ Initial Permit Application for New Facility*
- ☐ Initial Permit Application for Existing Facility*
- ☐ Modification of Existing Permit
- ☒ Reissuance of Existing Permit
- ☐ Revocation & Reissuance of Existing Permit

** An application for participation in the ADEM's Electronic Environmental (E2) Reporting must be submitted to allow permittee to electronically submit reports as required.*

SECTION A – GENERAL INFORMATION

1. Facility Name: Helena Wastewater Treatment Plant Facility County: Shelby

   a. Operator Name: City of Helena Utilities Board

   b. Is the operator identified in A.1.a, the owner of the facility? ☒ Yes ☐ No

   If No, provide the following information:

   Operator Name: Keith Sims

   Operator Address (Street or PO Box): 590 Old Towne Place

   City: Helena AL Zip: 35080

   Phone Number: 205-663-2161 Email Address: ksims@cityofhelena.org

   Operator Status:

   ☐ Public-federal ☒ Public-state ☐ Public-other (please specify):
   ☐ Private ☐ Other (please specify):

   Describe the operator's scope of responsibility for the facility:

   Operates and maintains the Helena WWTP to maintain permit compliance.

   c. Name of Permittee* if different than Operator:

   **Permittee will be responsible for compliance with the conditions of the permit*

2. NPDES Permit Number: AL 0023116 (Not applicable if initial permit application)

3. Facility Location (Front Gate): Latitude: 33.296825 Longitude: 86.835858

4. Responsible Official (as described on last page of this application):

   Name and Title: Brian Puckett, Utility Board Chairman

   Address: 816 Hwy 52E

   City: Helena State: Alabama Zip: 35080

   Phone Number: 1-205-663-2161 Email Address: bpuckett@cityofhelena.org

5. Designated Facility/DMR Contact:

Name: Brian Hinds Title: Wastewater and Waterworks Manager

Phone Number: 1-205-663-2161 ext 440 Email Address: brianhinds@cityofhelena.org

6. Designated Emergency Contact:

Name: Teresa Amos Title: Water Department Manager

Phone Number: 1-205-663-1670 Email Address: tamous@cityofhelena.org

7. Please complete this section if the Applicant's business entity is a Proprietorship or Limited Liability Company (LLC) with a responsible official not listed in A.4.

Name: N/A Title:

Address: 816 Hwy 52E

City: Helena State: Alabama Zip: 35080

Phone Number: Email Address:

8. Identify all Administrative Complaints, Notices of Violation, Directives, or Administrative Orders, Consent Decrees, or Litigation concerning water pollution or other permit violations, if any against the Applicant within the State of Alabama in the past five years (attach additional sheets if necessary):

Facility Name	Permit Number	Type of Action	Date of Action
Helena WWTP	AL0023116	Unilateral Order	06/17/2016
Helena WWTP	AL0023116	Consent Order	04/17/2013
Helena WWTP	AL0023116	Notice of Violation	07/06/2012

SECTION B – WASTEWATER DISCHARGE INFORMATION

1. Attach a process flow schematic of the treatment process, including the size of each unit operation and sample collection locations.

2. Do you share an outfall with another facility? ☐ Yes ☒ No (If no, continue to B.3)

For each shared outfall, provide the following:

Applicant's Outfall No.	Name of Other Permittee/Facility	NPDES Permit No.	Where is sample collected by Applicant?
0012	Helena WWTP	AL 0023116	Following Post Aeration Before Final Discharge

3. Do you have, or plan to have, automatic sampling equipment or continuous wastewater flow metering equipment at this facility?

Current:	Flow Metering	☒ Yes	☐ No	☐ N/A
	Sampling Equipment	☒ Yes	☐ No	☐ N/A
Planned:	Flow Metering	☒ Yes	☐ No	☐ N/A
	Sampling Equipment	☒ Yes	☐ No	☐ N/A

If so, please attach a schematic diagram of the sewer system indicating the present or future location of this equipment and describe the equipment below:

Please see the attached Process Flow Diagram.

4. Are any wastewater collection or treatment modifications or expansions planned during the next three years that could alter wastewater volumes or characteristics (Note: Permit Modification may be required)? ☐ Yes ☒ No

If Yes, briefly describe these changes and any potential or anticipated effects on the wastewater quality and quantity: (Attach additional sheets if needed.)

SECTION C – WASTE STORAGE AND DISPOSAL INFORMATION

Describe the location of all sites used for the storage of solids or liquids that have any potential for accidental discharge to a water of the state, either directly or indirectly via storm sewer, municipal sewer, municipal wastewater treatment plants, or other collection or distribution systems that are located at or operated by the subject existing or proposed NPDES- permitted facility. Indicate the location of any potential release areas and provide a map or detailed narrative description of the areas of concern as an attachment to this application:

Description of Waste	Description of Storage Location
Waste Sludge	Sludge Thickener Tank
N/A	N/A
N/A	N/A

***Indicate any wastes disposed at an off-site treatment facility and any wastes that are disposed on-site**

SECTION D – INDUSTRIAL INDIRECT DISCHARGE CONTRIBUTORS

1. List the existing and proposed industrial source wastewater contributions to the municipal wastewater treatment system (Attach other sheets if necessary)

Company Name	Description of Industrial Wastewater	Existing or Proposed	Flow (MGD)	Subject to SID Permit?
Vulcan	Metal Fabrication	Existing	Minimal	☐ Yes ■ No
Shelby Machinery	Metal Fabrication	Existing	Minimal	☐ Yes ■ No
Suncoast Mulch	Dyes (Landscaping)	Existing	Minimal	☐ Yes ■ No
Plantation Pipeline	Pipes	Existing	Minimal	☐ Yes ■ No
				☐ Yes ☐ No
				☐ Yes ☐ No
				☐ Yes ☐ No
				☐ Yes ☐ No
				☐ Yes ☐ No

2. Are industrial wastewater contributions regulated via a locally approved sewer use ordinance? ☐ Yes ■ No

If yes, please attach a copy of the ordinance.

SECTION E – COASTAL ZONE INFORMATION

Is the discharge(s) located within the 10-foot elevation contour and within the limits of Mobile or Baldwin County? ☐ Yes ☒ No

If yes, complete items E.1 – E.12 below:

		Yes	No
1.	Does the project require new construction?	☐	☐
2.	Will the project be a source of new air emissions?	☐	☐
3.	Does the project involve dredging and/or filling of a wetland area or water way?	☐	☐
	If Yes, has the Corps of Engineers (COE) permit been received?	☐	☐
	COE Project No. _____		
4.	Does the project involve wetlands and/or submersed grassbeds?	☐	☐
5.	Are oyster reefs located near the project site?	☐	☐
	If Yes, include a map showing project and discharge location with respect to oyster reefs		
6.	Does the project involve the site developement, construction and operation of an energy facility as defined in ADEM Admin. Code r. 335-8-1-.02(bb)?	☐	☐
7.	Does the project involve mitigation of shoreline or coastal area erosion?	☐	☐
8.	Does the project involve construction on beaches or dune areas?	☐	☐
9.	Will the project interfere with public access to coastal waters?	☐	☐
10.	Does the project lie within the 100-year floodplain?	☐	☐
11.	Does the project involve the registration, sale, use, or application of pesticides?	☐	☐
12.	Does the project propose or require construction of a new well or to alter an existing groundwater well to pump more than 50 gallons per day (GPD)?	☐	☐
	If yes, has the applicable permit for groundwater recovery or for groundwater well installation been obtained?	☐	☐

SECTION F – ANTI-DEGRADATION EVALUATION

In accordance with 40 CFR §131.12 and the ADEM Admin. Code r. 335-6-10-.04 for anti-degradation, the following information must be provided, if applicable. It is the applicant's responsibility to demonstrate the social and economic importance of the proposed activity. If further information is required to make this demonstration, attach additional sheets to the application.

1. Is this a new or increased discharge that began after April 3, 1991? ☐ Yes ■ No
   If yes, complete F.2 below. If no, go to Section G.

2. Has an Anti-Degradation Analysis been previously conducted and submitted to the Department for the new or increased discharge referenced in F.1? ☐ Yes ■ No

   If yes, do not complete this section.

   If no and the discharge is to a Tier II waterbody as defined in ADEM Admin. Code r. 335-6-10-.12(4), complete F.2.A – F.2.F below, ADEM Form 311-Alternatives Analysis, and either ADEM Form 312 or ADEM Form 313- Calculation of Total Annualized Project Costs (Public-Sector or Private-Sector Projects, whichever is applicable). ADEM Form 312 or ADEM Form 313, whichever is applicable, must be provided for **each** treatment discharge alternative considered technically viable. ADEM forms can be found on the Department's website at http://adem.alabama.gov/DeptForms/.

   Information required for new or increased discharges to high quality waters:

   A. What environmental or public health problem will the discharger be correcting?

   N/A

B. How much will the discharger be increasing employment (at its existing facility or as the result of locating a new facility)?

N/A

C. How much reduction in employment will the discharger be avoiding?

N/A

D. How much additional state or local taxes will the discharger be paying?

N/A

E. What public service to the community will the discharger be providing?

N/A

F. What economic or social benefit will the discharger be providing to the community?

N/A

SECTION G – EPA Application Forms

All Applicants must submit certain EPA permit application forms. More than one application form may be required from a POTW or other TWTDS depending on the number and types of discharges or outfalls. The EPA application forms are found on the Department's website at http://adem.alabama.gov/programs/water/waterforms.cnt. The EPA application forms must be submitted in duplicate as follows:

1. Applicants for new or existing discharges of sanitary wastewater from Publicly-Owned Treatment Works (POTW) and Other Treatment Works Treating Domestic Sewage (TWTDS) must submit Form 2A. If the facility design capacity is equal to or greater than 1 MGD, Form 2F is also required.
2. Applicants for new or existing land application of sanitary wastewater must submit Form 2A and Form 2F.
3. Applicants for new and existing discharges of process wastewater from water treatment facilities (i.e. public water supply treatment plants) must submit Form 1 and Form 2C.
4. Applicants that generate sewage sludge, derive a material from sewage sludge, or dispose of sewage sludge must submit Part 2 of Form 2S.

SECTION H– ENGINEERING REPORT/BMP PLAN REQUIREMENTS

See ADEM 335-6-6-.08(i) & (j).

SECTION I– RECEIVING WATERS

Outfall No.	Receiving Water(s)	303(d) Segment?	Included in TMDL?*
0012	Buck Creek	☐ Yes ☒ No	☒ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No

*If a TMDL Compliance Schedule is requested, the following should be attached as supporting documentation:

(1) Justification for the requested Compliance Schedule (e.g. time for design and installation of control equipment, etc.);

(2) Monitoring results for the pollutant(s) of concern which have not previously been submitted to the Department (sample collection dates, analytical results (mass and concentration), methods utilized, MDL/ML, etc. should be submitted as available);

(3) Requested interim limitations, if applicable;

(4) Date of final compliance with the TMDL limitations; and,

(5) Any other additional information available to support requested compliance schedule.

SECTION J – APPLICATION CERTIFICATION

The information contained in this form must be certified by a responsible official as defined in ADEM Administrative Code r. 335-6-6-.09 "signatories to permit applications and reports" (see below).

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations."

Signature of Responsible Official: _____ Date Signed: 9.1.2022

Name: Brian Puckett Title: Utility Board Chairman

If the Responsible Official signing this application is <u>not</u> identified in Section A.4 or A.7, provide the following information:

Mailing Address: 816 Hwy 52 East (PO Box 427)

City: Helena State: Alabama Zip: 35080

Phone Number: 1-205-663-2161 Email Address: bpuckett@cityofhelena.org

335-6-6-.09 SIGNATORIES TO PERMIT APPLICATIONS AND REPORTS.

(1) The application for an NPDES permit shall be signed by a responsible official, as indicated below:

(a) In the case of a corporation, by a principal executive officer of at least the level of vice president, or a manager assigned or delegated in accordance with corporate procedures, with such delegation submitted in writing if required by the Department, who is responsible for manufacturing, production, or operating facilities and is authorized to make management decisions which govern the operation of the regulated facility;

(b) In the case of a partnership, by a general partner;

(c) In the case of a sole proprietorship, by the proprietor; or

(d) In the case of a municipal, state, federal, or other public entity, by either a principal executive officer, or ranking elected official.

2111 Parkway Office Circle
Suite 100
Birmingham, AL 35244

TEL 205.443.3080
FAX 205.313.6454

www.GarverUSA.com

TECHNICAL MEMORANDUM

Date: January 3, 2023

To: Alabama Department of Environmental Management

Attn: Dustin Stokes

From:
- Helena Utilities Board
- Garver

RE: NPDES Permit Requirements for Effluent Total Phosphorus

1.0 Introduction

In response to the 2006 Total Maximum Daily Load (TMDL) that was completed for the Cahaba River watershed, the Helena Wastewater Treatment Plant (WWTP), along with other major dischargers, were issued a two-phase reduction in effluent total phosphorus (TP) from the treatment facilities. For Helena, these limits were included as part of the 2012 National Pollutant Discharge Elimination System (NPDES) permit renewal effort, with the permit becoming effective on February 1, 2017. The first phase of this reduction came into effect on April 1, 2014 with the treatment requirements for effluent TP being reduced from 2.1 mg/L to 0.2 mg/L during the growing season (April – October), on a monthly average basis. This permit called for the second phase of permit requirements to become effective on April 1, 2022, with the effluent TP concentration being further reduced to 0.043 mg/L.

In 2018, the NPDES permit for the Helena WWTP was renewed. As part of the renewal effort and at the request of all major dischargers, Alabama Department of Environmental Management (ADEM) extended the compliance date for facilities to achieve the second phase of effluent TP restriction (0.043 mg/L) during the growing season until April 1, 2027. The reason for this extension and the subsequent delayed compliance date was data collected by ADEM that showed recovery of the Cahaba River that met the goals of the TMDL with major dischargers only treating to phase one limits and the significant improvements required by Helena necessary to meet the phase two permit limits.

The City of Helena is currently undergoing a NPDES permit renewal for the Helena WWTP. The purpose of this technical memorandum is to summarize the efforts made to date by the Helena Utilities Board in achieving compliance with permit requirements for total phosphorus (TP), to describe the improvements that were constructed in 2017 to reliably meet phase one requirements, and to summarize the future improvements necessary to obtain compliance with the future permit requirements for TP.

2.0 Progress Made to Date

Upon issuance of the 2012 NPDES permit, Helena WWTP Staff began to implement process control changes in order to determine if WWTP adjustments could be made to reliably meet the first phase of TP

requirements. These changes included adjusting the chemical feed dosages and locations as well as rehabilitating the existing tertiary filters with new media, valves, actuators and other items in an effort to optimize usage of the existing filtration process. It was determined that operational changes and minor repairs/rehabilitation to the existing facilities would not be sufficient to reliably and effectively meet Phase 1 permit requirements.

2.1 Helena WWTP Facilities Plan

Before design could begin on improvements to the WWTP, it was necessary to first assess the condition of the existing unit processes and to identify what facility upgrades are necessary to meet future permit requirements. In March 2014, the Helena WWTP Facilities Plan was completed and accomplished these goals. The following conclusions and recommendations were made as part of this plan:

- Four alternatives were evaluated to expand and enhance the treatment capability for TP at the Helena WWTP. These alternatives included biological phosphorus removal and/or chemical phosphorus removal.
- To achieve compliance with the first phase of reduced TP limits, chemical phosphorus removal was recommended as this alternative provided the lowest capital costs and quickest implementation schedule as compared to remaining alternatives.
- Regardless of phosphorus removal mechanisms (biological, chemical, or both), efficient solids removal facilities are critical to ensure solids are removed from the process stream as reliably and consistently as possible. As such, it was recommended that the secondary clarifiers and tertiary filtration facilities be upgraded.
- It was stated that, as influent flows to the WWTP increase, the recurring chemical costs necessary to provide chemical precipitation of TP will escalate and impact yearly operating budgets. Furthermore, when Phase 2 requirements come into effect, the chemical costs will increase drastically to achieve compliance. As such, it was recommended that the ultimate long term solution for the Helena WWTP would be an enhanced biological phosphorus removal (EBPR) process configuration. It has been documented that EBPR, when operated properly, can reliably achieve effluent TP concentrations of 1.0 mg/L. Chemical precipitation and enhanced solids removal facilities will then be used to meet the effluent TP requirements of 0.043 mg/L.

2.2 Phase 1 Construction Efforts

Upon completion of the Facilities Plan, Helena began design of improvements to achieve compliance with the Phase 1 permit requirements. In August 2015, bids were received and construction of these improvements began in October, 2015. Specifically, this construction effort included:

- In Plant 1, the existing secondary clarifier mechanisms were replaced to improve settling performance and reduce frequency of mechanical problems experienced over the last several years. The existing peripheral feed, suction header configuration was replaced with a center feed, spiral type configuration to improve settling performance and reduce secondary effluent total suspended solids (TSS) thereby reducing solids loading to the tertiary filtration process.

- Rapid-mix and flocculation facilities were constructed to allow secondary effluent to be dosed with a coagulant and, if necessary, polymer to bound any residual orthophosphate into a chemical solid.
- All existing sand filter units were demolished and replaced with cloth-media disk filtration units. Previously, the sand filters were ineffective and maintenance intensive. The new filters provide a physical barrier to help reduce effluent TSS thus reducing TP that has been bound into a chemical solid.
- A new chemical feed system with fully redundant pumps and multiple dosing locations was implemented. Multiple dosing locations provide additional operational flexibility and redundancy. The primary dosing location for coagulant is at the effluent structure of each oxidation ditch. Improved secondary clarification facilities are relied upon to remove a majority of the solids present in the process stream. A secondary dosing location is available at the rapid-mix/flocculation structure for polishing when TP is not reduced to acceptable levels within the secondary clarifier.
- Online instrumentation was installed to provide improved monitoring and process control capability. Included in this instrumentation is an online orthophosphate analyzer to continuously monitor orthophosphate levels present in the secondary effluent and to pace the chemical dose accordingly. This optimizes chemical usage while ensuring the necessary level of TP removal is being provided.

The Phase 1 improvements were put into service in September 2017. These additional facilities continue to operate and allow the Helena WWTP to effectively meet the current TP limit of 0.2 mg/L as verified in the yearly updates, last provided in June 2022.

3.0 Future Improvements

As previously stated, the improvements to the Helena WWTP completed in 2017 were designed to reliably achieve compliance with Phase 1 limits. Additional improvements are necessary to provide treatment capability for Phase 2 requirements.

3.1 Treatment Approach to Meet Phase 2 Requirements

For Phase 2 permit requirements, the recommended treatment configuration consists of EBPR followed by chemical precipitation and dual-stage tertiary filtration. Specifically, the recommended improvements include:

- The proposed EBPR process includes retrofitting the existing oxidation ditches of Train A into four process trains with shared anaerobic, anoxic and re-aeration zones and converting the oxidation ditch process to an integrated fixed-film activated sludge (IFAS) system. By integrating a fixed-film and suspended growth process, the treatment capacity of Train A can be re-rated to the WWTP capacity of 4.95 MGD due to the higher biomass inventory. This allows Train B to be taken offline and reduces the burden of operating/maintaining two separate and unique process trains.
- To preserve the integrity of the anaerobic zone within the EBPR process, it is necessary to eliminate all upstream processes which aerate the raw wastewater. The existing screw pump

station will be converted to a submersible pump station to eliminate air entrainment within the raw wastewater that is characteristic of screw pumps.

- A new mixed liquor suspended solids (MLSS) splitter box will be constructed to evenly distribute flow among all secondary clarifiers. The primary coagulant dosing location will be located at this splitter structure.
- An additional (third) secondary clarifier will be constructed to maintain desirable loading conditions and optimize the performance of the secondary clarification process.
- An additional third cloth media disk filter will be installed to reduce the solids loading rate to the first-stage tertiary filters and improve solids removal during increased flow conditions.
- A second-stage tertiary filtration process with additional coagulant dosage will be constructed to further reduce effluent TSS and TP levels. The recommended technology for this process is an advanced, continuous backwash, deep bed granular media filter. To incorporate this treatment process, a pump station will be required to pump filtered effluent from the first-stage filtration process. It is envisioned that this process will only be utilized during the growing season.
- Solids management is essential for EBPR facilities. Existing tankage of Train B will be converted to aerobic digestion facilities to ensure secondary phosphorus release is not encountered due to anaerobic conditions.
- To effectively control an EBPR process, additional instrumentation is necessary to monitor process conditions and make process control decisions.

A process flow diagram of these recommendations is illustrated below.

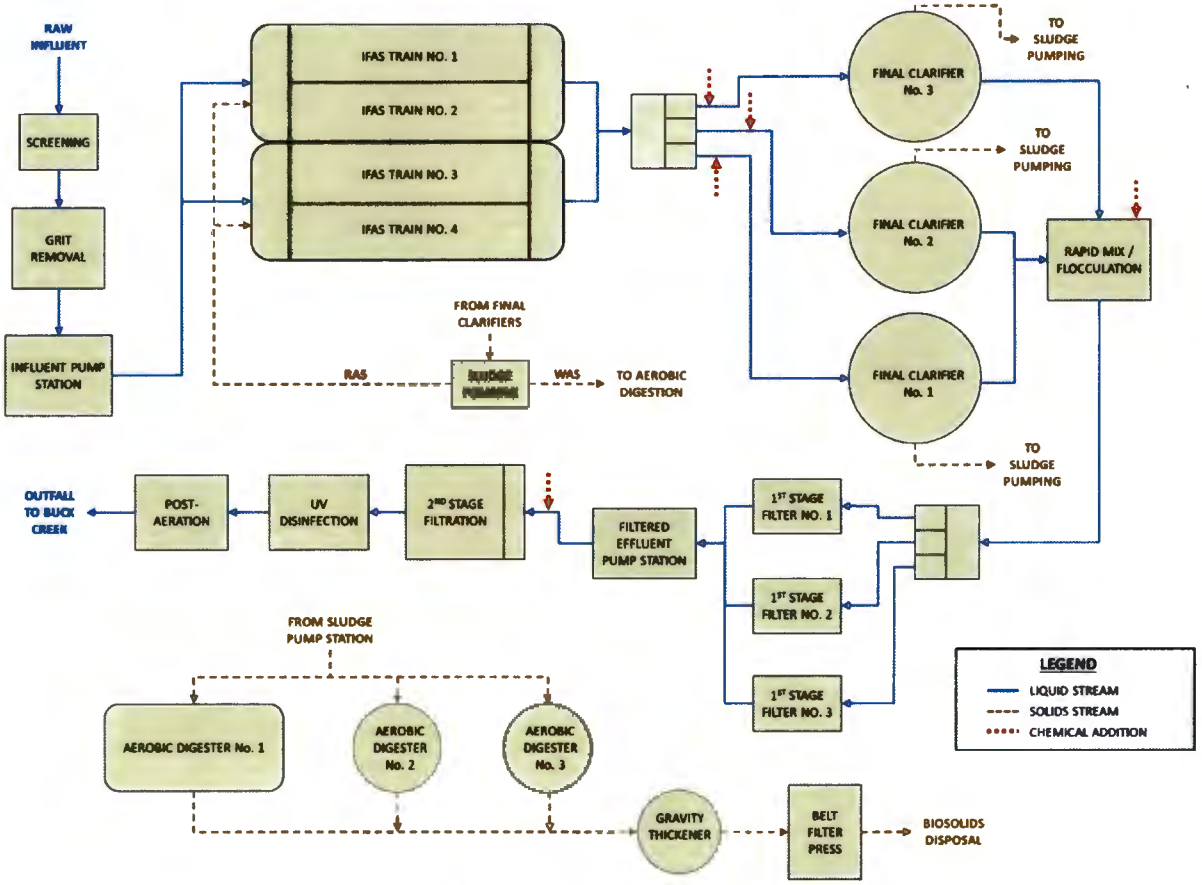


Figure 3-1 - Phase 2 Improvements Process Flow Diagram

3.2 Phase 2 Improvements Conceptual Cost Estimate

A conceptual cost estimate of the requirement improvements to meet Phase 2 requirements is provided in Table 3-1.

Table 3-1 - Phase 2 Conceptual Cost Estimate (2013 Dollars)

Element	Cost
Yard Piping	$1,501,000
Influent Pump Station	$1,020,000
EBPR Upgrades	$7,733,000
Secondary Clarification	$1,502,000
MLSS Splitter Box	$166,000
Secondary Effluent Pump Station	$846,000
Second Stage Filtration	$4,312,000
Solids Handling Improvements	$886,000
Subtotal	$17,966,000
Contingency (40%)	$7,187,000
Contractor OH&P (18%)	$4,528,000
Total Construction Costs (2013 Dollars)	**$29,681,000**

4.0 Comments Regarding Phase 2 Permit Requirements

The Cahaba River is a vital resource to not only the Birmingham area but to the entire State of Alabama. The Helena Utilities Board is a stakeholder and a proponent of protecting this important resource and restoring the water quality to its original condition. However, the capital investment required to upgrade the treatment capability of the Helena WWTP to achieve Phase 2 permit requirements is significant.

As previously noted, documentation and discussions with ADEM indicates that most major dischargers have, in general, complied with Phase 1 limits. More importantly, median TP levels within the Cahaba River have been shown to be reduced to below TMDL goals in 2015. ADEM continues to monitor water quality conditions of the Cahaba River to better understand if goals of the TMDL will continue to be met.

Based on these factors, the Helena Utilities Board requests that implementation of Phase 2 TP permit requirements be eliminated or delayed beyond the current April 2027 implementation date. This elimination / delay will provide several benefits:

- ADEM will have the opportunity to further study the Cahaba River and investigate whether goals of the TMDL continue to be met under varying climate (i.e. streamflow) conditions. If the goals of the TMDL have been met, the need for the Helena Utilities Board to spend significant resources on design and construction of the necessary improvements will not be necessary thus eliminating undue and significant rate increases required to fund the project. To meet the current Phase 2 permit requirements (April, 2027), planning and design would need to begin in 2023 to allow sufficient time for planning, design, funding procurement, construction, commissioning, and staff training for the proposed improvements.

- Helena can defer costs for design/construction for Phase 2 improvements until it can be demonstrated that Phase 2 TP limits (0.043 mg/L) or some less stringent limit are necessary. If it is shown that the current Phase 1 limit is appropriate, there will be little impact on Helena Utilities Board customers than has already been necessary due to the Phase 1 WWTP construction project. If it is shown that a reduced limit is necessary, the Helena Utilities Board can implement the appropriate rate structure to prepare for a significant capital expenditure related to the WWTP improvements. This rate structure can be implemented from now until the expected capital expense. The more time this rate structure is allowed to be implemented, the more gradual the rate increase will be to customers.
- While current technology has demonstrated the ability to reduce TP levels below 0.043 mg/L, the reliability to continuously achieve this treatment level is extremely difficult. Split samples sent to multiple labs have shown significant variations. If laboratory results vary this much at these ultra-low levels, the confidence in any result is reduced and the ability to consistently achieve TP less than 0.043 mg/L is low. It is expected that with time, more confidence can be gathered by laboratories to effectively measure ultra-low TP levels consistently.

RECEIVED

SEP 0 2 2022

MUNICIPAL SECTION

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
110020072785	AL0023116	Helena WWTP	

Form 2A NPDES

U.S. Environmental Protection Agency
Application for NPDES Permit to Discharge Wastewater
NEW AND EXISTING PUBLICLY OWNED TREATMENT WORKS

SECTION 1. BASIC APPLICATION INFORMATION FOR ALL APPLICANTS (40 CFR 122.21(j)(1) and (9))

Facility Information

1.1 Facility name
Helena WWTP

Mailing address (street or P.O. box)
590 Old Towne Place

City or town	State	ZIP code
Helena	AL	35080

Contact name (first and last)	Title	Phone number	Email address
Mr. Brian Puckett	Utility Board Chairman	(205) 663-2161	bpuckett@cityofhelena.org

Location address (street, route number, or other specific identifier) ☐ Same as mailing address
816 Hwy 52E

City or town	State	ZIP code
Helena	AL	35080

1.2 Is this application for a facility that has yet to commence discharge?

☐ Yes ➔ See instructions on data submission requirements for new dischargers. ☑ No

Applicant Information

1.3 Is applicant different from entity listed under Item 1.1 above?

☑ Yes ☐ No ➔ SKIP to Item 1.4.

Applicant name
City of Helena Utilities Board

Applicant address (street or P.O. box)
816 Hwy 52E

City or town	State	ZIP code
Helena	AL	35080

Contact name (first and last)	Title	Phone number	Email address
Mr. Brian Puckett	Utility Board Chairman	(205) 633-2161	bpuckett@cityofhelena.org

1.4 Is the applicant the facility's owner, operator, or both? (Check only one response.)

☐ Owner ☐ Operator ☑ Both

1.5 To which entity should the NPDES permitting authority send correspondence? (Check only one response.)

☐ Facility ☑ Applicant ☐ Facility and applicant (they are one and the same)

Existing Environmental Permits

1.6 Indicate below any existing environmental permits. (Check all that apply and print or type the corresponding permit number for each.)

Existing Environmental Permits

☑ NPDES (discharges to surface water) AL0023116	☐ RCRA (hazardous waste)	☐ UIC (underground injection control)
☐ PSD (air emissions)	☐ Nonattainment program (CAA)	☐ NESHAPs (CAA)
☐ Ocean dumping (MPRSA)	☐ Dredge or fill (CWA Section 404)	☐ Other (specify)

Collection System and Population Served

1.7 Provide the collection system information requested below for the treatment works.

Municipality Served	Population Served	Collection System Type (indicate percentage)	Ownership Status
City of Helena	21,560 (2021 Census)	100 % separate sanitary sewer ___ % combined storm and sanitary sewer ☐ Unknown	☑ Own ☐ Maintain ☐ Own ☐ Maintain ☐ Own ☐ Maintain
		___ % separate sanitary sewer ___ % combined storm and sanitary sewer ☐ Unknown	☐ Own ☐ Maintain ☐ Own ☐ Maintain ☐ Own ☐ Maintain
		___ % separate sanitary sewer ___ % combined storm and sanitary sewer ☐ Unknown	☐ Own ☐ Maintain ☐ Own ☐ Maintain ☐ Own ☐ Maintain
		___ % separate sanitary sewer ___ % combined storm and sanitary sewer ☐ Unknown	☐ Own ☐ Maintain ☐ Own ☐ Maintain ☐ Own ☐ Maintain
Total Population Served	21,560 (2021 Census)		

	Separate Sanitary Sewer System	Combined Storm and Sanitary Sewer
Total percentage of each type of sewer line (in miles)	100 %	%

Indian Country

1.8 Is the treatment works located in Indian Country?

☐ Yes ☑ No

1.9 Does the facility discharge to a receiving water that flows through Indian Country?

☐ Yes ☑ No

Design and Actual Flow Rates

1.10 Provide design *and* actual flow rates in the designated spaces.

Design Flow Rate: 4.950 mgd

Annual Average Flow Rates (Actual)		
Two Years Ago	**Last Year**	**This Year**
1.897 mgd	1.925 mgd	2.19 mgd
Maximum Daily Flow Rates (Actual)		
Two Years Ago	**Last Year**	**This Year**
7.28 mgd	5.41 mgd	6.52 mgd

Discharge Points by Type

1.11 Provide the total number of effluent discharge points to waters of the United States by type.

Total Number of Effluent Discharge Points by Type				
Treated Effluent	**Untreated Effluent**	**Combined Sewer Overflows**	**Bypasses**	**Constructed Emergency Overflows**
1	0	0	0	0

Outfalls and Other Discharge or Disposal Methods

Outfalls Other Than to Waters of the United States

1.12 Does the POTW discharge wastewater to basins, ponds, or other surface impoundments that do not have outlets for discharge to waters of the United States?

☐ Yes ☑ No ➔ SKIP to Item 1.14.

1.13 Provide the location of each surface impoundment and associated discharge information in the table below.

Surface Impoundment Location and Discharge Data

Location	Average Daily Volume Discharged to Surface Impoundment	Continuous or Intermittent (check one)
	gpd	☐ Continuous ☐ Intermittent
	gpd	☐ Continuous ☐ Intermittent
	gpd	☐ Continuous ☐ Intermittent

1.14 Is wastewater applied to land?

☐ Yes ☑ No ➔ SKIP to Item 1.16.

1.15 Provide the land application site and discharge data requested below.

Land Application Site and Discharge Data

Location	Size	Average Daily Volume Applied	Continuous or Intermittent (check one)
	acres	gpd	☐ Continuous ☐ Intermittent
	acres	gpd	☐ Continuous ☐ Intermittent
	acres	gpd	☐ Continuous ☐ Intermittent

1.16 Is effluent transported to another facility for treatment prior to discharge?

☐ Yes ☑ No ➔ SKIP to Item 1.21.

1.17 Describe the means by which the effluent is transported (e.g., tank truck, pipe).

1.18 Is the effluent transported by a party other than the applicant?

☐ Yes ☐ No ➔ SKIP to Item 1.20.

1.19 Provide information on the transporter below.

Transporter Data

Entity name	Mailing address (street or P.O. box)	
City or town	State	ZIP code
Contact name (first and last)	Title	
Phone number	Email address	

Outfalls and Other Discharge or Disposal Methods Continued

1.20 In the table below, indicate the name, address, contact information, NPDES number, and average daily flow rate of the receiving facility.

Receiving Facility Data		
Facility name	Mailing address (street or P.O. box)	
City or town	State	ZIP code
Contact name (first and last)	Title	
Phone number	Email address	
NPDES number of receiving facility (if any) ☐ None	Average daily flow rate mgd	

1.21 Is the wastewater disposed of in a manner other than those already mentioned in Items 1.14 through 1.21 that do not have outlets to waters of the United States (e.g., underground percolation, underground injection)?

☐ Yes ☑ No ➔ SKIP to Item 1.23.

1.22 Provide information in the table below on these other disposal methods.

Information on Other Disposal Methods				
Disposal Method Description	**Location of Disposal Site**	**Size of Disposal Site**	**Annual Average Daily Discharge Volume**	**Continuous or Intermittent** (check one)
		acres	gpd	☐ Continuous ☐ Intermittent
		acres	gpd	☐ Continuous ☐ Intermittent
		acres	gpd	☐ Continuous ☐ Intermittent

Variance Requests

1.23 Do you intend to request or renew one or more of the variances authorized at 40 CFR 122.21(n)? (Check all that apply. Consult with your NPDES permitting authority to determine what information needs to be submitted and when.)

☐ Discharges into marine waters (CWA Section 301(h))

☐ Water quality related effluent limitation (CWA Section 302(b)(2))

☑ Not applicable

Contractor Information

1.24 Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of a contractor?

☐ Yes ☑ No ➔ SKIP to Section 2.

1.25 Provide location and contact information for each contractor in addition to a description of the contractor's operational and maintenance responsibilities.

Contractor Information			
	Contractor 1	**Contractor 2**	**Contractor 3**
Contractor name (company name)			
Mailing address (street or P.O. box)			
City, state, and ZIP code			
Contact name (first and last)			
Phone number			
Email address			
Operational and maintenance responsibilities of contractor			

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
110020072785	AL0023116	Helena WWTP	

SECTION 2. ADDITIONAL INFORMATION (40 CFR 122.21(j)(1) and (2))

Design Flow

Outfalls to Waters of the United States

2.1 Does the treatment works have a design flow greater than or equal to 0.1 mgd?

☑ Yes ☐ No ➔ SKIP to Section 3.

Inflow and Infiltration

2.2 Provide the treatment works' current average daily volume of inflow and infiltration.

Average Daily Volume of Inflow and Infiltration
350,000 gpd

Indicate the steps the facility is taking to minimize inflow and infiltration.

Helena maintains and repairs sewer system problems in a timely manner.

Topographic Map

2.3 Have you attached a topographic map to this application that contains all the required information? (See instructions for specific requirements.)

☑ Yes ☐ No

Flow Diagram

2.4 Have you attached a process flow diagram or schematic to this application that contains all the required information? (See instructions for specific requirements.)

☑ Yes ☐ No

Scheduled Improvements and Schedules of Implementation

2.5 Are improvements to the facility scheduled?

☐ Yes ☑ No ➔ SKIP to Section 3.

Briefly list and describe the scheduled improvements.

1.

2.

3.

4.

2.6 Provide scheduled or actual dates of completion for improvements.

Scheduled or Actual Dates of Completion for Improvements

Scheduled Improvement (from above)	Affected Outfalls (list outfall number)	Begin Construction (MM/DD/YYYY)	End Construction (MM/DD/YYYY)	Begin Discharge (MM/DD/YYYY)	Attainment of Operational Level (MM/DD/YYYY)
1.					
2.					
3.					
4.					

2.7 Have appropriate permits/clearances concerning other federal/state requirements been obtained? Briefly explain your response.

☐ Yes ☐ No ☐ None required or applicable

Explanation:

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
110020072785	AL0023116	Helena WWTP	

SECTION 3. INFORMATION ON EFFLUENT DISCHARGES (40 CFR 122.21(j)(3) to (5))

Description of Outfalls

3.1 Provide the following information for each outfall. (Attach additional sheets if you have more than three outfalls.)

	Outfall Number 0012	Outfall Number ____	Outfall Number ____
State	Alabama		
County	Shelby		
City or town	Helena		
Distance from shore	75 ft.	ft.	ft.
Depth below surface	ft.	ft.	ft.
Average daily flow rate	2.19 mgd	mgd	mgd
Latitude	33° 17′ 49.9″ N	° ′ ″	° ′ ″
Longitude	-86° 50′ 34.1″ W	° ′ ″	° ′ ″

Seasonal or Periodic Discharge Data

3.2 Do any of the outfalls described under Item 3.1 have seasonal or periodic discharges?

☐ Yes ☑ No ➔ SKIP to Item 3.4.

3.3 If so, provide the following information for each applicable outfall.

	Outfall Number ____	Outfall Number ____	Outfall Number ____
Number of times per year discharge occurs			
Average duration of each discharge (specify units)			
Average flow of each discharge	mgd	mgd	mgd
Months in which discharge occurs			

Diffuser Type

3.4 Are any of the outfalls listed under Item 3.1 equipped with a diffuser?

☐ Yes ☑ No ➔ SKIP to Item 3.6.

3.5 Briefly describe the diffuser type at each applicable outfall.

	Outfall Number ____	Outfall Number ____	Outfall Number ____

Waters of the U.S.

3.6 Does the treatment works discharge or plan to discharge wastewater to waters of the United States from one or more discharge points?

☑ Yes ☐ No ➔ SKIP to Section 6.

Receiving Water Description

3.7 Provide the receiving water and related information (if known) for each outfall.

	Outfall Number 012	Outfall Number _____	Outfall Number _____
Receiving water name	Buck Creek		
Name of watershed, river, or stream system	Cahaba		
U.S. Soil Conservation Service 14-digit watershed code	031502020407		
Name of state management/river basin	Cahaba		
U.S. Geological Survey 8-digit hydrologic cataloging unit code	03150202		
Critical low flow (acute)	cfs	cfs	cfs
Critical low flow (chronic)	cfs	cfs	cfs
Total hardness at critical low flow	mg/L of $CaCO_3$	mg/L of $CaCO_3$	mg/L of $CaCO_3$

Treatment Description

3.8 Provide the following information describing the treatment provided for discharges from each outfall.

	Outfall Number 012	Outfall Number _____	Outfall Number _____
Highest Level of Treatment (check all that apply per outfall)	☑ Primary ☐ Equivalent to secondary ☑ Secondary ☑ Advanced ☐ Other (specify) _____	☐ Primary ☐ Equivalent to secondary ☐ Secondary ☐ Advanced ☐ Other (specify) _____	☐ Primary ☐ Equivalent to secondary ☐ Secondary ☐ Advanced ☐ Other (specify) _____
Design Removal Rates by Outfall			
BOD_5 or $CBOD_5$	95 %	%	%
TSS	95 %	%	%
Phosphorus	☐ Not applicable 95 %	☐ Not applicable %	☐ Not applicable %
Nitrogen	☑ Not applicable %	☐ Not applicable %	☐ Not applicable %
Other (specify) NH3-N _____	☐ Not applicable 95 %	☐ Not applicable %	☐ Not applicable %

Treatment Description Continued

3.9 Describe the type of disinfection used for the effluent from each outfall in the table below. If disinfection varies by season, describe below.

UV Disinfection

	Outfall Number 012	Outfall Number _____	Outfall Number _____
Disinfection type	UV Disinfection		
Seasons used	Continuous		
Dechlorination used?	☐ Not applicable ☐ Yes ☑ No	☐ Not applicable ☐ Yes ☐ No	☐ Not applicable ☐ Yes ☐ No

Effluent Testing Data

3.10 Have you completed monitoring for all Table A parameters and attached the results to the application package?

☑ Yes ☐ No

3.11 Have you conducted any WET tests during the 4.5 years prior to the date of the application on any of the facility's discharges or on any receiving water near the discharge points?

☑ Yes ☐ No ➔ SKIP to Item 3.13.

3.12 Indicate the number of acute and chronic WET tests conducted since the last permit reissuance of the facility's discharges by outfall number or of the receiving water near the discharge points.

	Outfall Number 012		Outfall Number _____		Outfall Number _____	
	Acute	Chronic	Acute	Chronic	Acute	Chronic
Number of tests of discharge water	0	1				
Number of tests of receiving water	0	0				

3.13 Does the treatment works have a design flow greater than or equal to 0.1 mgd?

☑ Yes ☐ No ➔ SKIP to Item 3.16.

3.14 Does the POTW use chlorine for disinfection, use chlorine elsewhere in the treatment process, or otherwise have reasonable potential to discharge chlorine in its effluent?

☐ Yes ➔ Complete Table B, including chlorine. ☑ No ➔ Complete Table B, omitting chlorine.

3.15 Have you completed monitoring for all applicable Table B pollutants and attached the results to this application package?

☑ Yes ☐ No

3.16 Does one or more of the following conditions apply?

- The facility has a design flow greater than or equal to 1 mgd.
- The POTW has an approved pretreatment program or is required to develop such a program.
- The NPDES permitting authority has informed the POTW that it must sample for the parameters in Table C, must sample other additional parameters (Table D), or submit the results of WET tests for acute or chronic toxicity for each of its discharge outfalls (Table E).

☑ Yes ➔ Complete Tables C, D, and E as applicable. ☐ No ➔ SKIP to Section 4.

3.17 Have you completed monitoring for all applicable Table C pollutants and attached the results to this application package?

☑ Yes ☐ No

3.18 Have you completed monitoring for all applicable Table D pollutants required by your NPDES permitting authority and attached the results to this application package?

☐ Yes ☑ No additional sampling required by NPDES permitting authority.

Effluent Testing Data Continued

3.19	Has the POTW conducted either (1) minimum of four quarterly WET tests for one year preceding this permit application or (2) at least four annual WET tests in the past 4.5 years? ☑ Yes ☐ No ➔ Complete tests and Table E and SKIP to Item 3.26.
3.20	Have you previously submitted the results of the above tests to your NPDES permitting authority? ☑ Yes ☐ No ➔ Provide results in Table E and SKIP to Item 3.26.
3.21	Indicate the dates the data were submitted to your NPDES permitting authority and provide a summary of the results.

Date(s) Submitted (MM/DD/YYYY)	Summary of Results
12/07/2022	No significant findings. 12/7/2022 12/20/2021 12/11/2020 12/26/2019

3.22	Regardless of how you provided your WET testing data to the NPDES permitting authority, did any of the tests result in toxicity? ☐ Yes ☑ No ➔ SKIP to Item 3.26.
3.23	Describe the cause(s) of the toxicity:
3.24	Has the treatment works conducted a toxicity reduction evaluation? ☐ Yes ☑ No ➔ SKIP to Item 3.26.
3.25	Provide details of any toxicity reduction evaluations conducted.
3.26	Have you completed Table E for all applicable outfalls and attached the results to the application package? ☐ Yes ☑ Not applicable because previously submitted information to the NPDES permitting authority.

SECTION 4. INDUSTRIAL DISCHARGES AND HAZARDOUS WASTES (40 CFR 122.21(j)(6) and (7))

Industrial Discharges and Hazardous Wastes

4.1	Does the POTW receive discharges from SIUs or NSCIUs? ☐ Yes ☑ No ➔ SKIP to Item 4.7.
4.2	Indicate the number of SIUs and NSCIUs that discharge to the POTW.

Number of SIUs	Number of NSCIUs
0.00	0.00

4.3	Does the POTW have an approved pretreatment program? ☐ Yes ☐ No
4.4	Have you submitted either of the following to the NPDES permitting authority that contains information substantially identical to that required in Table F: (1) a pretreatment program annual report submitted within one year of the application or (2) a pretreatment program? ☐ Yes ☐ No ➔ SKIP to Item 4.6.
4.5	Identify the title and date of the annual report or pretreatment program referenced in Item 4.4. SKIP to Item 4.7.
4.6	Have you completed and attached Table F to this application package? ☐ Yes ☐ No

Industrial Discharges and Hazardous Wastes Continued

4.7 Does the POTW receive, or has it been notified that it will receive, by truck, rail, or dedicated pipe, any wastes that are regulated as RCRA hazardous wastes pursuant to 40 CFR 261?

☐ Yes ☑ No ➔ SKIP to Item 4.9.

4.8 If yes, provide the following information:

Hazardous Waste Number	Waste Transport Method (check all that apply)	Annual Amount of Waste Received	Units
	☐ Truck ☐ Rail ☐ Dedicated pipe ☐ Other (specify) _____		
	☐ Truck ☐ Rail ☐ Dedicated pipe ☐ Other (specify) _____		
	☐ Truck ☐ Rail ☐ Dedicated pipe ☐ Other (specify) _____		

4.9 Does the POTW receive, or has it been notified that it will receive, wastewaters that originate from remedial activities, including those undertaken pursuant to CERCLA and Sections 3004(7) or 3008(h) of RCRA?

☐ Yes ☑ No ➔ SKIP to Section 5.

4.10 Does the POTW receive (or expect to receive) less than 15 kilograms per month of non-acute hazardous wastes as specified in 40 CFR 261.30(d) and 261.33(e)?

☐ Yes ➔ SKIP to Section 5. ☐ No

4.11 Have you reported the following information in an attachment to this application: identification and description of the site(s) or facility(ies) at which the wastewater originates; the identities of the wastewater's hazardous constituents; and the extent of treatment, if any, the wastewater receives or will receive before entering the POTW?

☐ Yes ☐ No

SECTION 5. COMBINED SEWER OVERFLOWS (40 CFR 122.21(j)(8))

CSO Map and Diagram

5.1 Does the treatment works have a combined sewer system?

☐ Yes ☑ No ➔ SKIP to Section 6.

5.2 Have you attached a CSO system map to this application? (See instructions for map requirements.)

☐ Yes ☐ No

5.3 Have you attached a CSO system diagram to this application? (See instructions for diagram requirements.)

☐ Yes ☐ No

CSO Outfall Description

5.4 For each CSO outfall, provide the following information. (Attach additional sheets as necessary.)

	CSO Outfall Number ____	CSO Outfall Number ____	CSO Outfall Number ____
City or town			
State and ZIP code			
County			
Latitude	° ′ ″	° ′ ″	° ′ ″
Longitude	° ′ ″	° ′ ″	° ′ ″
Distance from shore	ft.	ft.	ft.
Depth below surface	ft.	ft.	ft.

CSO Monitoring

5.5 Did the POTW monitor any of the following items in the past year for its CSO outfalls?

	CSO Outfall Number ____	CSO Outfall Number ____	CSO Outfall Number ____
Rainfall	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
CSO flow volume	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
CSO pollutant concentrations	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Receiving water quality	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
CSO frequency	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Number of storm events	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

CSO Events in Past Year

5.6 Provide the following information for each of your CSO outfalls.

	CSO Outfall Number ____	CSO Outfall Number ____	CSO Outfall Number ____
Number of CSO events in the past year	events	events	events
Average duration per event	hours ☐ Actual or ☐ Estimated	hours ☐ Actual or ☐ Estimated	hours ☐ Actual or ☐ Estimated
Average volume per event	million gallons ☐ Actual or ☐ Estimated	million gallons ☐ Actual or ☐ Estimated	million gallons ☐ Actual or ☐ Estimated
Minimum rainfall causing a CSO event in last year	inches of rainfall ☐ Actual or ☐ Estimated	inches of rainfall ☐ Actual or ☐ Estimated	inches of rainfall ☐ Actual or ☐ Estimated

CSO Receiving Waters

5.7 Provide the information in the table below for each of your CSO outfalls.

	CSO Outfall Number ____	CSO Outfall Number ____	CSO Outfall Number ____
Receiving water name			
Name of watershed/ stream system			
U.S. Soil Conservation Service 14-digit watershed code (if known)	☐ Unknown	☐ Unknown	☐ Unknown
Name of state management/river basin			
U.S. Geological Survey 8-Digit Hydrologic Unit Code (if known)	☐ Unknown	☐ Unknown	☐ Unknown
Description of known water quality impacts on receiving stream by CSO (see instructions for examples)			

SECTION 6. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

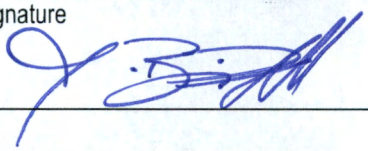
Checklist and Certification Statement

6.1 In Column 1 below, mark the sections of Form 2A that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to provide attachments.

Column 1	Column 2	
☑ Section 1: Basic Application Information for All Applicants	☐ w/ variance request(s)	☐ w/ additional attachments
☑ Section 2: Additional Information	☑ w/ topographic map ☐ w/ additional attachments	☑ w/ process flow diagram
☑ Section 3: Information on Effluent Discharges	☑ w/ Table A ☑ w/ Table B ☑ w/ Table C	☐ w/ Table D ☐ w/ Table E ☐ w/ additional attachments
☐ Section 4: Industrial Discharges and Hazardous Wastes	☐ w/ SIU and NSCIU attachments ☐ w/ additional attachments	☐ w/ Table F
☐ Section 5: Combined Sewer Overflows	☐ w/ CSO map ☐ w/ CSO system diagram	☐ w/ additional attachments
☐ Section 6: Checklist and Certification Statement	☐ w/ attachments	

6.2 **Certification Statement**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name (print or type first and last name)	Official title
BRAD PUCKETT	CHAIRMAN
Signature	**Date signed**
	9.1.2022

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
110020072785	AL0023116	Helena WWTP	

Form Approved 03/05/19
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TABLE A. EFFLUENT PARAMETERS FOR ALL POTWS

Pollutant	Maximum Daily Discharge		Average Daily Discharge			Analytical Method[1]	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
Biochemical oxygen demand ☐ BOD_5 or ☑ $CBOD_5$ (report one)	5.90	mg/L	1.58	mg/L	3.00		☐ ML ☐ MDL
~~Fecal coliform~~ E. Coli	350.00	col/100 mL	56.17	col/100 mL	3.00		☐ ML ☐ MDL
Design flow rate	4.95	MGD	2.19	MGD	3.00		
pH (minimum)	6.55	s.u.					
pH (maximum)	8.47	s.u					
Temperature (winter)	19.40	Degrees C	49.00	Degrees C	3.00		
Temperature (summer)	33.33	Degrees C	22.82	Decrees C	3.00		
Total suspended solids (TSS)	4.8	mg/L	0.73	mg/L	3.00		☐ ML ☐ MDL

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE B. EFFLUENT PARAMETERS FOR ALL POTWS WITH A FLOW EQUAL TO OR GREATER THAN 0.1 MGD

Pollutant	Maximum Daily Discharge		Average Daily Discharge			Analytical Method[1]	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
Ammonia (as N)	5.00	mg/L	0.17	mg/L	3.00		☐ ML ☐ MDL
Chlorine (total residual, TRC)[2]	N/A	mg/L	N/A	mg/L	3.00	None	None ☐ ML ☐ MDL
Dissolved oxygen	10.62	mg/L	8.64	mg/L	3.00		☐ ML ☐ MDL
Nitrate/nitrite	37.40	mg/L	14.99	mg/L	3.00		☐ ML ☐ MDL
Kjeldahl nitrogen	5.60	mg/L	0.57	mg/L	3.00		☐ ML ☐ MDL
Oil and grease	<0.005	mg/L	<0.005	mg/L	3.00	EPA 1664B, 2010	☐ ML ☐ MDL
Phosphorus	2.91	mg/L	0.28	mg/L	3.00		☐ ML ☐ MDL
Total dissolved solids	295	mg/L	263.33	mg/L	3.00	SM 2540C	10.0 mg/L ☐ ML ☑ MDL

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

[2] Facilities that do not use chlorine for disinfection, do not use chlorine elsewhere in the treatment process, and have no reasonable potential to discharge chlorine in their effluent are not required to report data for chlorine.

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
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TABLE C. EFFLUENT PARAMETERS FOR SELECTED POTWS

Pollutant	Maximum Daily Discharge		Average Daily Discharge			Analytical Method[1]	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
Metals, Cyanide, and Total Phenols							
Hardness (as $CaCO_3$)	215.00	mg/L	196.00	mg/L	3	EPA 130.1	).005 mg/L ☐ ML ☑ MDL
Antimony, total recoverable	<0.001	mg/L	<0.001	mg/L	3	EPA 200.8	).001 mg/L ☐ ML ☑ MDL
Arsenic, total recoverable	<0.001	mg/L	<0.001	mg/L	3	EPA 200.8	).001 mg/L ☐ ML ☑ MDL
Beryllium, total recoverable	<0.001	mg/L	<0.001	mg/L	3	EPA 200.8	).001 mg/L ☐ ML ☑ MDL
Cadmium, total recoverable	<0.001	mg/L	<0.001	mg/L	3	EPA 200.8	).001 mg/L ☐ ML ☑ MDL
Chromium, total recoverable	<0.001	mg/L	<0.001	mg/L	3	EPA 200.8	).001 mg/L ☐ ML ☑ MDL
Copper, total recoverable	<0.003	mg/L	<0.003	mg/L	3	EPA 200.8	).003 mg/L ☐ ML ☑ MDL
Lead, total recoverable	<0.001	mg/L	<0.001	mg/L	3	EPA 200.8	).001 mg/L ☐ ML ☑ MDL
Mercury, total recoverable	-	mg/L	-	mg/L			☐ ML ☐ MDL
Nickel, total recoverable	<0.001	mg/L	<0.001	mg/L	3	EPA 200.8	).001 mg/L ☐ ML ☑ MDL
Selenium, total recoverable	<0.001	mg/L	<0.001	mg/L	3	EPA 200.8	).001 mg/L ☐ ML ☑ MDL
Silver, total recoverable	<0.001	mg/L	<0.001	mg/L	3	EPA 200.8	).001 mg/L ☐ ML ☑ MDL
Thallium, total recoverable	<0.001	mg/L	<0.001	mg/L	3	EPA 200.8	).001 mg/L ☐ ML ☑ MDL
Zinc, total recoverable	0.017	mg/L	0.013	mg/L	3	EPA 200.8	).005 mg/L ☐ ML ☑ MDL
Cyanide	0.38	mg/L	0.14	mg/L	3	SM 4500-CN-E	0.02 mg/L ☐ ML ☑ MDL
Total phenolic compounds	<0.020	mg/L	<0.020	mg/L	3	EPA 420.1	0.02 mg/L ☐ ML ☑ MDL
Volatile Organic Compounds							
Acrolein	<0.020	mg/L	<0.020	mg/L	3	EPA 624.1	0.02 mg/L ☐ ML ☑ MDL
Acrylonitrile	<0.020	mg/L	<0.020	mg/L	3	EPA 624.1	0.02 mg/L ☐ ML ☑ MDL
Benzene	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL
Bromoform	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
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TABLE C. EFFLUENT PARAMETERS FOR SELECTED POTWS

Pollutant	Maximum Daily Discharge		Average Daily Discharge			Analytical Method[1]	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
Carbon tetrachloride	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL
Chlorobenzene	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL
Chlorodibromomethane	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL
Chloroethane	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☐ MDL
2-chloroethylvinyl ether	<0.020	mg/L	<0.020	mg/L	3	EPA 624.1	0.02 mg/L ☐ ML ☑ MDL
Chloroform	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL
Dichlorobromomethane	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL
1,1-dichloroethane	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL
1,2-dichloroethane	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL
trans-1,2-dichloroethylene	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL
1,1-dichloroethylene	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL
1,2-dichloropropane	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL
1,3-dichloropropylene	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL
Ethylbenzene	**<0.005**	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL
Methyl bromide	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL
Methyl chloride	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL
Methylene chloride	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL
1,1,2,2-tetrachloroethane	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL
Tetrachloroethylene	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL
Toluene	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL
1,1,1-trichloroethane	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL
1,1,2-trichloroethane	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL

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TABLE C. EFFLUENT PARAMETERS FOR SELECTED POTWS

Pollutant	Maximum Daily Discharge		Average Daily Discharge			Analytical Method[1]	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
Trichloroethylene	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL
Vinyl chloride	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL
Acid-Extractable Compounds							
p-chloro-m-cresol	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
2-chlorophenol	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
2,4-dichlorophenol	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
2,4-dimethylphenol	<0.010	mg/L	0.008	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☐ MDL
4,6-dinitro-o-cresol	<0.003	mg/L	0.005	mg/L	3	EPA 652.1	).025 mg/L ☐ ML ☑ MDL
2,4-dinitrophenol	<0.004	mg/L	0.005	mg/L	3	EPA 625.1	).042 mg/L ☐ ML ☑ MDL
2-nitrophenol	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
4-nitrophenol	<0.004	mg/L	0.005	mg/L	3	EPA 625.1	0024 mg/L ☐ ML ☑ MDL
Pentachlorophenol	<0.004	mg/L	0.005	mg/L	3	EPA 625.1	0036 mg/L ☐ ML ☑ MDL
Phenol	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
2,4,6-trichlorophenol	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
Base-Neutral Compounds							
Acenaphthene	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
Acenaphthylene	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
Anthracene	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
Benzidine	<0.005	mg/L	0.001	mg/L	3	EPA 625.1	0.03 mg/L ☐ ML ☑ MDL
Benzo(a)anthracene	<0.010	mg/L	0.008	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
Benzo(a)pyrene	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
3,4-benzofluoranthene	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
110020072785	AL0023116	Helena WWTP	012

Form Approved 03/05/19
OMB No. 2040-0004

TABLE C. EFFLUENT PARAMETERS FOR SELECTED POTWS

Pollutant	Maximum Daily Discharge		Average Daily Discharge			Analytical Method[1]	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
Benzo(ghi)perylene	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
Benzo(k)fluoranthene	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
Bis (2-chloroethoxy) methane	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
Bis (2-chloroethyl) ether	<0.010	mg/L	0.008	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
Bis (2-chloroisopropyl) ether	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
Bis (2-ethylhexyl) phthalate	<0.010	mg/L	0.008	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
4-bromophenyl phenyl ether	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
Butyl benzyl phthalate	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
2-chloronaphthalene	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
4-chlorophenyl phenyl ether	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
Chrysene	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
di-n-butyl phthalate	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
di-n-octyl phthalate	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
Dibenzo(a,h)anthracene	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
1,2-dichlorobenzene	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL
1,3-dichlorobenzene	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☑ MDL
1,4-dichlorobenzene	<0.005	mg/L	<0.005	mg/L	3	EPA 624.1	).005 mg/L ☐ ML ☐ MDL
3,3-dichlorobenzidine	0.021	mg/L	0.015	mg/L	3	EPA 625.1	0.02 mg/L ☐ ML ☑ MDL
Diethyl phthalate	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
Dimethyl phthalate	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
2,4-dinitrotoluene	<0.010	mg/L	0.008	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
2,6-dinitrotoluene	<0.010	mg/L	0.008	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
110020072785	AL0023116	Helena WWTP	012

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TABLE C. EFFLUENT PARAMETERS FOR SELECTED POTWS

Pollutant	Maximum Daily Discharge		Average Daily Discharge			Analytical Method[1]	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
1,2-diphenylhydrazine	<0.010	mg/L	0.007	ppd	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
Fluoranthene	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
Fluorene	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
Hexachlorobenzene	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
Hexachlorobutadiene	0.021	mg/L	0.015	mg/L	3	EPA 625.1	0.02 mg/L ☐ ML ☑ MDL
Hexachlorocyclo-pentadiene	0.041	mg/L	0.030	mg/L	3	EPA 625.1	0.04 mg/L ☐ ML ☑ MDL
Hexachloroethane	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
Indeno(1,2,3-cd)pyrene	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
Isophorone	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
Naphthalene	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
Nitrobenzene	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
N-nitrosodi-n-propylamine	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
N-nitrosodimethylamine	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
N-nitrosodiphenylamine	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
Phenanthrene	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
Pyrene	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL
1,2,4-trichlorobenzene	<0.010	mg/L	0.007	mg/L	3	EPA 625.1	0.01 mg/L ☐ ML ☑ MDL

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR Chapter I, Subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
110020072785	AL0023116	Helena WWTP	

Form Approved 03/05/19
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TABLE D. ADDITIONAL POLLUTANTS AS REQUIRED BY NPDES PERMITTING AUTHORITY

Pollutant (list)	Maximum Daily Discharge		Average Daily Discharge			Analytical Method[1]	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
☑ No additional sampling is required by NPDES permitting authority.							
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL
							☐ ML ☐ MDL

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
110020072785	AL0023116	Helena WWTP	012

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TABLE E. EFFLUENT MONITORING FOR WHOLE EFFLUENT TOXICITY

The table provides response space for one whole effluent toxicity sample. Copy the table to report additional test results.

	Test Number 1	Test Number 2	Test Number 3
Test Information			
Test species	Pimephales promelas and Cerodaphnia dubia	Pimephales promelas and Cerodaphnia dubia	Pimephales promelas and Cerodaphnia dubia
Age at initiation of test			
Outfall number	012	012	012
Date sample collected	11/01/2021	11/03/2021	11/05/2021
Date test started	11/02/2021	11/04/2021	11/06/2021
Duration	7 days	5 days	3 days
Toxicity Test Methods			
Test method number	EPA 821-R-02-013	EPA 821-R-02-013	EPA 821-R-02-013
Manual title			
Edition number and year of publication			
Page number(s)			
Sample Type			
Check one:	☐ Grab ☑ 24-hour composite	☐ Grab ☑ 24-hour composite	☐ Grab ☑ 24-hour composite
Sample Location			
Check one:	☐ Before Disinfection ☑ After Disinfection ☐ After Dechlorination	☐ Before Disinfection ☑ After Disinfection ☐ After Dechlorination	☐ Before disinfection ☐ After disinfection ☐ After dechlorination
Point in Treatment Process			
Describe the point in the treatment process at which the sample was collected for each test.	Post Aeration	Post Aeration	Post Aeration
Toxicity Type			
Indicate for each test whether the test was performed to asses acute or chronic toxicity, or both. (Check one response.)	☐ Acute ☑ Chronic ☐ Both	☐ Acute ☑ Chronic ☐ Both	☐ Acute ☑ Chronic ☐ Both

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
110020072785	AL0023116	Helena WWTP	

Form Approved 03/05/19
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TABLE E. EFFLUENT MONITORING FOR WHOLE EFFLUENT TOXICITY

The table provides response space for one whole effluent toxicity sample. Copy the table to report additional test results.

	Test Number ____	Test Number ____	Test Number ____
Test Type			
Indicate the type of test performed. (Check one response.)	☐ Static ☐ Static-renewal ☐ Flow-through	☐ Static ☐ Static-renewal ☐ Flow-through	☐ Static ☐ Static-renewal ☐ Flow-through
Source of Dilution Water			
Indicate the source of dilution water. (Check one response.)	☐ Laboratory water ☐ Receiving water	☐ Laboratory water ☐ Receiving water	☐ Laboratory water ☐ Receiving water
If laboratory water, specify type.			
If receiving water, specify source.			
Type of Dilution Water			
Indicate the type of dilution water. If salt water, specify "natural" or type of artificial sea salts or brine used.	☐ Fresh water ☐ Salt water (specify)	☐ Fresh water ☐ Salt water (specify)	☐ Fresh water ☐ Salt water (specify)
Percentage Effluent Used			
Specify the percentage effluent used for all concentrations in the test series.			

	Test Number ____		Test Number ____		Test Number ____	
Parameters Tested						
Check the parameters tested.	☐ pH ☐ Salinity ☐ Temperature	☐ Ammonia ☐ Dissolved oxygen	☐ pH ☐ Salinity ☐ Temperature	☐ Ammonia ☐ Dissolved oxygen	☐ pH ☐ Salinity ☐ Temperature	☐ Ammonia ☐ Dissolved oxygen
Acute Test Results						
Percent survival in 100% effluent	%		%		%	
LC_{50}						
95% confidence interval	%		%		%	
Control percent survival	%		%		%	

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
110020072785	AL0023116	Helena WWTP	

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TABLE E. EFFLUENT MONITORING FOR WHOLE EFFLUENT TOXICITY

The table provides response space for one whole effluent toxicity sample. Copy the table to report additional test results.

	Test Number ____		Test Number ____		Test Number ____	
Acute Test Results Continued						
Other (describe)						
Chronic Test Results						
NOEC	%		%		%	
IC_{25}	%		%		%	
Control percent survival	%		%		%	
Other (describe)						
Quality Control/Quality Assurance						
Is reference toxicant data available?	☐ Yes	☐ No	☐ Yes	☐ No	☐ Yes	☐ No
Was reference toxicant test within acceptable bounds?	☐ Yes	☐ No	☐ Yes	☐ No	☐ Yes	☐ No
What date was reference toxicant test run (MM/DD/YYYY)?						
Other (describe)						

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TABLE F. INDUSTRIAL DISCHARGE INFORMATION

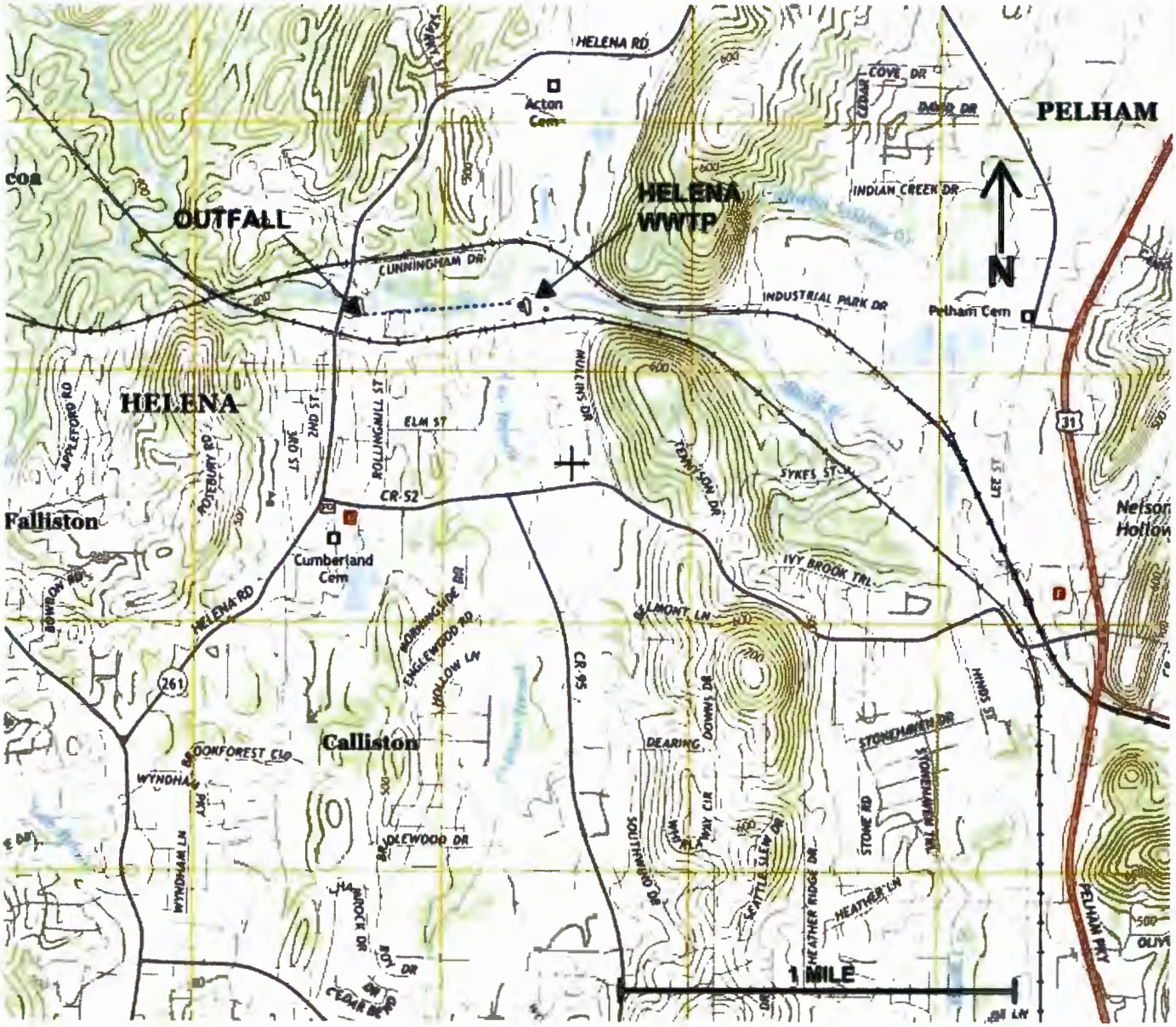
Response space is provided for three SIUs. Copy the table to report information for additional SIUs.

	SIU ____	SIU ____	SIU ____
Name of SIU			
Mailing address (street or P.O. box)			
City, state, and ZIP code			
Description of all industrial processes that affect or contribute to the discharge.			
List the principal products and raw materials that affect or contribute to the SIU's discharge.			
Indicate the average daily volume of wastewater discharged by the SIU.	gpd	gpd	gpd
How much of the average daily volume is attributable to process flow?	gpd	gpd	gpd
How much of the average daily volume is attributable to non-process flow?	gpd	gpd	gpd
Is the SIU subject to local limits?	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Is the SIU subject to categorical standards?	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

TABLE F. INDUSTRIAL DISCHARGE INFORMATION

Response space is provided for three SIUs. Copy the table to report information for additional SIUs.

	SIU ___	SIU ___	SIU ___
Under what categories and subcategories is the SIU subject?			
Has the POTW experienced problems (e.g., upsets, pass-through interferences) in the past 4.5 years that are attributable to the SIU?	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
If yes, describe.			



SOURCE: Helena 20'Topo Map

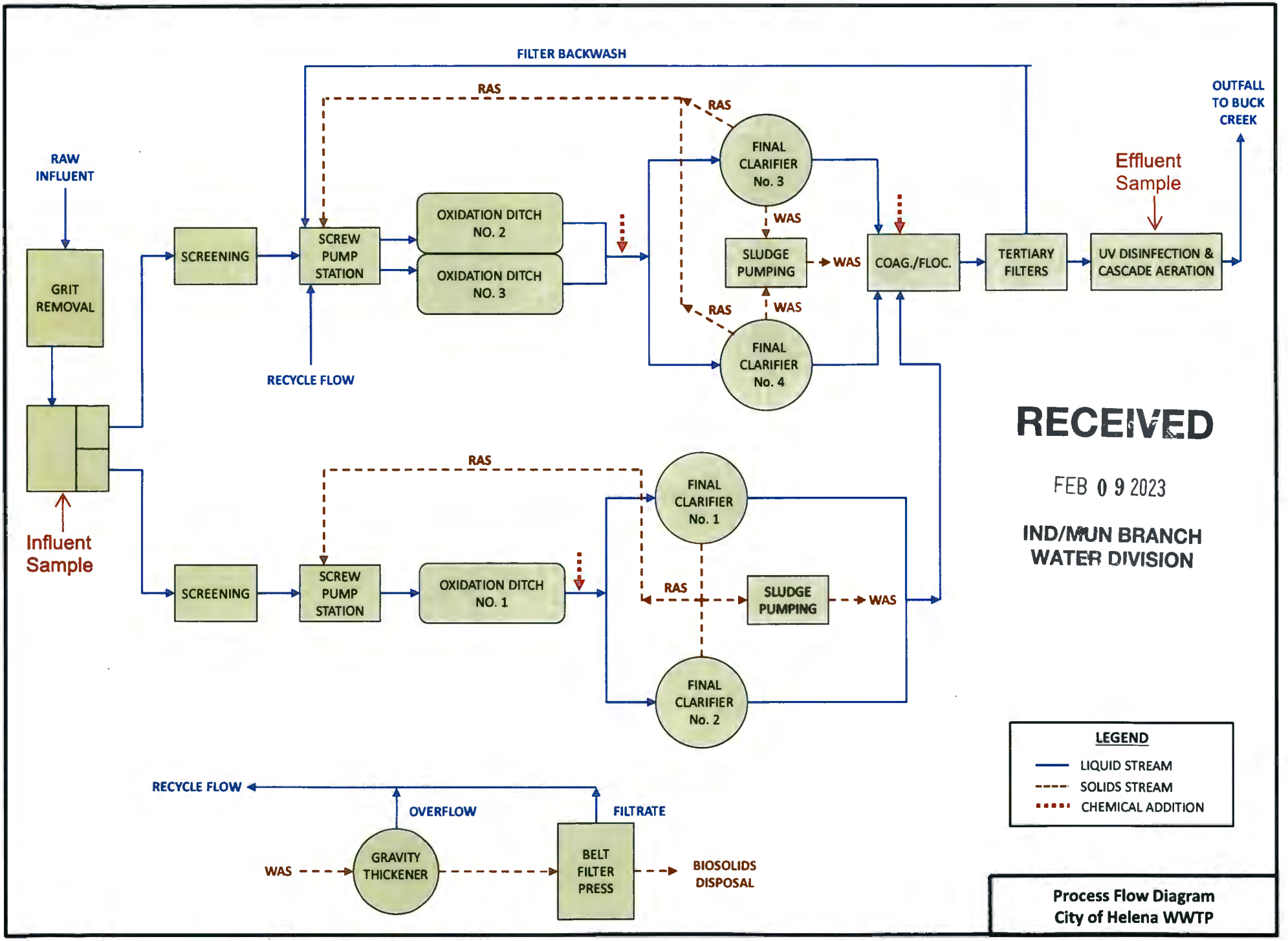
Facility Location:

Helena WWTP–
590 Old Towne Place, Helena, AL 35080
Located in Shelby County, Alabama on Buck Creek,
a tributary to the Cahaba River

CITY OF HELENA UTILITIES BOARD

HELENA WWTP
FACILITY LOCATION SITE MAP
(Not to Scale)

GARVER


FILTER BACKWASH
RAS
RAS
OUTFALL TO BUCK CREEK
RAW INFLUENT
FINAL CLARIFIER No. 3
Effluent Sample
WAS
GRIT REMOVAL
SCREENING
SCREW PUMP STATION
OXIDATION DITCH NO. 2
OXIDATION DITCH NO. 3
SLUDGE PUMPING
WAS
COAG./FLOC.
TERTIARY FILTERS
UV DISINFECTION & CASCADE AERATION
RECYCLE FLOW
RAS
WAS
FINAL CLARIFIER No. 4
RAS
FINAL CLARIFIER No. 1
Influent Sample
SCREENING
SCREW PUMP STATION
OXIDATION DITCH NO. 1
RAS
SLUDGE PUMPING
WAS
FINAL CLARIFIER No. 2
RECEIVED
FEB 0 9 2023
IND/MUN BRANCH
WATER DIVISION
LEGEND
LIQUID STREAM
SOLIDS STREAM
CHEMICAL ADDITION
RECYCLE FLOW
OVERFLOW
FILTRATE
WAS
GRAVITY THICKENER
BELT FILTER PRESS
BIOSOLIDS DISPOSAL
Process Flow Diagram
City of Helena WWTP

Process Design Flow
Helena Wastewater Treatment Plant
City of Helena, Alabama

Equipment Description		Value	
		Train A	Train B
Grit Removal			
Design Flow			
	Average Design Flow:	3.7 MGD	
	Max. Hydraulic Capacity:	9.0 MGD	
Aerated Grit Chamber			
	Manufacturer:	Lakeside	
	Model:	Aeroductor	
	Number of Units:	1	
	Size:	18'-0" x 18'-0"	
	Liquid Depth:	14'-0"	
	Air Diffusion:	30" Diam. Draft Tube with Bottomless Diffuser Head	
	Grit Lift:	6" Diam. Eductor Tube with Adjustable Extension	
Blowers			
	Manufacturer:	Roots	
	Model:	Model 45 URAI	
	Number:	2	
	Capacity:	178 CFM at 7.0 PSIG	
	Blower Speed:	2025 RPM	
	Motor:	10 HP	
Grit Washer			
	Manufacturer:	Lakeside	
	Model:	Type L	
	Number of Units:	1	
	Size:	9" Diam. @ 20 RPM	
	Drive:	3/4 HP	
Flow Split Structure			
Design Flow			
	Average Daily Flow:	3.7 MGD	
	Max. Hydraulic Capacity:	9.0 MGD	

Process Design Flow
Helena Wastewater Treatment Plant
City of Helena, Alabama

Equipment Description		Value	
		Train A	Train B
Screening			
Design Flow			
	Average Design Flow:	3.7 MGD	1.25 MGD
	Max. Hydraulic Capacity:	7.0 MGD	2.28 MGD
Screen			
	Manufacturer:	Lakeside	Lakeside
	Model:	Fine Screen	Fine Screen
	Number of Units:	1	1
	Bar Spacing:	1/4"	1/4"
	Angle of Inclination:	35°	35°
	Screening Basket Diameter:	55"	40"
	Screening Channel Width:	58"	42"
	Drive Motor Size:	3 HP	2 HP
	Wash System:	30 GPM at 60 PSIG	Unknown
Influent Pumping (Screw Pumps)			
Pumps			
	Manufacturer:	Lakeside	Lakeside
	Model:	Open Screw Pump	Open Screw Pump
	Number of Pumps:	3	2
	Number of Flights:	3	3
	Capacity, Each:	3,200 GPM	2,200 GPM
	Lift:	15'-9"	19'-6"
	Spiral Screw Diameter:	42"	42"
	Drive Motor Size:	25 HP	25 HP

Process Design Flow
Helena Wastewater Treatment Plant
City of Helena, Alabama

Equipment Description	Value	
	Train A	Train B
Oxidation Ditches		
Number of Units	2	1
Design Flow		
Average Design Flow:	3.7 MGD	1.25 MGD
Peak Hourly Flow:	7.4 MGD	2.28 MGD
Influent Wastewater Quality		
Influent BOD5:	220 mg/L	n/a
Influent TSS:	220 mg/L	n/a
Influent NH3-N:	28 mg/L	n/a
Ditch Geometry (ea.)		
Straight Wall Length:	200-ft.	168-ft.
Width:	36-ft.	28-ft.
Liquid Depth:	14-ft.	14-ft.
Freeboard:	1.5-ft.	1.5-ft.
Volume:	1,945,000 gal.	1,252,000 gal.
BOD Loading:	13.0 lbs.BOD/1,000 ft3-day	13.7 lbs.BOD/1,000 ft3-day (3)
Horizontal Rotors		
Manufacturer:	Lakeside	Lakeside
Model:	Magna Rotor	Magna Rotor
Number of Units (each ditch):	4	3
Motor Size:	60 HP	40 HP
Length:	29-ft.	25-ft.
Immersion:		
Design:	9"	8.25"
Max:	14.5"	12.5"
Oxygen Transfer:	3.35 lb O2/hp-hr	2.94 lb O2/hp-hr
Secondary Clarifiers		
Number of Units	2	2
Design Flow		
Average Design Flow:	3.7 MGD	1.25 MGD
Peak Hourly Flow:	7.4 MGD	2.28 MGD
Geometry (ea)		
Diameter:	88-ft.	50-ft.
Sidewater Depth:	12-ft.	12-ft.
Weir Overflow Rate:	13,500 gpd/ft	10,870 gpd/ft
Surface Loading Rate:	615 gpd/ft2	820 gpd/ft2
Clarifier Mechanism		
Manufacturer:	Lakeside	Lakeside
Model:	Spiravac	Spiraflo
Motor Size:	0.5 HP	0.5 HP
Sludge Removal:	Suction Headers	Plow to Center Hopper

Process Design Flow
Helena Wastewater Treatment Plant
City of Helena, Alabama

Equipment Description	Value	
	Train A	Train B
Rapid Mix/Flocculation		
Design Flow		
Avearage Day Flow:	4.95	
Peak Day Flow:	6.5 per basin (13 total)	
Filtration		
Number of Filter Vessels	2	
Design Flow		
Average Design Flow:	4.95 MGD	
Peak Daily Flow:	10.0 MGD	
Filter Area (Each Vessel)	538 ft^2	
Filters		
Manufacturer:	Aqua Aerobics	
Model:	AquaDisk	
Number of Disks:	10	
Backwash Pumps (per Vessel)		
Number:	2	
Manufacturer:	Gorman Rupp	
Model:	12B20-B	
Capacity:	130 GPM at 21 - 47 ft. TDH	
Motor Size:	5 HP	
UV Disinfection		
Number of UV Reactors	2	
Design Flow		
Average Design Flow:	4.95 MGD	
Peak Design Flow:	13.0 MGD	
Design Criteria		
Design Dose:	30 mJ/cm^2	
Lamps Per Reactor:	72	
Ultraviolet Transmittance:	65%	
UV Disinfection System		
Manufacturer:	Trojan	
Model:	TrojanUVFIT	
Effluent Flow/Post Aeration		
Effluent Flow Measurement Type		
Post Aeration Type	Cascade Aeration (Low-Profile)	
Post Aeration Capacity		
Average Design Flow:	4.95 MGD	
Peak Daily Flow:	13.0 MGD	
RAS/WAS Equipment		
RAS		
Telescoping Valve Size:	10"	10"
WAS		
Number of Pumps:	2	N/A
Manufacturer:	Vaughan	N/A
Model:	HE 4-P6	N/A
Capacity:	300 GPM at 47-ft. TDH	N/A
Motor Size:	15 HP	N/A

Process Design Flow
Helena Wastewater Treatment Plant
City of Helena, Alabama

Equipment Description	Value	
	Train A	Train B
Gravity Thickening Equipment		
Geometry		
Diameter:	35-ft.	
Sidewater Depth:	14-ft.	
Thickener Mechanism		
Number:	1	
Manufacturer:	Lakeside	
Model:	Centerfeed Decant Thickener	
Motor Size:	0.5 HP	
Belt Filter Press Equipment		
Design Criteria		
Feed Solids:	2%	
Hydraulic Throughput:	75 GPM	
Solids Throughput:	1500 lbs. DS/hr	
Cake Solids:	18%	
Solids Capture:	95%	
Polymer Use:	8 lbs. Active Polymer/Ton DS	
Belt Filter Press		
Number:	1	
Manufacturer:	Komline-Sanderson	
Model:	GRSL-2 Series III Kompressor	
Belt Width:	2.2-meters	
Chemical Feed System		
Bulk Storage Tanks		
Number of Tanks:	2	
Tank Capacity (ea.):	15,000 gallons	
Primary Dosing Pumps		
Number of Pumps:	3	
Pump Capacity (ea.):	0.2 - 1.96 gpm	
Secondary Dosing Pumps		
Number of Pumps:	2	
Pump Capacity (ea.):	0.37 - 3.91 gph	

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, LLC
3516 Greensboro Avenue
Tuscaloosa, AL 35401
(205)614-6630

May 18, 2021

Mr. Keith Sims
City of Helena Utilities Board
P. O. Box 427
Helena, AL 35080

RE: Project: AL0023116 Helena WWTP permit r
Pace Project No.: 20198857

Dear Mr. Sims:

Enclosed are the analytical results for sample(s) received by the laboratory on May 06. 2021. This report is a summary of the results based upon our understanding of your data quality objectives. Please contact us if itemized quality control results are needed. These results relate only to the samples included in this report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - New Orleans
- Pace Analytical Services - Tuscaloosa

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Cindy Simpson

Cindy Simpson
cindy.simpson@pacelabs.com
(205)614-6630
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3516 Greensboro Avenue
Tuscaloosa, AL 35401
(205)614-6630

CERTIFICATIONS

Project: AL0023116 Helena WWTP permit r
Pace Project No.: 20198857

Pace Analytical Services New Orleans

California Env. Lab Accreditation Program Branch: 11277CA
Florida Department of Health (NELAC): E87595
Illinois Environmental Protection Agency: 0025721
Kansas Department of Health and Environment (NELAC): E-10266
Louisiana Dept. of Environmental Quality (NELAC/LELAP): 02006
Texas Commission on Env. Quality (NELAC): T104704405-09-TX
U.S. Dept. of Agriculture Foreign Soil Import: P330-10-00119

Pace Analytical Services Tuscaloosa

3516 Greensboro Ave, Tuscaloosa, AL 35401
Alabama Certification #: 40170

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3516 Greensboro Avenue
Tuscaloosa, AL 35401
(205)614-6630

ANALYTICAL RESULTS

Project: AL0023116 Helena WWTP permit r
Pace Project No.: 20198857

Sample: Effluent Composite **Lab ID: 20198857001** Collected: 05/06/21 08:10

Parameters	Results	Units	Report Limit	DF	Qualifiers
Antimony	ND	mg/L	0.0010	1	
Arsenic	ND	mg/L	0.0010	1	
Beryllium	ND	mg/L	0.00050	1	
Cadmium	ND	mg/L	0.0010	1	
Chromium	ND	mg/L	0.0010	1	
Copper	ND	mg/L	0.0030	1	
Lead	ND	mg/L	0.0010	1	
Nickel	ND	mg/L	0.0010	1	
Selenium	ND	mg/L	0.0010	1	
Silver	ND	mg/L	0.00050	1	
Thallium	ND	mg/L	0.00050	1	
Total Hardness	**179**	mg/L	0.0050	1	
Zinc	**0.013**	mg/L	0.0050	1	
1,2,4-Trichlorobenzene	ND	mg/L	0.0098	1	
1,2-Diphenylhydrazine	ND	mg/L	0.0098	1	
2,2'-Oxybis(1-chloropropane)	ND	mg/L	0.0098	1	
2,4,6-Trichlorophenol	ND	mg/L	0.0098	1	
2,4-Dichlorophenol	ND	mg/L	0.0098	1	
2,4-Dimethylphenol	ND	mg/L	0.0098	1	
2,4-Dinitrophenol	ND	mg/L	0.039	1	
2,4-Dinitrotoluene	ND	mg/L	0.0098	1	
2,6-Dinitrotoluene	ND	mg/L	0.0098	1	
2-Chloronaphthalene	ND	mg/L	0.0098	1	
2-Chlorophenol	ND	mg/L	0.0098	1	
2-Nitrophenol	ND	mg/L	0.0098	1	
3,3'-Dichlorobenzidine	ND	mg/L	0.020	1	
4,6-Dinitro-2-methylphenol	ND	mg/L	0.025	1	
4-Bromophenylphenyl ether	ND	mg/L	0.0098	1	
4-Chloro-3-methylphenol	ND	mg/L	0.0098	1	
4-Chlorophenylphenyl ether	ND	mg/L	0.0098	1	
4-Nitrophenol	ND	mg/L	0.039	1	
Acenaphthene	ND	mg/L	0.0098	1	
Acenaphthylene	ND	mg/L	0.0098	1	
Anthracene	ND	mg/L	0.0098	1	
Benzidine	ND	mg/L	0.029	1	L2
Benzo(a)anthracene	ND	mg/L	0.0098	1	
Benzo(a)pyrene	ND	mg/L	0.0098	1	
Benzo(b)fluoranthene	ND	mg/L	0.0098	1	
Benzo(g,h,i)perylene	ND	mg/L	0.0098	1	
Benzo(k)fluoranthene	ND	mg/L	0.0098	1	
Butylbenzylphthalate	ND	mg/L	0.0098	1	
Chrysene	ND	mg/L	0.0098	1	
Di-n-butylphthalate	ND	mg/L	0.0098	1	
Di-n-octylphthalate	ND	mg/L	0.0098	1	
Dibenz(a,h)anthracene	ND	mg/L	0.0098	1	
Diethylphthalate	ND	mg/L	0.0098	1	
Dimethylphthalate	ND	mg/L	0.0098	1	
Fluoranthene	ND	mg/L	0.0098	1	
Fluorene	ND	mg/L	0.0098	1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3516 Greensboro Avenue
Tuscaloosa, AL 35401
(205)614-6630

ANALYTICAL RESULTS

Project: AL0023116 Helena WWTP permit r
Pace Project No.: 20198857

Sample: Effluent Composite **Lab ID: 20198857001** Collected: 05/06/21 08:10

Parameters	Results	Units	Report Limit	DF	Qualifiers
Hexachloro-1,3-butadiene	ND	mg/L	0.020	1	
Hexachlorobenzene	ND	mg/L	0.0098	1	
Hexachlorocyclopentadiene	ND	mg/L	0.039	1	
Hexachloroethane	ND	mg/L	0.0098	1	
Indeno(1,2,3-cd)pyrene	ND	mg/L	0.0098	1	
Isophorone	ND	mg/L	0.0098	1	
N-Nitroso-di-n-propylamine	ND	mg/L	0.0098	1	
N-Nitrosodimethylamine	ND	mg/L	0.0098	1	
N-Nitrosodiphenylamine	ND	mg/L	0.0098	1	
Naphthalene	ND	mg/L	0.0098	1	
Nitrobenzene	ND	mg/L	0.0098	1	
Pentachlorophenol	ND	mg/L	0.039	1	
Phenanthrene	ND	mg/L	0.0098	1	
Phenol	ND	mg/L	0.0098	1	
Pyrene	ND	mg/L	0.0098	1	
bis(2-Chloroethoxy)methane	ND	mg/L	0.0098	1	
bis(2-Chloroethyl) ether	ND	mg/L	0.0098	1	
bis(2-Ethylhexyl)phthalate	ND	mg/L	0.0098	1	
Nitrobenzene-d5 (S)	**89**	%.	33-120	1	
2-Fluorobiphenyl (S)	**88**	%.	34-117	1	
Terphenyl-d14 (S)	**90**	%.	24-133	1	
Phenol-d6 (S)	**18**	%.	10-120	1	
2-Fluorophenol (S)	**25**	%.	10-118	1	
2,4,6-Tribromophenol (S)	**47**	%.	25-145	1	
Total Dissolved Solids	**215**	mg/L	10.0	1	

Sample: Effluent Grab **Lab ID: 20198857002** Collected: 05/06/21 08:15

Parameters	Results	Units	Report Limit	DF	Qualifiers
Acrolein	ND	ug/L	20.0	1	
Acrylonitrile	ND	ug/L	20.0	1	
Benzene	ND	ug/L	5.0	1	
Bromodichloromethane	ND	ug/L	5.0	1	
Bromoform	ND	ug/L	5.0	1	
Bromomethane	ND	ug/L	5.0	1	
Carbon tetrachloride	ND	ug/L	5.0	1	
Chlorobenzene	ND	ug/L	5.0	1	
Chloroethane	ND	ug/L	5.0	1	
2-Chloroethylvinyl ether	ND	ug/L	20.0	1	
Chloroform	ND	ug/L	5.0	1	
Chloromethane	ND	ug/L	5.0	1	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1	
Dibromochloromethane	ND	ug/L	5.0	1	
1,2-Dichlorobenzene	ND	ug/L	5.0	1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1	
1,4-Dichlorobenzene	ND	ug/L	5.0	1	
Dichlorodifluoromethane	ND	ug/L	5.0	1	
1,1-Dichloroethane	ND	ug/L	5.0	1	

Pace Analytical Services, LLC
3516 Greensboro Avenue
Tuscaloosa, AL 35401
(205)614-6630

ANALYTICAL RESULTS

Project: AL0023116 Helena WWTP permit r
Pace Project No.: 20198857

Sample: Effluent Grab **Lab ID: 20198857002** Collected: 05/06/21 08:15

Parameters	Results	Units	Report Limit	DF	Qualifiers
1,2-Dichloroethane	ND	ug/L	5.0	1	
1,1-Dichloroethene	ND	ug/L	5.0	1	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1	
1,2-Dichloropropane	ND	ug/L	5.0	1	
cis-1,3-Dichloropropene	ND	ug/L	5.0	1	
trans-1,3-Dichloropropene	ND	ug/L	5.0	1	
Ethylbenzene	ND	ug/L	5.0	1	
Methylene Chloride	ND	ug/L	5.0	1	
Methyl-tert-butyl ether	ND	ug/L	5.0	1	N2
Naphthalene	ND	ug/L	25.0	1	N2
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	1	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1	
Tetrachloroethene	ND	ug/L	5.0	1	
Toluene	ND	ug/L	5.0	1	
1,1,1-Trichloroethane	ND	ug/L	5.0	1	
1,1,2-Trichloroethane	ND	ug/L	5.0	1	
Trichloroethene	ND	ug/L	5.0	1	
Trichlorofluoromethane	ND	ug/L	5.0	1	
Vinyl chloride	ND	ug/L	5.0	1	
Xylene (Total)	ND	ug/L	15.0	1	
m&p-Xylene	ND	ug/L	10.0	1	
o-Xylene	ND	ug/L	5.0	1	
4-Bromofluorobenzene (S)	**106**	%.	82-118	1	
Toluene-d8 (S)	**100**	%.	81-120	1	
Dibromofluoromethane (S)	**96**	%.	77-123	1	
Collected By	**Client**			1	N2
Collected Date	**050621**			1	N2
Collected Time	**0820**			1	N2
Field Temperature	**21.8**	deg C		1	N2
Oil and Grease	ND	mg/L	5.0	1	
Phenolics, Total Recoverable	ND	mg/L	0.020	1	
Cyanide	ND	mg/L	0.020	1	

Sample: Trip Blank **Lab ID: 20198857003** Collected: 05/06/21 08:15

Parameters	Results	Units	Report Limit	DF	Qualifiers
Benzene	ND	ug/L	5.0	1	
Bromodichloromethane	ND	ug/L	5.0	1	
Bromoform	ND	ug/L	5.0	1	
Bromomethane	ND	ug/L	5.0	1	
Carbon tetrachloride	ND	ug/L	5.0	1	
Chlorobenzene	ND	ug/L	5.0	1	
Chloroethane	ND	ug/L	5.0	1	
2-Chloroethylvinyl ether	ND	ug/L	20.0	1	
Chloroform	ND	ug/L	5.0	1	
Chloromethane	ND	ug/L	5.0	1	
Dibromochloromethane	ND	ug/L	5.0	1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3516 Greensboro Avenue
Tuscaloosa, AL 35401
(205)614-6630

ANALYTICAL RESULTS

Project: AL0023116 Helena WWTP permit r
Pace Project No.: 20198857

Sample: Trip Blank **Lab ID: 20198857003** Collected: 05/06/21 08:15

Parameters	Results	Units	Report Limit	DF	Qualifiers
1,2-Dichlorobenzene	ND	ug/L	5.0	1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1	
1,4-Dichlorobenzene	ND	ug/L	5.0	1	
1,1-Dichloroethane	ND	ug/L	5.0	1	
1,2-Dichloroethane	ND	ug/L	5.0	1	
1,1-Dichloroethene	ND	ug/L	5.0	1	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1	
1,2-Dichloropropane	ND	ug/L	5.0	1	
cis-1,3-Dichloropropene	ND	ug/L	5.0	1	
trans-1,3-Dichloropropene	ND	ug/L	5.0	1	
Ethylbenzene	ND	ug/L	5.0	1	
Methylene Chloride	ND	ug/L	5.0	1	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1	
Tetrachloroethene	ND	ug/L	5.0	1	
Toluene	ND	ug/L	5.0	1	
1,1,1-Trichloroethane	ND	ug/L	5.0	1	
1,1,2-Trichloroethane	ND	ug/L	5.0	1	
Trichloroethene	ND	ug/L	5.0	1	
Trichlorofluoromethane	ND	ug/L	5.0	1	
Vinyl chloride	ND	ug/L	5.0	1	
4-Bromofluorobenzene (S)	**102**	%.	82-118	1	
Toluene-d8 (S)	**100**	%.	81-120	1	
Dibromofluoromethane (S)	**96**	%.	77-123	1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3516 Greensboro Avenue
Tuscaloosa, AL 35401
(205)614-6630

QUALIFIERS

Project: AL0023116 Helena WWTP permit r
Pace Project No.: 20198857

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

BATCH QUALIFIERS

Batch: 224829

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

L2 Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

Pace Analytical
WWW.PACELABS.COM

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	City of Helena Utilities Board -Sewer	Report To:	Keith Sims	Attention:	
Address:	P. O. Box 427	Copy To:		Company Name:	
Helena, AL 35080				Address:	
Email:	ksims@cityofhelena.org	Purchase Order #:		Pace Quote:	
Phone:	205-746-5098 Fax:	Project Name:	AL0023116 Helena WWTP permit renewal	Pace Project Manager:	cindy.simpson@pacelabs.com,
Requested Due Date:		Order #:	805627	Pace Profile #:	16771

Regulatory Agency

State / Location: AL

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	625	TDS	200.7 Metals	Total Phenol	1664 Oil and Grease	Cyanide	624.1	Field Data	Residual Chlorine (Y/N)
1	Effluent-Composite 24	WT	C24	5-5-21	8:10	5-6-21	8:10		4	3		1							X	X	X						
2	Effluent Grab	WT	G	5-6-21	8:15	5-6-21	8:15		7	4	1		1	1								X	X	X	X		
3	Trip Blank	WT							4	4															X		
4	Temp C: 21.8	WT		5-6-21	8:20	5-6-21	8:20																			X	
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

WO#: 20198857

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Hunter Champion	5/6/21	10:12	Glenn Sims	5/6/21	10:12	
	Glenn Sims	5/6/21	3:25	Chad Kennedy	5/6/21	1525	
							0.6

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Hunter Champion

SIGNATURE of SAMPLER: Hunter Champion DATE Signed: 5-6-21

Pace Analytical

Pace Analytical Services, LLC - Tuscaloosa, AL
Pace Analytical Services, LLC - Montgomery, AL

Sample Condition Upon Receipt

WO#: 20198857

PM: CRS Due Date: 05/20/21

CLIENT: TU-HelenaWW

Project #: [ ]

Courier: ☐ Pace Courier ☐ Hired Courier ☐ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals intact:** ☐Yes ☐No

Therometer Used:	181 T83496

Type of Ice: Wet Blue None Samples on ice: [see COC]

Cooler Temperature: [see COC] Temp should be above freezing to 6°C

Date and Initials of person examining contents: D.H 5/6/21

Temp must be measured from Temperature blank when present

				Comments:
Temperature Blank Present"?	☐Yes	☐No	☒N/A	1
Chain of Custody Present:	☑Yes	☐No	☐N/A	2
Chain of Custody Complete:	☑Yes	☐No	☐N/A	3
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	4
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	5
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	6
Sufficient Volume:	☑Yes	☐No	☐N/A	7
Correct Containers Used:	☑Yes	☐No	☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes	☐No	☒N/A	9
Sample Labels match COC:	☐Yes	☐No	☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☐Yes	☐No	☐N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	☐Yes	☐No	☐N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☐Yes	☐No	☐N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☐N/A	14
Trip Blank Present:	☐Yes	☐No		15

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, LLC
3516 Greensboro Avenue
Tuscaloosa, AL 35401
(205)614-6630

August 06, 2021

Mr. Keith Sims
City of Helena Utilities Board
P. O. Box 427
Helena, AL 35080

RE: Project: AL0023116 Helena WWTP permit r
Pace Project No.: 20216077

Dear Mr. Sims:

Enclosed are the analytical results for sample(s) received by the laboratory on July 29, 2021. This report is a summary of the results based upon our understanding of your data quality objectives. Please contact us if itemized quality control results are needed. These results relate only to the samples included in this report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - New Orleans
- Pace Analytical Services - Tuscaloosa

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Cindy Simpson

Cindy Simpson
cindy.simpson@pacelabs.com
(205)614-6630
Project Manager

Enclosures

Pace Analytical Services, LLC
3516 Greensboro Avenue
Tuscaloosa, AL 35401
(205)614-6630

CERTIFICATIONS

Project: AL0023116 Helena WWTP permit r
Pace Project No.: 20216077

Pace Analytical Services New Orleans

Florida Department of Health (NELAC): E87595
Illinois Environmental Protection Agency: 0025721
Kansas Department of Health and Environment (NELAC): E-10266
Louisiana Dept. of Environmental Quality (NELAC/LELAP): 02006
Texas Commission on Env. Quality (NELAC): T104704405-09-TX
U.S. Dept. of Agriculture Foreign Soil Import: P330-10-00119

Pace Analytical Services Tuscaloosa

3516 Greensboro Ave, Tuscaloosa, AL 35401
Alabama Certification #: 40170

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3516 Greensboro Avenue
Tuscaloosa, AL 35401
(205)614-6630

ANALYTICAL RESULTS

Project: AL0023116 Helena WWTP permit r
Pace Project No.: 20216077

Sample: Effluent Composite **Lab ID: 20216077001** Collected: 07/29/21 08:00

Parameters	Results	Units	Report Limit	DF	Qualifiers
Antimony	ND	mg/L	0.0010	1	
Arsenic	ND	mg/L	0.0010	1	
Beryllium	ND	mg/L	0.00050	1	
Cadmium	ND	mg/L	0.0010	1	
Chromium	ND	mg/L	0.0010	1	
Copper	ND	mg/L	0.0030	1	
Lead	ND	mg/L	0.0010	1	
Nickel	ND	mg/L	0.0010	1	
Selenium	ND	mg/L	0.0010	1	
Silver	ND	mg/L	0.00050	1	
Thallium	ND	mg/L	0.00050	1	
Total Hardness	**194**	mg/L	0.0050	1	
Zinc	**0.010**	mg/L	0.0050	1	
1,2,4-Trichlorobenzene	ND	mg/L	0.010	1	
1,2-Diphenylhydrazine	ND	mg/L	0.010	1	
2,2'-Oxybis(1-chloropropane)	ND	mg/L	0.010	1	
2,4,6-Trichlorophenol	ND	mg/L	0.010	1	
2,4-Dichlorophenol	ND	mg/L	0.010	1	
2,4-Dimethylphenol	ND	mg/L	0.010	1	
2,4-Dinitrophenol	ND	mg/L	0.041	1	
2,4-Dinitrotoluene	ND	mg/L	0.010	1	
2,6-Dinitrotoluene	ND	mg/L	0.010	1	
2-Chloronaphthalene	ND	mg/L	0.010	1	
2-Chlorophenol	ND	mg/L	0.010	1	
2-Nitrophenol	ND	mg/L	0.010	1	
3,3'-Dichlorobenzidine	ND	mg/L	0.021	1	
4,6-Dinitro-2-methylphenol	ND	mg/L	0.026	1	
4-Bromophenylphenyl ether	ND	mg/L	0.010	1	
4-Chloro-3-methylphenol	ND	mg/L	0.010	1	
4-Chlorophenylphenyl ether	ND	mg/L	0.010	1	
4-Nitrophenol	ND	mg/L	0.041	1	
Acenaphthene	ND	mg/L	0.010	1	
Acenaphthylene	ND	mg/L	0.010	1	
Anthracene	ND	mg/L	0.010	1	
Benzidine	ND	mg/L	0.031	1	
Benzo(a)anthracene	ND	mg/L	0.010	1	
Benzo(a)pyrene	ND	mg/L	0.010	1	
Benzo(b)fluoranthene	ND	mg/L	0.010	1	
Benzo(g,h,i)perylene	ND	mg/L	0.010	1	
Benzo(k)fluoranthene	ND	mg/L	0.010	1	
Butylbenzylphthalate	ND	mg/L	0.010	1	
Chrysene	ND	mg/L	0.010	1	
Di-n-butylphthalate	ND	mg/L	0.010	1	
Di-n-octylphthalate	ND	mg/L	0.010	1	
Dibenz(a,h)anthracene	ND	mg/L	0.010	1	
Diethylphthalate	ND	mg/L	0.010	1	
Dimethylphthalate	ND	mg/L	0.010	1	
Fluoranthene	ND	mg/L	0.010	1	
Fluorene	ND	mg/L	0.010	1	

REPORT OF LABORATORY ANALYSIS

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(205)614-6630

ANALYTICAL RESULTS

Project: AL0023116 Helena WWTP permit r
Pace Project No.: 20216077

Sample: Effluent Composite **Lab ID: 20216077001** Collected: 07/29/21 08:00

Parameters	Results	Units	Report Limit	DF	Qualifiers
Hexachloro-1,3-butadiene	ND	mg/L	0.021	1	
Hexachlorobenzene	ND	mg/L	0.010	1	
Hexachlorocyclopentadiene	ND	mg/L	0.041	1	
Hexachloroethane	ND	mg/L	0.010	1	
Indeno(1,2,3-cd)pyrene	ND	mg/L	0.010	1	
Isophorone	ND	mg/L	0.010	1	
N-Nitroso-di-n-propylamine	ND	mg/L	0.010	1	
N-Nitrosodimethylamine	ND	mg/L	0.010	1	
N-Nitrosodiphenylamine	ND	mg/L	0.010	1	
Naphthalene	ND	mg/L	0.010	1	
Nitrobenzene	ND	mg/L	0.010	1	
Pentachlorophenol	ND	mg/L	0.041	1	
Phenanthrene	ND	mg/L	0.010	1	
Phenol	ND	mg/L	0.010	1	
Pyrene	ND	mg/L	0.010	1	
bis(2-Chloroethoxy)methane	ND	mg/L	0.010	1	
bis(2-Chloroethyl) ether	ND	mg/L	0.010	1	
bis(2-Ethylhexyl)phthalate	ND	mg/L	0.010	1	
Nitrobenzene-d5 (S)	**80**	%.	33-120	1	
2-Fluorobiphenyl (S)	**78**	%.	34-117	1	
Terphenyl-d14 (S)	**83**	%.	24-133	1	
Phenol-d6 (S)	**13**	%.	10-120	1	
2-Fluorophenol (S)	**16**	%.	10-118	1	
2,4,6-Tribromophenol (S)	**41**	%.	25-145	1	
Total Dissolved Solids	**280**	mg/L	10.0	1	

Sample: Effluent Grab **Lab ID: 20216077002** Collected: 07/29/21 08:15

Parameters	Results	Units	Report Limit	DF	Qualifiers
Acrolein	ND	ug/L	20.0	1	Ac, R1
Acrylonitrile	ND	ug/L	20.0	1	
Benzene	ND	ug/L	5.0	1	
Bromodichloromethane	ND	ug/L	5.0	1	
Bromoform	ND	ug/L	5.0	1	
Bromomethane	ND	ug/L	5.0	1	
Carbon tetrachloride	ND	ug/L	5.0	1	
Chlorobenzene	ND	ug/L	5.0	1	
Chloroethane	ND	ug/L	5.0	1	
2-Chloroethylvinyl ether	ND	ug/L	20.0	1	M1
Chloroform	ND	ug/L	5.0	1	
Chloromethane	ND	ug/L	5.0	1	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1	
Dibromochloromethane	ND	ug/L	5.0	1	
1,2-Dichlorobenzene	ND	ug/L	5.0	1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1	
1,4-Dichlorobenzene	ND	ug/L	5.0	1	
Dichlorodifluoromethane	ND	ug/L	5.0	1	
1,1-Dichloroethane	ND	ug/L	5.0	1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3516 Greensboro Avenue
Tuscaloosa, AL 35401
(205)614-6630

ANALYTICAL RESULTS

Project: AL0023116 Helena WWTP permit r
Pace Project No.: 20216077

Sample: Effluent Grab **Lab ID: 20216077002** Collected: 07/29/21 08:15

Parameters	Results	Units	Report Limit	DF	Qualifiers
1,2-Dichloroethane	ND	ug/L	5.0	1	
1,1-Dichloroethene	ND	ug/L	5.0	1	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1	
1,2-Dichloropropane	ND	ug/L	5.0	1	
cis-1,3-Dichloropropene	ND	ug/L	5.0	1	
trans-1,3-Dichloropropene	ND	ug/L	5.0	1	
Ethylbenzene	ND	ug/L	5.0	1	
Methylene Chloride	ND	ug/L	5.0	1	
Methyl-tert-butyl ether	ND	ug/L	5.0	1	N2
Naphthalene	ND	ug/L	25.0	1	N2
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	1	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1	
Tetrachloroethene	ND	ug/L	5.0	1	
Toluene	ND	ug/L	5.0	1	
1,1,1-Trichloroethane	ND	ug/L	5.0	1	
1,1,2-Trichloroethane	ND	ug/L	5.0	1	
Trichloroethene	ND	ug/L	5.0	1	
Trichlorofluoromethane	ND	ug/L	5.0	1	
Vinyl chloride	ND	ug/L	5.0	1	
Xylene (Total)	ND	ug/L	15.0	1	
m&p-Xylene	ND	ug/L	10.0	1	
o-Xylene	ND	ug/L	5.0	1	
4-Bromofluorobenzene (S)	**101**	%.	82-118	1	
Toluene-d8 (S)	**103**	%.	81-120	1	
Dibromofluoromethane (S)	**103**	%.	77-123	1	
Collected By	**Client**			1	N2
Collected Date	**072921**			1	N2
Collected Time	**0805**			1	N2
Field Temperature	**30**	deg C		1	N2
Oil and Grease	ND	mg/L	5.0	1	
Phenolics, Total Recoverable	ND	mg/L	0.020	1	
Cyanide	**1.9**	mg/L	0.10	5	

Sample: Trip Blank **Lab ID: 20216077003** Collected: 07/29/21 08:20

Parameters	Results	Units	Report Limit	DF	Qualifiers
Benzene	ND	ug/L	5.0	1	
Bromodichloromethane	ND	ug/L	5.0	1	
Bromoform	ND	ug/L	5.0	1	
Bromomethane	ND	ug/L	5.0	1	
Carbon tetrachloride	ND	ug/L	5.0	1	
Chlorobenzene	ND	ug/L	5.0	1	
Chloroethane	ND	ug/L	5.0	1	
2-Chloroethylvinyl ether	ND	ug/L	20.0	1	
Chloroform	ND	ug/L	5.0	1	
Chloromethane	ND	ug/L	5.0	1	
Dibromochloromethane	ND	ug/L	5.0	1	

Pace Analytical Services, LLC
3516 Greensboro Avenue
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ANALYTICAL RESULTS

Project: AL0023116 Helena WWTP permit r
Pace Project No.: 20216077

Sample: Trip Blank **Lab ID: 20216077003** Collected: 07/29/21 08:20

Parameters	Results	Units	Report Limit	DF	Qualifiers
1,2-Dichlorobenzene	ND	ug/L	5.0	1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1	
1,4-Dichlorobenzene	ND	ug/L	5.0	1	
1,1-Dichloroethane	ND	ug/L	5.0	1	
1,2-Dichloroethane	ND	ug/L	5.0	1	
1,1-Dichloroethene	ND	ug/L	5.0	1	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1	
1,2-Dichloropropane	ND	ug/L	5.0	1	
cis-1,3-Dichloropropene	ND	ug/L	5.0	1	
trans-1,3-Dichloropropene	ND	ug/L	5.0	1	
Ethylbenzene	ND	ug/L	5.0	1	
Methylene Chloride	ND	ug/L	5.0	1	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1	
Tetrachloroethene	ND	ug/L	5.0	1	
Toluene	ND	ug/L	5.0	1	
1,1,1-Trichloroethane	ND	ug/L	5.0	1	
1,1,2-Trichloroethane	ND	ug/L	5.0	1	
Trichloroethene	ND	ug/L	5.0	1	
Trichlorofluoromethane	ND	ug/L	5.0	1	
Vinyl chloride	ND	ug/L	5.0	1	
4-Bromofluorobenzene (S)	**103**	%.	82-118	1	
Toluene-d8 (S)	**100**	%.	81-120	1	
Dibromofluoromethane (S)	**102**	%.	77-123	1	

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QUALIFIERS

Project: AL0023116 Helena WWTP permit r
Pace Project No.: 20216077

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

BATCH QUALIFIERS

Batch: 233040

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

Ac Analysis of acrolein was performed from an unpreserved sample outside of the 3 day holding time required by the test method and for NPDES compliance per 40CFRPart 136 for unpreserved samples.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

R1 RPD value was outside control limits.

Pace Analytical
WWW.PACELABS.COM

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	City of Helena Utilities Board -Sewer	Report To	Keith Sims	Attention:	
Address:	P O Box 427	Copy To:		Company Name:	
Helena, AL 35080				Address:	
Email:	ksims@cityofhelena.org	Purchase Order #		Pace Quote:	
Phone:	205-746-5098 Fax:	Project Name	AL0023116 Helena WWTP permit renewal	Pace Project Manager:	cindy.simpson@pacelabs.com,
Requested Due Date:		Order #:	805627	Pace Profile #:	16771

Regulatory Agency

State / Location: AL

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	625	TDS	200.7 Metals	Total Phenol	1664 Oil and Grease	Cyanide	624.1	Field Data	Residual Chlorine (Y/N)
1	Effluent-Composite 24	WT	C24	7-28	8:02am	7-29	8:02am	3°	4	3		1						X	X	X						
2	Effluent Grab	WT	G			7-29	8:15am	3°	7	4	1		1	1							X	X	X	X		
3	Trip Blank	WT				7-29	8:20am		4	4													X			
4	Temp C: 75° @ 8:15 outside 3° sample Temp	WT				7-29	8:05am																	X		
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WF; Air AR; Other OT; Tissue TS

WO#: 20216077

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Keith Sims	7-29-21	11:57		7/29/21	11:57	
		7/29/21	4:40		7-29-21	1640	
							3.5
							Y
							N
							Y

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Keith Sims

SIGNATURE of SAMPLER: [signature] DATE Signed: 7-29-21

WO#: 20216077

PM: CRS Due Date: 08/12/21
CLIENT: TU-HelenaWW

Sample Condition Upon Receipt

Pace Analytical
1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Project #: 20

Courier: ☐ Pace Courier ☐ Hired Courier ☐ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] Custody Seals intact: ☐Yes ☐No

Tu TM40

Therometer Used: ☐ Therm Fisher IR 7 ☐ Therm Fisher IR 10

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: BG 7.29.21

Temp must be measured from Temperature blank when present

		Comments:
Temperature Blank Present"?	☐Yes ☐No ☐N/A	1
Chain of Custody Present:	☑Yes ☐No ☐N/A	2
Chain of Custody Complete:	☑Yes ☐No ☐N/A	3
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	4
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	5
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	6
Sufficient Volume:	☑Yes ☐No ☐N/A	7
Correct Containers Used:	☑Yes ☐No ☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes ☐No ☑N/A	9
Sample Labels match COC:	☑Yes ☐No ☐N/A	10
All containers received within manufacture's precautionary and/or expiration dates.	☑Yes ☐No ☐N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	☑Yes ☐No ☐N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	13 If No, was preserative added? ☐Yes ☐NO If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	14
Trip Blank Present:	☑Yes ☐No	15

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Pace Analytical Services, LLC
3516 Greensboro Avenue
Tuscaloosa, AL 35401
(205)614-6630

April 15, 2022

Mr. Keith Sims
City of Helena Utilities Board
P. O. Box 427
Helena, AL 35080

RE: Project: AL0023116 Helena WWTP permit r
Pace Project No.: 20239525

Dear Mr. Sims:

Enclosed are the analytical results for sample(s) received by the laboratory on April 05, 2022. This report is a summary of the results based upon our understanding of your data quality objectives. Please contact us if itemized quality control results are needed. These results relate only to the samples included in this report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - New Orleans
- Pace Analytical Services - Tuscaloosa
- Pace Analytical Services - Allen

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Cindy Simpson

Cindy Simpson
cindy.simpson@pacelabs.com
(205)614-6630
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3516 Greensboro Avenue
Tuscaloosa, AL 35401
(205)614-6630

CERTIFICATIONS

Project: AL0023116 Helena WWTP permit r
Pace Project No.: 20239525

Pace Analytical Services New Orleans
Florida Department of Health (NELAC): E87595
Illinois Environmental Protection Agency: 0025721
Kansas Department of Health and Environment (NELAC): E-10266
Louisiana Dept. of Environmental Quality (NELAC/LELAP): 02006
Texas Commission on Env. Quality (NELAC): T104704405-09-TX
U.S. Dept. of Agriculture Foreign Soil Import: P330-10-00119

Pace Analytical Services Dallas
400 West Bethany Dr Suite 190, Allen, TX 75013
Texas Certification T104704232-20-32
Florida Certification #: E871118
EPA# TX00074
Kansas Certification #: E-10388
Arkansas Certification #: 88-0647
Oklahoma Certification #: 8727
Louisiana Certification #: 30686
Iowa Certification #: 408

Pace Analytical Services Tuscaloosa
3516 Greensboro Ave, Tuscaloosa, AL 35401
Alabama Certification #: 40170

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3516 Greensboro Avenue
Tuscaloosa, AL 35401
(205)614-6630

SAMPLE ANALYTE COUNT

Project: AL0023116 Helena WWTP permit r
Pace Project No.: 20239525

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
20239525001	**Effluent Composite**	EPA 200.8	FC1	13	PASI-N
		EPA 625.1	XLY	72	PASL-AT
		SM 2540C 2011	GGG1	1	PASI-N
20239525002	**Effluent Grab**	EPA 624.1	SLK	45	PASI-N
			RST	4	PASI-TU
		EPA 1664B, 2010	TMO	1	PASI-N
		EPA 420.1	DWR	1	PASI-N
		SM 4500-CN-E	DWR	1	PASI-N
20239525003	**Trip Blank**	EPA 624.1	SLK	34	PASI-N

PASI-N = Pace Analytical Services - New Orleans
PASI-TU = Pace Analytical Services - Tuscaloosa
PASL-AT = Pace Analytical Services - Allen

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Pace Analytical Services, LLC
3516 Greensboro Avenue
Tuscaloosa, AL 35401
(205)614-6630

ANALYTICAL RESULTS

Project: AL0023116 Helena WWTP permit r
Pace Project No.: 20239525

Sample: Effluent Composite **Lab ID: 20239525001** Collected: 04/05/22 08:15

Parameters	Results	Units	Report Limit	DF	Qualifiers
Antimony	ND	mg/L	0.0010	1	
Arsenic	ND	mg/L	0.0010	1	
Beryllium	ND	mg/L	0.00050	1	
Cadmium	ND	mg/L	0.0010	1	
Chromium	ND	mg/L	0.0010	1	
Copper	ND	mg/L	0.0030	1	
Lead	ND	mg/L	0.0010	1	
Nickel	ND	mg/L	0.0010	1	
Selenium	ND	mg/L	0.0010	1	
Silver	ND	mg/L	0.00050	1	
Thallium	ND	mg/L	0.00050	1	
Total Hardness	**215**	mg/L	0.0050	1	
Zinc	**0.017**	mg/L	0.0050	1	
1,2,4,5-Tetrachlorobenzene	ND	ug/L	2.50	1	
1,2,4-Trichlorobenzene	ND	ug/L	2.50	1	
1,2-Dichlorobenzene	ND	ug/L	2.50	1	
1,3-Dichlorobenzene	ND	ug/L	2.50	1	
1,4-Dichlorobenzene	ND	ug/L	2.50	1	
2,2'-Oxybis(1-chloropropane)	ND	ug/L	2.50	1	
2,4,5-Trichlorophenol	ND	ug/L	2.50	1	
2,4,6-Trichlorophenol	ND	ug/L	2.50	1	
2,4-Dichlorophenol	ND	ug/L	2.50	1	
2,4-Dimethylphenol	ND	ug/L	5.00	1	
2,4-Dinitrophenol	ND	ug/L	5.00	1	
2,4-Dinitrotoluene	ND	ug/L	5.00	1	
2,6-Dinitrotoluene	ND	ug/L	5.00	1	
2-Chloronaphthalene	ND	ug/L	2.50	1	
2-Chlorophenol	ND	ug/L	2.50	1	
2-Methylphenol(o-Cresol)	ND	ug/L	5.00	1	
2-Nitrophenol	ND	ug/L	2.50	1	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	2.50	1	
3,3'-Dichlorobenzidine	ND	ug/L	5.00	1	
4,6-Dinitro-2-methylphenol	ND	ug/L	5.00	1	
4-Bromophenylphenyl ether	ND	ug/L	2.50	1	
4-Chloro-3-methylphenol	ND	ug/L	2.50	1	
4-Chlorophenylphenyl ether	ND	ug/L	2.50	1	
4-Nitrophenol	ND	ug/L	5.00	1	
Acenaphthene	ND	ug/L	2.50	1	
Acenaphthylene	ND	ug/L	2.50	1	
Anthracene	ND	ug/L	2.50	1	
Benzidine	ND	ug/L	10.0	1	
Benzo(a)anthracene	ND	ug/L	2.50	1	
Benzo(a)pyrene	ND	ug/L	2.50	1	
Benzo(b)fluoranthene	ND	ug/L	2.50	1	
Benzo(g,h,i)perylene	ND	ug/L	2.50	1	
Benzo(k)fluoranthene	ND	ug/L	2.50	1	
Butylbenzylphthalate	ND	ug/L	2.50	1	
bis(2-Chloroethoxy)methane	ND	ug/L	2.50	1	
bis(2-Chloroethyl) ether	ND	ug/L	2.50	1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3516 Greensboro Avenue
Tuscaloosa, AL 35401
(205)614-6630

ANALYTICAL RESULTS

Project: AL0023116 Helena WWTP permit r
Pace Project No.: 20239525

Sample: Effluent Composite **Lab ID: 20239525001** Collected: 04/05/22 08:15

Parameters	Results	Units	Report Limit	DF	Qualifiers
bis(2-Ethylhexyl)phthalate	ND	ug/L	5.00	1	
Chrysene	ND	ug/L	2.50	1	
Di-n-butylphthalate	ND	ug/L	2.50	1	
Di-n-octylphthalate	ND	ug/L	2.50	1	
Dibenz(a,h)anthracene	ND	ug/L	2.50	1	
Diethylphthalate	ND	ug/L	2.50	1	
Dimethylphthalate	ND	ug/L	2.50	1	
Fluoranthene	ND	ug/L	2.50	1	
Fluorene	ND	ug/L	2.50	1	
Hexachloro-1,3-butadiene	ND	ug/L	2.50	1	
Hexachlorobenzene	ND	ug/L	2.50	1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1	
Hexachloroethane	ND	ug/L	2.50	1	
1,2-Diphenylhydrazine	ND	ug/L	2.50	1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	2.50	1	
Isophorone	ND	ug/L	2.50	1	
N-Nitroso-di-n-butylamine	ND	ug/L	2.50	1	
N-Nitroso-di-n-propylamine	ND	ug/L	2.50	1	
N-Nitrosodiethylamine	ND	ug/L	2.50	1	
N-Nitrosodimethylamine	ND	ug/L	2.50	1	
N-Nitrosodiphenylamine	ND	ug/L	2.50	1	
Naphthalene	ND	ug/L	2.50	1	
Nitrobenzene	ND	ug/L	2.50	1	
Pentachlorobenzene	ND	ug/L	2.50	1	
Pentachlorophenol	ND	ug/L	5.00	1	
Phenanthrene	ND	ug/L	2.50	1	
Phenol	ND	ug/L	2.50	1	
Pyrene	ND	ug/L	2.50	1	
Pyridine	ND	ug/L	2.50	1	
Cresols (Total)	ND	ug/L	7.50	1	
2,4,6-Tribromophenol (S)	**54.2**	%	29-132	1	
2-Fluorobiphenyl (S)	**45.8**	%	26-102	1	
2-Fluorophenol (S)	**21.4**	%	10-66	1	
Nitrobenzene-d5 (S)	**47.7**	%	15-106	1	
Terphenyl-d14 (S)	**69.3**	%	10-120	1	
Phenol-d6 (S)	**15.5**	%	10-54	1	
Total Dissolved Solids	**295**	mg/L	10.0	1	

Sample: Effluent Grab **Lab ID: 20239525002** Collected: 04/05/22 08:18

Parameters	Results	Units	Report Limit	DF	Qualifiers
Acrolein	ND	ug/L	20.0	1	
Acrylonitrile	ND	ug/L	20.0	1	
Benzene	ND	ug/L	5.0	1	
Bromodichloromethane	ND	ug/L	5.0	1	
Bromoform	ND	ug/L	5.0	1	
Bromomethane	ND	ug/L	5.0	1	
Carbon tetrachloride	ND	ug/L	5.0	1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3516 Greensboro Avenue
Tuscaloosa, AL 35401
(205)614-6630

ANALYTICAL RESULTS

Project: AL0023116 Helena WWTP permit r
Pace Project No.: 20239525

Sample: Effluent Grab **Lab ID: 20239525002** Collected: 04/05/22 08:18

Parameters	Results	Units	Report Limit	DF	Qualifiers
Chlorobenzene	ND	ug/L	5.0	1	
Chloroethane	ND	ug/L	5.0	1	
2-Chloroethylvinyl ether	ND	ug/L	20.0	1	
Chloroform	ND	ug/L	5.0	1	
Chloromethane	ND	ug/L	5.0	1	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	1	
Dibromochloromethane	ND	ug/L	5.0	1	
1,2-Dichlorobenzene	ND	ug/L	5.0	1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1	
1,4-Dichlorobenzene	ND	ug/L	5.0	1	
Dichlorodifluoromethane	ND	ug/L	5.0	1	
1,1-Dichloroethane	ND	ug/L	5.0	1	AC
1,2-Dichloroethane	ND	ug/L	5.0	1	
1,1-Dichloroethene	ND	ug/L	5.0	1	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1	
1,2-Dichloropropane	ND	ug/L	5.0	1	
cis-1,3-Dichloropropene	ND	ug/L	5.0	1	
trans-1,3-Dichloropropene	ND	ug/L	5.0	1	
Ethylbenzene	ND	ug/L	5.0	1	
Methylene Chloride	ND	ug/L	5.0	1	
Methyl-tert-butyl ether	ND	ug/L	5.0	1	N2
Naphthalene	ND	ug/L	25.0	1	N2
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	1	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1	
Tetrachloroethene	ND	ug/L	5.0	1	
Toluene	ND	ug/L	5.0	1	
1,1,1-Trichloroethane	ND	ug/L	5.0	1	
1,1,2-Trichloroethane	ND	ug/L	5.0	1	
Trichloroethene	ND	ug/L	5.0	1	
Trichlorofluoromethane	ND	ug/L	5.0	1	
Vinyl chloride	ND	ug/L	5.0	1	
Xylene (Total)	ND	ug/L	15.0	1	
m&p-Xylene	ND	ug/L	10.0	1	
o-Xylene	ND	ug/L	5.0	1	
4-Bromofluorobenzene (S)	**99**	%.	82-118	1	
Toluene-d8 (S)	**101**	%.	81-120	1	
Dibromofluoromethane (S)	**103**	%.	77-123	1	
Collected By	**Client**			1	N2
Collected Date	**04052022**			1	N2
Collected Time	**0800**			1	N2
Field Temperature	**13**	deg C		1	N2
Oil and Grease	ND	mg/L	5.0	1	
Phenolics, Total Recoverable	ND	mg/L	0.020	1	
Cyanide	ND	mg/L	0.020	1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3516 Greensboro Avenue
Tuscaloosa, AL 35401
(205)614-6630

ANALYTICAL RESULTS

Project: AL0023116 Helena WWTP permit r
Pace Project No.: 20239525

Sample: Trip Blank **Lab ID: 20239525003** Collected: 04/05/22 08:00

Parameters	Results	Units	Report Limit	DF	Qualifiers
Benzene	ND	ug/L	5.0	1	
Bromodichloromethane	ND	ug/L	5.0	1	
Bromoform	ND	ug/L	5.0	1	
Bromomethane	ND	ug/L	5.0	1	
Carbon tetrachloride	ND	ug/L	5.0	1	
Chlorobenzene	ND	ug/L	5.0	1	
Chloroethane	ND	ug/L	5.0	1	
2-Chloroethylvinyl ether	ND	ug/L	20.0	1	
Chloroform	ND	ug/L	5.0	1	
Chloromethane	ND	ug/L	5.0	1	
Dibromochloromethane	ND	ug/L	5.0	1	
1,2-Dichlorobenzene	ND	ug/L	5.0	1	
1,3-Dichlorobenzene	ND	ug/L	5.0	1	
1,4-Dichlorobenzene	ND	ug/L	5.0	1	
1,1-Dichloroethane	ND	ug/L	5.0	1	
1,2-Dichloroethane	ND	ug/L	5.0	1	
1,1-Dichloroethene	ND	ug/L	5.0	1	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1	
1,2-Dichloropropane	ND	ug/L	5.0	1	
cis-1,3-Dichloropropene	ND	ug/L	5.0	1	
trans-1,3-Dichloropropene	ND	ug/L	5.0	1	
Ethylbenzene	ND	ug/L	5.0	1	
Methylene Chloride	ND	ug/L	5.0	1	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	1	
Tetrachloroethene	ND	ug/L	5.0	1	
Toluene	ND	ug/L	5.0	1	
1,1,1-Trichloroethane	ND	ug/L	5.0	1	
1,1,2-Trichloroethane	ND	ug/L	5.0	1	
Trichloroethene	ND	ug/L	5.0	1	
Trichlorofluoromethane	ND	ug/L	5.0	1	
Vinyl chloride	ND	ug/L	5.0	1	
4-Bromofluorobenzene (S)	**100**	%.	82-118	1	
Toluene-d8 (S)	**100**	%.	81-120	1	
Dibromofluoromethane (S)	**102**	%.	77-123	1	

Pace Analytical Services, LLC
3516 Greensboro Avenue
Tuscaloosa, AL 35401
(205)614-6630

QUALIFIERS

Project: AL0023116 Helena WWTP permit r
Pace Project No.: 20239525

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

ANALYTE QUALIFIERS

AC	Analysis of acrolein and/or acrylonitrile was performed from a sample that was field preserved to pH < 2, which is less than the pH range of 4-5 specified in the test method and required for NPDES compliance per 40CFR Part 136.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A – Required Client Information:	Section B – Required Project Information:	Section C – Invoice Information:	
Company: City of Helena Utilities Board -Sewer	Report To: Keith Sims	Attention:	
Address: P. O. Box 427	Copy To:	Company Name:	Regulatory Agency
Helena, AL 35080		Address:	
Email: ksims@cityofhelena.org	Purchase Order #:	Pace Quote:	
Phone: 205-746-5098 Fax:	Project Name: AL0023116 Helena WWTP permit renewal	Pace Project Manager: cindy.simpson@pacelabs.com,	State / Location: AL
Requested Due Date:	Order #: 805627	Pace Profile #: 16771	

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	625	TDS	200.7 Metals	Total Phenol	1664 Oil and Grease	Cyanide	624.1	Field Data	Residual Chlorine (Y/N)
1	Effluent-Composite 24	WT	C24	4-4-22	8:02am	4-5	8:05		4	3		1							X	X	X						
2	Effluent Grab	WT	G	4-4-22	8:00	4-5	8:18		7	4	1		1	1								X	X	X			
3	Trip Blank	WT		4-4-22	8:30	4-5	8:00		4	4														X			
4	Temp C: Room Temp 18.9 / 3° Sampler Temp	WT		4-4-22	8:10	4-5	8:00																		X		
5	outside Temp 61° Raining																										
6																											
7																											
8																											
9																											
10																											
11																											
12																											

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

WO# : 20239525

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Composite 8:05am KS	Keith Sims	4-5-22	8:30am	Cooler	4/5/22	8:30	3°	Y	Y	Y
Grab 8:18am KS	Cooler	4/5/22	1020	Pace	4/5/22	1020				
	Pace	4/5/22	1130	Cindy Simpson	4/5/22	1130		Y		Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Keith Sims

SIGNATURE of SAMPLER: Keith Sims DATE Signed: 4-5-22

WO# : 20239525

PM: CRS Due Date: 04/19/22

CLIENT: TU-HelenaWW

Pace Analytical

Sample Condition Upon Receipt

Pace Analytical Services, LLC - Tuscaloosa, AL
Pace Analytical Services, LLC - Montgomery, AL

Project #: 20

Courier: ☑ Pace Courier ☐ Hired Courier ☐ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] Custody Seals intact: ☐Yes ☐No

Therometer Used:	TUTM40

Type of Ice: (Wet) Blue None Samples on ice: [see COC]

Cooler Temperature: [see COC] Temp should be above freezing to 6°C

Date and Initials of person examining contents: CRS 4/5/22

Temp must be measured from Temperature blank when present

		Comments:
Temperature Blank Present"?	☐Yes ☐No ☑N/A	1
Chain of Custody Present:	☑Yes ☐No ☐N/A	2
Chain of Custody Complete:	☑Yes ☐No ☐N/A	3
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	4
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	5
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	6
Sufficient Volume:	☑Yes ☐No ☐N/A	7
Correct Containers Used:	☑Yes ☐No ☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes ☐No ☑N/A	9
Sample Labels match COC:	☑Yes ☐No ☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☑Yes ☐No ☐N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	☑Yes ☐No ☐N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	14
Trip Blank Present:	☐Yes ☑No	15

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Pace Analytical Services, LLC
1168 Whigham Place
Tuscaloosa, AL 35405
(205) 614-6630

October 09, 2024

Jeffery Nelson
City of Helena

,

RE: Project: LL Hg/Amenable Cyanide
Pace Project No.: 20331686

Dear Jeffery Nelson:

Enclosed are the analytical results for sample(s) received by the laboratory on September 26, 2024. This report is a summary of the results based upon our understanding of your data quality objectives. Please contact us if itemized quality control results are needed. These results relate only to the samples included in this report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:
- Pace Analytical Services - Allen

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Cindy Simpson

Cindy Simpson
cindy.simpson@pacelabs.com
(205)614-6630
Project Manager

Enclosures

cc: Justin Trippp, City of Helena Utilties Board

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1168 Whigham Place
Tuscaloosa, AL 35405
(205) 614-6630

CERTIFICATIONS

Project: LL Hg/Amenable Cyanide
Pace Project No.: 20331686

Pace Analytical Services Dallas
400 West Bethany Dr Suite 190, Allen, TX 75013
Texas Certification T104704232-20-32
Florida Certification #: E871118
EPA# TX00074
Kansas Certification #: E-10388
Arkansas Certification #: 88-0647
Oklahoma Certification #: 8727
Louisiana Certification #: 30686
Iowa Certification #: 408

Pace Analytical Services, LLC
1168 Whigham Place
Tuscaloosa, AL 35405
(205) 614-6630

SAMPLE ANALYTE COUNT

Project: LL Hg/Amenable Cyanide
Pace Project No.: 20331686

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
20331686001	**Effluent**	SM 4500-CN E-11	KCM	1	PASL-AT
		SM 4500-CN G-11	KCM	1	PASL-AT

PASL-AT = Pace Analytical Services - Allen

Pace Analytical Services, LLC
1168 Whigham Place
Tuscaloosa, AL 35405
(205) 614-6630

ANALYTICAL RESULTS

Project: LL Hg/Amenable Cyanide
Pace Project No.: 20331686

Sample: Effluent **Lab ID: 20331686001** Collected: 09/26/24 11:32

Parameters	Results	Units	Report Limit	DF	Qualifiers
Cyanide	ND	mg/L	0.0100	1	
Amenable Cyanide	ND	mg/L	0.0100	1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1168 Whigham Place
Tuscaloosa, AL 35405
(205) 614-6630

QUALIFIERS

Project: LL Hg/Amenable Cyanide
Pace Project No.: 20331686

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

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RPD - Relative Percent Difference

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N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace® Location Requested (City/State):
Pace Analytical Tuscaloosa
1168 Whigham Place, Tuscaloosa, AL 35401

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

WO# : 20331686

20331686

Company Name:	City of Helena Utilities Board -Sewer	Contact/Report To:	Keith Sims
Street Address:	P. O. Box 427 Helena, AL 35080	Phone #:	205-746-5098
		E-Mail:	ksims@cityofhelena.org
		Cc E-Mail:	
Customer Project #:			
Project Name:	LL Hg/Amenable Cyanide	Invoice To:	Accounts Payable
		Invoice E-Mail:	tamos@cityofhelena.org
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Alabama

Data Deliverables: [ ] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # or WW Permit # as applicable:

Date Results Requested:

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW),Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Amenable Cyanide	Low Level Mercury 1631	Sample Comment
Effluent	WT				9-26-24	11:37				X	X	
Field Blank	WT				9-26-24	11:37					X	

Specify Container Size **

Identify Container Preservative Type***

Analysis Requested

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only

Proj. Mgr: Cindy Simpson

AcctNum / Client ID:

Table #:

Profile / Template: 16771

Prelog / Bottle Ord. ID: EZ 3159414

Preservation non-conformance identified for sample:

Additional Instructions from Pace®:

Collected By:
(Printed Name) Mike Bailey
Signature: Mike Bailey

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
1	TUTM40	0	7.8	7.8	Y

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
Mike Bailey	9/26/24 1135	Bryan Kaya	9/26/24 1135	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In-Person [✓] Courier
Bryan Kaya	9/26/24 1246		9/26/24 1246	[ ] FedEx [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	
Relinquished by/Company: (Signature)	Date/Time	Received by/Company: (Signature)	Date/Time:	Page: 1 of 1

Page 2 of 1

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

Pace

WO#: 20331686 (SCUR)
PM: CRS Due Date: 10/10/24
CLIENT: TU-HelenaWW

Project #
Project Manager:
Client:

Date and Initials of person:
Examining contents: JS
Verifying pH: JS

Thermometer Used: TUTM40 Date: 9/26/24 Time: 1246 Initials: STR

State of Origin: _____ ☐ For WV projects, all containers verified to ≤6 °C

Cooler #1 Temp.°C	7.8 (Visual)	0 (Correction Factor)	7.8 (Actual)	☐Samples on ice, cooling process has begun.
Cooler #2 Temp.°C	_____ (Visual)	_____ (Correction Factor)	_____ (Actual)	☐Samples on ice, cooling process has begun.
Cooler #3 Temp.°C	_____ (Visual)	_____ (Correction Factor)	_____ (Actual)	☐Samples on ice, cooling process has begun.
Cooler #4 Temp.°C	_____ (Visual)	_____ (Correction Factor)	_____ (Actual)	☐Samples on ice, cooling process has begun.
Cooler #5 Temp.°C	_____ (Visual)	_____ (Correction Factor)	_____ (Actual)	☐Samples on ice, cooling process has begun.
Cooler #6 Temp.°C	_____ (Visual)	_____ (Correction Factor)	_____ (Actual)	☐Samples on ice, cooling process has begun.

Recheck for OOT °C _____ (Visual) _____ (Correction Factor) _____ (Actual) Time: _____ Initials: _____

Courier: ☐Fed Ex ☐UPS ☐USPS ☐Client ☐Commercial ☑Pace ☐Other: _____

Shipping Method: ☐Standard Overnight ☐First Overnight ☐Priority Overnight ☐Ground ☐International Priority ☐Other: _____

Billing: ☐Recipient ☐Sender ☐Third Party ☐Credit Card ☐Unknown

Tracking # _____

Custody Seal Present: ☐Yes ☑No Seal properly placed and intact: ☐Yes ☑No Ice: ☑Wet ☐Blue ☐Dry ☐None ☐Melted

Packing Material: ☐Bubble Wrap ☐Bubble Bags ☑None ☐Other:

Samples shorted to lab: ☐Yes ☐No (If yes, complete the following)
Shorted Date: _____ Shorted Time: _____
Bottle Quantity / Type:

Chain of Custody:	Present: ☑Yes ☐No | Filled Out: ☑Yes ☐No ☐N/A | Sampler Name: ☑Yes ☐No ☐N/A				
	Relinquished To Pace: ☑Yes ☐No ☐N/A | Sampling Date(s): ☑Yes ☐No ☐N/A | Sampling Time(s): ☑Yes ☐No ☐N/A				
Samples Arrived within Hold Time.		☑Yes	☐No	☐N/A	Comments:
Rush Turnaround Requested on COC.		☐Yes	☑No	☐N/A	Comments:
Sufficient Volume.		☑Yes	☐No	☐N/A	Comments:
Correct Containers Used.		☑Yes	☐No	☐N/A	Comments:
Containers Intact.		☑Yes	☐No	☐N/A	Comments:
Sample Labels Match COC (Sample ID, Date/Time of Collection).		☐Yes	☑No	☐N/A	Comments: Blank
All containers needing acid / base preservation have been checked.		☑Yes	☐No	☐N/A	Preservation Information
All containers needing preservation are found to be in compliance with EPA recommendation: Exceptions: Vials, Microbiology, O&G, PFAS		☑Yes	☐No	☐N/A	Preservative: _____ Date: _____ Lot / Trace: _____ Time: _____ Amount added (mL): _____ Initials: _____
Headspace in Volatile Vials? (>6mm):		☐Yes	☐No	☑N/A	
Trip Blank Present:		☐Yes	☐No	☑N/A	

Comments / Resolutions (use back for additional comments): _____

Labeled by: JD Reviewed by: JT Delivered by: JD

Pace Analytical Services, LLC
P.O. Box 907
Madisonville, KY 42431
270.821.7375
www.pacelabs.com

Certificate of Analysis
4095478

Cindy Simpson
Pace Analytical Services LLC Tuscaloosa
3516 Greensboro Ave
Tuscaloosa, AL 35401

Customer ID: 44-102111
Report Printed: 10/09/2024 15:17

Project Name:	Cindy Simpson PM	Workorder:	4095478

Dear Cindy Simpson

Enclosed are the analytical results for samples received by the laboratory 09/27/2024 10:50.

The results relate to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services LLC Kentucky - Madisonville

If you have any questions concerning this report, please feel free to contact me.

#460210 Madisonville, KY
#460291 Pikeville, KY
#E871136 Englewood, OH

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Melissia Brown, Project Coordinator

Pace Analytical Services, LLC
P.O. Box 907
Madisonville, KY 42431
270.821.7375
www.pacelabs.com

SAMPLE SUMMARY

Lab ID	Client Sample ID/Alias	Matrix	Date Collected	Date Received	Sampled By
4095478-01	Low Level Mercury/20331686001 Effluent	Wastewater	09/26/2024 11:32	09/27/2024 10:50	Client
4095478-02	Low Level Mercury Field Blank/20331686002 Field Blank	Wastewater	09/26/2024 11:32	09/27/2024 10:50	Client

ANALYTICAL RESULTS

Lab Sample ID: **4095478-01**
Description: **Low Level Mercury 20331686001 Effluent**
Sample Collection Date Time: 09/26/2024 11:32
Sample Received Date Time: 09/27/2024 10:50

Metals Analysis Madisonville

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Mercury	**0.4**	J	ng/L	0.5	0.4	EPA 1631E 2002	10/08/2024 14:04	10/09/2024 10:49	TML

ANALYTICAL RESULTS

Lab Sample ID: **4095478-02**
Description: **Low Level Mercury Field Blank 20331686002 Field Blank**
Sample Collection Date Time: 09/26/2024 11:32
Sample Received Date Time: 09/27/2024 10:50

Metals Analysis Madisonville

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Mercury	ND	U	ng/L	0.5	0.4	EPA 1631E 2002	10/08/2024 14:04	10/09/2024 12:06	TML

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P.O. Box 907
Madisonville, KY 42431
270.821.7375
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Notes for work order 4095478

- Samples collected by PACE personnel are done so in accordance with procedures set forth in PACE field services SOPs .
- Results contained in this report are only representative of the samples received.
- PACE does not provide interpretation of these results unless otherwise stated .
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identification based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.

Qualifiers

J	Estimated value.
U	Target analyte was analyzed for, but was below detection limit (the value associated with the qualifier is the laboratory method detection limit in our LIMS system).

Standard Qualifiers/Acronyms

MDL	Method Detection Limit
MRL	Minimum Reporting Limit
ND	Not Detected
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
% Rec	Percent Recovery
RPD	Relative Percent Difference
>	Greater than
<	Less than

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Metals Analysis Madisonville - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BDJ0943 - Default Prep Metals										
Blank (BDJ0943-BLK1)										
Prepared: 10/8/2024 14:04, Analyzed: 10/9/2024 9:41										
Mercury	ND	0.5	ng/L							U
Mercury	ND	0.5	ng/L							U
Blank (BDJ0943-BLK2)										
Prepared: 10/8/2024 14:04, Analyzed: 10/9/2024 9:48										
Mercury	ND	0.5	ng/L							U
Mercury	ND	0.5	ng/L							U
Blank (BDJ0943-BLK3)										
Prepared: 10/8/2024 14:04, Analyzed: 10/9/2024 9:56										
Mercury	ND	0.5	ng/L							U
Mercury	ND	0.5	ng/L							U
LCS (BDJ0943-BS1)										
Prepared: 10/8/2024 14:04, Analyzed: 10/9/2024 10:04										
Mercury	4.9	0.5	ng/L	5.00		97.6	77-123			
Mercury	4.9	0.5	ng/L	5.00		97.6	77-123			
Matrix Spike (BDJ0943-MS1) **Source: 4095134-01**										
Prepared: 10/8/2024 14:04, Analyzed: 10/9/2024 13:07										
Mercury	5.5	0.5	ng/L	5.00	ND	110	71-125			
Mercury	5.5	0.5	ng/L	5.00	ND	110	71-125			
Matrix Spike (BDJ0943-MS2) **Source: 4095224-01**										
Prepared: 10/8/2024 14:04, Analyzed: 10/9/2024 13:23										
Mercury	4.9	0.5	ng/L	5.00	ND	98.9	71-125			
Mercury	4.9	0.5	ng/L	5.00	ND	98.9	71-125			
Matrix Spike Dup (BDJ0943-MSD1) **Source: 4095134-01**										
Prepared: 10/8/2024 14:04, Analyzed: 10/9/2024 13:15										
Mercury	4.9	0.5	ng/L	5.00	ND	98.9	71-125	11.0	24	
Mercury	4.9	0.5	ng/L	5.00	ND	98.9	71-125	11.0	24	
Matrix Spike Dup (BDJ0943-MSD2) **Source: 4095224-01**										
Prepared: 10/8/2024 14:04, Analyzed: 10/9/2024 13:30										
Mercury	5.0	0.5	ng/L	5.00	ND	99.8	71-125	0.886	24	
Mercury	5.0	0.5	ng/L	5.00	ND	99.8	71-125	0.886	24	

Certified Analyses included in this Report

Analyte	Certifications
EPA 1631E 2002 in Water	
Mercury	VA NELAC MDV (460210) KY Wastewater Mdv (00030)
Mercury	VA NELAC MDV (460210) KY Wastewater Mdv (00030) WV Wastewater Madisonville (241), 825 Industrial Rd Madisonville, KY 42431

Pace Analytical Services, LLC
P.O. Box 907
Madisonville, KY 42431
270.821.7375
www.pacelabs.com

Sample Acceptance Checklist for Work Order 4095478

Shipped By: Fed Ex

Temperature: 4.40° Celcius

Condition	
Check if Custody Seals are Present/Intact	☐
Check if Custody Signatures are Present	☑
Check if Collector Signature Present	☑
Check if bottles are intact	☑
Check if bottles are correct	☑
Check if bottles have sufficient volume	☑
Check if samples received on ice	☑
Check if VOA headspace is acceptable	☐
Check if samples received in holding time.	☑
Check if samples are preserved properly	☑

4095478

Internal Transfer Chain of Custody

Pace

☐ Rush Multiplier____X
☐ Samples Pre-Logged into eCOC

State Of Origin: AL
Cert. Needed: ☐ Yes ☐ No

Workorder: 20331686 **Workorder Name:** LL Hg/Amenable Cyanide

Owner Received Date: 9/26/2024 **Results Requested By:** 10/10/2024

Report To	Subcontract To
Cindy Simpson Pace Analytical Tuscaloosa 1168 Whigham Place Tuscaloosa, AL 35405 Phone (205)614-6630	Pace Analytical Madisonville 825 Industrial Rd Madisonville, KY 42431 Phone 270-824-2211

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HNO3	Requested Analysis: Low Level Mercury	LAB USE ONLY
1	Effluent	PS	9/26/2024 11:32	20331686001	Water	1	X	
2	Field Blank	PS	9/26/2024 11:32	20331686002	Water	1	X	
3								
4								
5								

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature]	9.26.24 1100	[signature]	9/27/24 0950
2				
3				

Comments

Cooler Temperature on Receipt ____ °C | **Custody Seal** Y or N | **Received on Ice** Y or N | **Samples Intact** Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.

Thermometer Serial Number
✓230753815
240381205
Temperature 4.4 °C
FedEx

Pace

Ship To:
Pace Analytical Madisonville
825 Industrial Rd
Madisonville, KY 42431
Phone 270-824-2211

INTER_LABORATORY WORK ORDER # 20331686
(To be completed by sending lab)

Sending Project No:	20331686
Receiving Project No:	
Check Box for Consolidated Invoice:	☐
Date Prepared:	09/26/24
REQUESTED COMPLETION DATE:	**10/10/2024**

Sending Region	IR20-New Orleans	Sending Project Mgr.	Cindy Simpson
Receiving Region	IR44-Madisonville	External Client	City of Helena Utilities Board -Sewer
State of Sample Origin	AL	QC Deliverable	STD REPORT

All questions should be addressed to sending project manager.

Requested Reportable Units _____ Report Wet or Dry Weight? Wet Cert. Needed _____

WORK REQUESTED

Method Description	Container Type	Quantity of containers	Preservative	Quantity of Samples	Acode	Acode Desc
Low Level Mercury	BP3N		HNO3	2	SI-21WET0	SUB PASI WTA

Special Requirements: Simple, not TNI Compliant (NTC),FR Only no EDD (0)

FOR ANALYTICAL WORK COMPLETED THIS SECTION ALSO

Return Samples to Sending Region: ☐ Yes ☐ No

DISPOSITION of FORM

Original sent to the receiving lab - Copy kept at the sending lab.

When work completed: Original sent to the ABM at the receiving laboratory. Copies are made to corporate as needed.

Pace Analytical Services, LLC
1168 Whigham Place
Tuscaloosa, AL 35405
(205) 614-6630

November 22, 2024

Jeffery Nelson
City of Helena

RE: Project: LL Hg/Amenable Cyanide
Pace Project No.: 20336193

Dear Jeffery Nelson:

Enclosed are the analytical results for sample(s) received by the laboratory on November 07, 2024. This report is a summary of the results based upon our understanding of your data quality objectives. Please contact us if itemized quality control results are needed. These results relate only to the samples included in this report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:
- Pace Analytical Services - Allen

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Cindy Simpson

Cindy Simpson
cindy.simpson@pacelabs.com
(205)614-6630
Project Manager

Enclosures

cc: Justin Trippp, City of Helena Utilties Board

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1168 Whigham Place
Tuscaloosa, AL 35405
(205) 614-6630

CERTIFICATIONS

Project: LL Hg/Amenable Cyanide
Pace Project No.: 20336193

Pace Analytical Services Dallas
400 West Bethany Dr Suite 190, Allen, TX 75013
Texas Certification T104704232-20-32
Florida Certification #: E871118
EPA# TX00074
Kansas Certification #: E-10388
Arkansas Certification #: 88-0647
Oklahoma Certification #: 8727
Louisiana Certification #: 30686
Iowa Certification #: 408

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1168 Whigham Place
Tuscaloosa AL 35405
(205) 614-6630

SAMPLE ANALYTE COUNT

Project: LL Hg/Amenable Cyanide
Pace Project No.: 20336193

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
20336193001	**Effluent**	SM 4500-CN E-11	KCM	1	PASL-AT
		SM 4500-CN G-11	KCM	1	PASL-AT

PASL-AT = Pace Analytical Services - Allen

Pace Analytical Services, LLC
1168 Whigham Place
Tuscaloosa, AL 35405
(205) 614-6630

ANALYTICAL RESULTS

Project: LL Hg/Amenable Cyanide
Pace Project No.: 20336193

Sample: Effluent **Lab ID: 20336193001** Collected: 11/07/24 06:40

Parameters	Results	Units	Report Limit	DF	Qualifiers
Cyanide	ND	mg/L	0.0100	1	
Amenable Cyanide	ND	mg/L	0.0100	1	

Pace Analytical Services, LLC
1168 Whigham Place
Tuscaloosa, AL 35405
(205) 614-6630

QUALIFIERS

Project: LL Hg/Amenable Cyanide
Pace Project No.: 20336193

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace® Location Requested (City/State):
Pace Analytical Tuscaloosa
1168 Whigham Place, Tuscaloosa, AL 35401

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY

WO# : 20336193

20336193

Company Name:	City of Helena Utilities Board -Sewer	Contact/Report To:	Jeffery Nelson
Street Address:		Phone #:	
		E-Mail:	jnelson@cityofhelena.org
		Cc E-Mail:	
Customer Project #			
Project Name:	LL Hg/Amenable Cyanide	Invoice To:	Accounts Payable
		Invoice E-Mail:	tamos@cityofhelena.org
Site Collection Info/Facility ID (as applicable)		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State or gin of sample(s): Alabama

Data Deliverables: [ ] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # or WW Permit # as applicable:

Date Results Requested:

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis:

* Matrix Codes (insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW),Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont	Res. Chlorine Results	Res. Chlorine Units	Amenable Cyanide	Low Level Mercury 1631	Sample Comment
Effluent	WT		11-7-24	0635	11-7-24	0640				X	X	
Field Blank	WT										X	

Specify Container Size **

Identify Container Preservative Type***

Analysis Requested

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40ml vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only

Proj. Mgr: **Cindy Simpson**

AcctNum / Client ID:

Table #:

Profile / Template: **16771**

Prelog / Bottle Ord. ID: **EZ 3159431**

Preservation non-conformance identified for sample:

Additional Instructions from Pace®

Collected By: (Printed Name) BRENT KASTOR

Signature: Brent Kastor

Customer Remarks / Special Conditions / Possible Hazards

# Coolers	Thermometer ID:	Correction Factor (°C):	Obs. Temp (°C)	Corrected Temp. (°C)	On Ice:
1	TUTM13	0.730	4.3	4.3	Y

Relinquished by/Company (Signature)	Date/Time	Received by/Company (Signature)	Date/Time	Tracking Number
Brent Kastor	11-7-24 0730		11/7/24 10:38	
Relinquished by/Company (Signature)	Date/Time	Received by/Company (Signature)	Date/Time	Delivered by [ ] In-Person [✓] Courier
	11-7-24 11:42		11/7/24 1142	[ ] FedEx [ ] UPS [ ] Other
Relinquished by/Company (Signature)	Date/Time	Received by/Company (Signature)	Date/Time	
Relinquished by/Company (Signature)	Date/Time	Received by/Company (Signature)	Date/Time	Page: 1 of 1

Page 1 of 1

By submitting a sample via this chain of custody, client acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

Pace

Sample Condition Upon Receipt Form (SCUR)

WO#: 20336193

Project #
Project Manager: PM: CRS Due Date: 11/21/24
Client: CLIENT: TU-HelenaWW

Date and Initials of person:
Examining contents: STR
Verifying pH: STR

Thermometer Used: TUTM13 Date: 11/7/24 Time: ~~1145~~ 1142 Initials: STR

State of Origin: _____ ☐ For WV projects, all containers verified to ≤6 °C

Cooler #1 Temp.°C	4.3 (Visual)	0 (Correction Factor)	4.3 (Actual)	☑ Samples on ice, cooling process has begun
Cooler #2 Temp.°C	_____ (Visual)	_____ (Correction Factor)	_____ (Actual)	☐ Samples on ice, cooling process has begun
Cooler #3 Temp.°C	_____ (Visual)	_____ (Correction Factor)	_____ (Actual)	☐ Samples on ice, cooling process has begun
Cooler #4 Temp.°C	_____ (Visual)	_____ (Correction Factor)	_____ (Actual)	☐ Samples on ice, cooling process has begun
Cooler #5 Temp.°C	_____ (Visual)	_____ (Correction Factor)	_____ (Actual)	☐ Samples on ice, cooling process has begun
Cooler #6 Temp.°C	_____ (Visual)	_____ (Correction Factor)	_____ (Actual)	☐ Samples on ice, cooling process has begun
Recheck for OOT °C	_____ (Visual)	_____ (Correction Factor)	_____ (Actual)	Time: _____ Initials: _____

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace ☐ Other _____

Shipping Method: ☐ Standard Overnight ☐ First Overnight ☐ Priority Overnight ☐ Ground ☐ International Priority ☐ Other _____

Billing: ☐ Recipient ☐ Sender ☐ Third Party ☐ Credit Card ☐ Unknown

Tracking # _____

Custody Seal Present: ☐ Yes ☑ No Seal properly placed and intact: ☐ Yes ☑ No Ice: ☑ Wet ☐ Blue ☐ Dry ☐ None ☐ Melted

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Samples shorted to lab: ☐ Yes ☐ No (If yes, complete the following)
Shorted Date: _____ Shorted Time: _____
Bottle Quantity / Type: _____

Chain of Custody	Present: ☑ Yes ☐ No | Filled Out: ☑ Yes ☐ No ☐ N/A | Sampler Name: ☑ Yes ☐ No ☐ N/A				
	Relinquished To Pace: ☑ Yes ☐ No ☐ N/A | Sampling Date(s): ☑ Yes ☐ No ☐ N/A | Sampling Time(s): ☑ Yes ☐ No ☐ N/A				
Samples Arrived within Hold Time		☑ Yes	☐ No	☐ N/A	Comments
Rush Turnaround Requested on COC.		☐ Yes	☑ No	☐ N/A	Comments
Sufficient Volume.		☑ Yes	☐ No	☐ N/A	Comments
Correct Containers Used.		☑ Yes	☐ No	☐ N/A	Comments
Containers Intact.		☑ Yes	☐ No	☐ N/A	Comments
Sample Labels Match COC (Sample ID, Date/Time of Collection)		☑ Yes	☐ No	☐ N/A	Comments
All containers needing acid / base preservation have been checked.		☑ Yes	☐ No	☐ N/A	Preservation Information: Preservative: _____ Date: _____
All containers needing preservation are found to be in compliance with EPA recommendation: Exceptions: VOA, Microbiology, O&G, PFAS		☑ Yes	☐ No	☐ N/A	Lot / Track: _____ Time: _____ Amount added (mL): _____ Initials: _____
Headspace in Volatile Vials? (>6mm)		☐ Yes	☐ No	☑ N/A	
Trip Blank Present:		☐ Yes	☐ No	☑ N/A	

Comments / Resolutions (use back for additional comments): DI water container arrived full, all sample bottles full. Assume field blank is sample, not DI water

Labeled by: STR Reviewed by: [illegible] Delivered by: STR

Pace Analytical Services, LLC
P.O. Box 907
Madisonville, KY 42431
270.821.7375
www.pacelabs.com

Certificate of Analysis
4113258

Cindy Simpson
Pace Analytical Services LLC Tuscaloosa
3516 Greensboro Ave
Tuscaloosa, AL 35401

Customer ID: 44-102111
Report Printed: 11/18/2024 11:27

Project Name:	Cindy Simpson PM	Workorder:	4113258

Dear Cindy Simpson

Enclosed are the analytical results for samples received by the laboratory 11/08/2024 11:52.

The results relate to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services LLC Kentucky - Madisonville

If you have any questions concerning this report, please feel free to contact me.

#460210 Madisonville, KY
#460291 Pikeville, KY
#E871136 Englewood, OH

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Melissia Brown, Project Coordinator

Pace Analytical Services, LLC
P.O. Box 907
Madisonville, KY 42431
270.821.7375
www.pacelabs.com

SAMPLE SUMMARY

Lab ID	Client Sample ID/Alias	Matrix	Date Collected	Date Received	Sampled By
4113258-01	Low Level Mercury/20336193001 Effluent	Wastewater	11/07/2024 06:40	11/08/2024 11:52	Client
4113258-02	Low Level Mercury Field Blank/20336193002 Field Blank	Wastewater	11/07/2024 06:00	11/08/2024 11:52	Client

ANALYTICAL RESULTS

Lab Sample ID: **4113258-01**
Description: **Low Level Mercury 20336193001 Effluent**
Sample Collection Date Time: 11/07/2024 06:40
Sample Received Date Time: 11/08/2024 11:52

Metals Analysis Madisonville

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Mercury	0.7		ng/L	0.5	0.3	EPA 1631E 2002	11/14/2024 14:38	11/15/2024 12:18	DMH

ANALYTICAL RESULTS

Lab Sample ID: **4113258-02**
Description: **Low Level Mercury Field Blank 20336193002 Field Blank**
Sample Collection Date Time: 11/07/2024 06:00
Sample Received Date Time: 11/08/2024 11:52

Metals Analysis Madisonville

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Mercury	1.0		ng/L	0.5	0.3	EPA 1631E 2002	11/14/2024 14:38	11/15/2024 11:09	DMH

Pace Analytical Services, LLC
P.O. Box 907
Madisonville, KY 42431
270.821.7375
www.pacelabs.com

Notes for work order 4113258

- Samples collected by PACE personnel are done so in accordance with procedures set forth in PACE field services SOPs .
- Results contained in this report are only representative of the samples received.
- PACE does not provide interpretation of these results unless otherwise stated .
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identification based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.

Qualifiers

M2	Matrix spike recovery was low; the method control sample recovery was acceptable.
U	Target analyte was analyzed for, but was below detection limit (the value associated with the qualifier is the laboratory method detection limit in our LIMS system).

Standard Qualifiers/Acronyms

MDL	Method Detection Limit
MRL	Minimum Reporting Limit
ND	Not Detected
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
% Rec	Percent Recovery
RPD	Relative Percent Difference
>	Greater than
<	Less than

Pace Analytical Services, LLC
P.O. Box 907
Madisonville, KY 42431
270.821.7375
www.pacelabs.com

Metals Analysis Madisonville - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BDK1495 - Default Prep Metals										
Blank (BDK1495-BLK1)										
Prepared: 11/14/2024 14:38, Analyzed: 11/15/2024 9:14										
Mercury	ND	0.5	ng/L							U
Mercury	ND	0.5	ng/L							U
Blank (BDK1495-BLK2)										
Prepared: 11/14/2024 14:38, Analyzed: 11/15/2024 9:22										
Mercury	ND	0.5	ng/L							U
Mercury	ND	0.5	ng/L							U
Blank (BDK1495-BLK3)										
Prepared: 11/14/2024 14:38, Analyzed: 11/15/2024 9:30										
Mercury	ND	0.5	ng/L							U
Mercury	ND	0.5	ng/L							U
LCS (BDK1495-BS1)										
Prepared: 11/14/2024 14:38, Analyzed: 11/15/2024 9:37										
Mercury	5.2	0.5	ng/L	5.00		103	77-123			
Mercury	5.2	0.5	ng/L	5.00		103	77-123			
Matrix Spike (BDK1495-MS1) **Source: 4110945-01**										
Prepared: 11/14/2024 14:38, Analyzed: 11/15/2024 12:41										
Mercury	4.7	0.5	ng/L	5.00	ND	93.8	71-125			
Mercury	4.7	0.5	ng/L	5.00	ND	93.8	71-125			
Matrix Spike (BDK1495-MS2) **Source: 4110945-04**										
Prepared: 11/14/2024 14:38, Analyzed: 11/15/2024 12:56										
Mercury	6.7	0.5	ng/L	5.00	0.5	125	71-125			
Mercury	6.7	0.5	ng/L	5.00	0.5	125	71-125			
Matrix Spike Dup (BDK1495-MSD1) **Source: 4110945-01**										
Prepared: 11/14/2024 14:38, Analyzed: 11/15/2024 12:49										
Mercury	3.8	0.5	ng/L	5.00	ND	76.5	71-125	20.3	24	
Mercury	3.8	0.5	ng/L	5.00	ND	76.5	71-125	20.3	24	
Matrix Spike Dup (BDK1495-MSD2) **Source: 4110945-04**										
Prepared: 11/14/2024 14:38, Analyzed: 11/15/2024 13:04										
Mercury	7.1	0.5	ng/L	5.00	0.5	132	71-125	5.66	24	M2
Mercury	7.1	0.5	ng/L	5.00	0.5	132	71-125	5.66	24	M2

Certified Analyses included in this Report

Analyte	Certifications
EPA 1631E 2002 in Water	
Mercury	VA NELAC MDV (460210) KY Wastewater Mdv (00030)
Mercury	VA NELAC MDV (460210) KY Wastewater Mdv (00030) WV Wastewater Madisonville (241), 825 Industrial Rd Madisonville, KY 42431

Pace Analytical Services, LLC
P.O. Box 907
Madisonville, KY 42431
270.821.7375
www.pacelabs.com

Sample Acceptance Checklist for Work Order 4113258

Shipped By: Fed Ex

Temperature: 4.50° Celcius

Condition	
Check if Custody Seals are Present/Intact	☐
Check if Custody Signatures are Present	☑
Check if Collector Signature Present	☐
Check if bottles are intact	☑
Check if bottles are correct	☑
Check if bottles have sufficient volume	☑
Check if samples received on ice	☑
Check if VOA headspace is acceptable	☐
Check if samples received in holding time.	☑
Check if samples are preserved properly	☑

Internal Transfer Chain of Custody

4113258

Pace

☐ Rush Multiplier____X
☐ Samples Pre-Logged into eCOC

State Of Origin: AL
Cert. Needed: ☐ Yes ☐ No
Owner Received Date: 11/7/2024 Results Requested By: 11/21/2024

Workorder: 20336193 **Workorder Name:** LL Hg/Amenable Cyanide

Report To	Subcontract To
Cindy Simpson Pace Analytical Tuscaloosa 1168 Whigham Place Tuscaloosa, AL 35405 Phone (205)614-6630	Pace Analytical Madisonville 825 Industrial Rd Madisonville, KY 42431 Phone 270-824-2211

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HCl	Requested Analysis: Low Level Mercury	LAB USE ONLY
1	Effluent	PS	11/7/2024 06:40	20336193001	Water	1	X	
2	Field Blank	PS	11/7/2024 06:00	20336193002	Water	1	X	
3								
4								
5								

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature]	11/7/24 1100	[signature]	1182
2				1152
3				

Comments

Cooler Temperature on Receipt °C	Custody Seal Y or N	Received on Ice Y or N	Samples Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.

Thermometer Serial Number
230753815
240381205
Temperature 4.8°C

Pace

Ship To:
Pace Analytical Madisonville
825 Industrial Rd
Madisonville, KY 42431
Phone 270-824-2211

INTER_LABORATORY WORK ORDER # 20336193
(To be completed by sending lab)

Sending Project No	20336193
Receiving Project No	
Check Box for Consolidated Invoice	☐
Date Prepared	11/07/24
REQUESTED COMPLETION DATE:	**11/21/2024**

Sending Region	IR20-New Orleans	Sending Project Mgr.	Cindy Simpson
Receiving Region	IR44-Madisonville	External Client	City of Helena Utilities Board -Sewer
State of Sample Origin	AL	QC Deliverable	STD REPORT

All questions should be addressed to sending project manager.

Requested Reportable Units _____ Report Wet or Dry Weight? Wet Cert. Needed _____

WORK REQUESTED

Method Description	Container Type	Quantity of containers	Preservative	Quantity of Samples	Acode	Acode Desc
Low Level Mercury	CG3H		HCL	2	SI-21WET0	SUB PASI WTA

Special Requirements: Simple, not TNI Compliant (NTC),FR Only no EDD (0)

FOR ANALYTICAL WORK COMPLETED THIS SECTION ALSO

Return Samples to Sending Region: ☐ Yes ☐ No

DISPOSITION of FORM

Original sent to the receiving lab - Copy kept at the sending lab.

When work completed: Original sent to the ABM at the receiving laboratory. Copies are made to corporate as needed.

Pace Analytical Services, LLC
1168 Whigham Place
Tuscaloosa, AL 35405
(205) 614-6630

December 24, 2024

Jeffery Nelson
City of Helena

RE: Project: LL Hg/Amenable Cyanide
Pace Project No.: 20340531

Dear Jeffery Nelson:

Enclosed are the analytical results for sample(s) received by the laboratory on December 13, 2024. This report is a summary of the results based upon our understanding of your data quality objectives. Please contact us if itemized quality control results are needed. These results relate only to the samples included in this report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:
- Pace Analytical Services - Allen

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Cindy Simpson

Cindy Simpson
cindy.simpson@pacelabs.com
(205)614-6630
Project Manager

Enclosures

cc: Justin Trippp, City of Helena Utilties Board

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1168 Whigham Place
Tuscaloosa, AL 35405
(205) 614-6630

CERTIFICATIONS

Project: LL Hg/Amenable Cyanide
Pace Project No.: 20340531

Pace Analytical Services Dallas
400 West Bethany Dr Suite 190, Allen, TX 75013
Texas Certification T104704232-20-32
Florida Certification #: E871118
EPA# TX00074
Kansas Certification #: E-10388
Arkansas Certification #: 88-0647
Oklahoma Certification #: 8727
Louisiana Certification #: 30686
Iowa Certification #: 408

Pace Analytical Services, LLC
1168 Whigham Place
Tuscaloosa, AL 35405
(205) 614-6630

SAMPLE ANALYTE COUNT

Project: LL Hg/Amenable Cyanide
Pace Project No.: 20340531

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
20340531001	**Effluent**	SM 4500-CN E-11	KCM	1	PASL-AT
		SM 4500-CN G-11	KCM	1	PASL-AT

PASL-AT = Pace Analytical Services - Allen

Pace Analytical Services, LLC
1168 Whigham Place
Tuscaloosa, AL 35405
(205) 614-6630

ANALYTICAL RESULTS

Project: LL Hg/Amenable Cyanide
Pace Project No.: 20340531

Sample: Effluent **Lab ID: 20340531001** Collected: 12/13/24 07:10

Parameters	Results	Units	Report Limit	DF	Qualifiers
Cyanide	ND	mg/L	0.0100	1	
Amenable Cyanide	ND	mg/L	0.0100	1	

Pace Analytical Services, LLC
1168 Whigham Place
Tuscaloosa, AL 35405
(205) 614-6630

QUALIFIERS

Project: LL Hg/Amenable Cyanide
Pace Project No.: 20340531

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace® Location Requested (City/State):
Pace Analytical Tuscaloosa
1168 Whigham Place, Tuscaloosa, AL 35401

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB I.D. **WO# : 20340531**

20340531

Company Name:	City of Helena Utilities Board -Sewer	Contact/Report To:	Jeffery Nelson
Street Address:		Phone #:	
		E-Mail:	jnelson@cityofhelena.org
		Cc E-Mail:	
Customer Project #:			
Project Name	LL Hg/Amenable Cyanide	Invoice To:	Accounts Payable
		Invoice E-Mail:	tamos@cityofhelena.org
Site Collection Info/Facility ID (as applicable)		Purchase Order # (if applicable):	
		Quote #	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Alabama

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable: [ ] Yes [ ] No

Rush (Pre-approval required):
[ ] Same Day [ ] 1 Day [X] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # or WW Permit # as applicable:

Date Results Requested:

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Amenable Cyanide
Effluent	WT		12-13-24		12-13-24					X
Field Blank	WT									

Specify Container Size **

Identify Container Preservative Type***

Analysis Requested

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) TerraCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only

Proj. Mgr: **Cindy Simpson**

AcctNum / Client ID

Table #:

Profile / Template: **16771**

Prelog / Bottle Ord. ID: **EZ 3159414**

Sample Comment

Preservation non conformance identified for sample

Additional Instructions from Pace®:

Collected By (Printed Name): Brent KASTOR

Signature: Brent Kastor

Customer Remarks / Special Conditions / Possible Hazards

# Coolers	Thermometer ID	Correction Factor (°C)	Obs. Temp (°C)	Corrected Temp. (°C)	On Ice
1	TUTM19	0	2.3	2.3	Y

Relinquished by/Company (Signature)	Date/Time	Received by/Company (Signature)	Date/Time
Brent Kastor	12.13.24 0745	1 Pace	12/13/24 09:20
1 Pace	12/13/24 1241		12/13/24 1441

Tracking Number:

Delivered by: [ ] In-Person [X] Courier [ ] FedEX [ ] UPS [ ] Other

Pace

Sample Condition Upon Receipt Form (SCUR)

WO#: 20340531

Project #

Project Manager: PM: CRS Due Date: 12/31/24

Client: CLIENT: TU-HelenaWW

Date and Initials of person:

Examining contents: STR

Verifying pH: STR

Thermometer Used: TUTM101 Date: 12/13/24 Time: 1446 Initials: DRH

State of Origin: AL ☐ For WV projects, all containers verified to ≤6 °C

Cooler #1 Temp.°C	2.3 (Visual)	0 (Correction Factor)	2.3 (Actual)	☑Samples on ice, cooling process has begun
Cooler #2 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐Samples on ice, cooling process has begun
Cooler #3 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐Samples on ice, cooling process has begun
Cooler #4 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐Samples on ice, cooling process has begun
Cooler #5 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐Samples on ice, cooling process has begun
Cooler #6 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐Samples on ice, cooling process has begun
Recheck for COT °C	(Visual)	(Correction Factor)	(Actual)	Time: Initials:

Courier: ☐Fed Ex ☐UPS ☐USPS ☐Client ☐Commercial ☑Pace ☐Other

Shipping Method: ☐Standard Overnight ☐First Overnight ☐Priority Overnight ☐Ground ☐International Priority ☐Other

Billing: ☐Recipient ☐Sender ☐Third Party ☐Credit Card ☐Unknown

Tracking #

Custody Seal Present: ☐Yes ☑No Seal properly placed and intact: ☐Yes ☑No Ice: ☑Wet ☐Blue ☐Dry ☐None ☐Melted

Packing Material: ☐Bubble Wrap ☐Bubble Bags ☑None ☐Other:

Samples shorted to lab: ☐Yes ☐No (If yes, complete the following)
Shorted Date: Shorted Time:
Bottle Quantity / Type:

Chain of Custody:	Present ☑Yes ☐No | Filled Out: ☑Yes ☐No ☐N/A | Sampler Name: ☑Yes ☐No ☐N/A			
	Relinquished To Pace: ☑Yes ☐No ☐N/A | Sampling Date(s): ☑Yes ☐No ☐N/A | Sampling Time(s): ☑Yes ☐No ☐N/A			
Samples Arrived within Hold Time	☑Yes	☐No	☐N/A	Comments
Rush Turnaround Requested on COC	☐Yes	☑No	☐N/A	Comments
Sufficient Volume	☑Yes	☐No	☐N/A	Comments
Correct Containers Used	☑Yes	☐No	☐N/A	Comments
Containers Intact	☑Yes	☐No	☐N/A	Comments
Sample Labels Match COC (Sample ID, Date/Time of Collection)	☑Yes	☑No	☐N/A	Comments: See comments *
All containers needing acid / base preservation have been checked	☑Yes	☐No	☐N/A	Preservation Information: Preservative: Date:
All containers needing preservation are found to be in compliance with EPA recommendation (Exceptions: Vials, Microbiology, O&G, PFAS)	☑Yes	☐No	☐N/A	Lot / Trace: Time: Amount added (mL): Initials:
Headspace in Volatile Vials? (>6mm)	☐Yes	☐No	☑N/A	
Trip Blank Present	☐Yes	☐No	☑N/A	

Comments / Resolutions (use back for additional comments): *Client had no collection times. Reached out to PM, who relayed from Helena that samples were collected at 0710—this does not match time on bottle

Labeled by: STR Reviewed by: Delivered by: STR

Pace Analytical Services, LLC
1168 Whigham Place
Tuscaloosa AL 35405
(205) 614-6630

December 10, 2024

Jeffery Nelson
City of Helena

,

RE: Project: LL Hg/Amenable Cyanide
Pace Project No.: 20337875

Dear Jeffery Nelson:

Enclosed are the analytical results for sample(s) received by the laboratory on November 20, 2024. This report is a summary of the results based upon our understanding of your data quality objectives. Please contact us if itemized quality control results are needed. These results relate only to the samples included in this report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Cindy Simpson

Cindy Simpson
cindy.simpson@pacelabs.com
(205)614-6630
Project Manager

Enclosures

cc: Justin Trippp, City of Helena Utilties Board

REPORT OF LABORATORY ANALYSIS

Pace® Location Requested (City/State):
Pace Analytical Tuscaloosa
1168 Whigham Place, Tuscaloosa, AL 35401

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

WO# : 20337875

20337875

Company Name:	City of Helena Utilities Board Sewer	Contact/Report To:	Jeffery Nelson
Street Address:		Phone #:	
		E-Mail:	jnelson@cityofhelena.org
		Cc E-Mail:	
Customer Project #:			
Project Name:	LL Hg/Amenable Cyanide	Invoice To	Accounts Payable
		Invoice E-Mail:	tamos@cityofhelena.org
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Alabama

Data Deliverables: [ ] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable: Reportable [ ] Yes [ ] No

Rush (Pre-approval required): [ ] Same Day [ ] 1 Day [ ] 2 Day [ ] 3 Day [ ] Other _____

DW PWSID # or WW Permit # as applicable

Date Results Requested:

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Surface Water (SW),Sediment (SED), Sludge (SL), Caulk (CK), Leachate (LL), Biosolid (BS), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Composite Start Date	Composite Start Time	Collected or Composite End Date	Collected or Composite End Time	# Cont.	Res. Chlorine Results	Res. Chlorine Units	Amenable Cyanide	Low Level Mercury 1631
Effluent	WT		11-20-24	0745	11-20-24	0745				X	X
Field Blank	WT										X

Specify Container Size **

Identify Container Preservative Type***

Analysis Requested

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) 90mL, (10) Other

*** Preservative Types (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only

Proj. Mgr.: Cindy Simpson

AcctNum / Client ID:

Table #:

Profile / Template: 16771

Prelog / Bottle Ord. ID: EZ 3159430

Sample Comment

Preservation non-conformance identified for sample:

Additional Instructions from Pace®:

Collected By: (Printed Name) Brent Faster

Signature: BRENT IGASTOR

Customer Remarks / Special Conditions / Possible Hazards:

# Coolers:	Thermometer ID:	Correction Factor (°C)	Obs. Temp. (°C)	Corrected Temp. (°C)	On Ice:
	Tutma	0	1.1	1.1	X

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
Brent Faster	11-20-24 0810	Pace	11/20/24 10:27	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by [ ] In-Person [X] Courier
Pace	11/20/24 13:38		11.20.24 1330	[ ] FedEX [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 1 of 1

DC#_Title: ENV-FRM-ORB1-0093 Sample Condition Upon Receipt Form
Version: 7 | Effective Date: | Issued by: Ormond Beach

Pace

WO#: 20337875

Project #
Project Manager:
Client:

PM: CRS Due Date: 12/06/24
CLIENT: TU-HelenaWW

Date and Initials of person:
Examining contents: DHH
Verifying pH: _____

Thermometer Used: Tutm79 Date: 11.20.24 Time: 1338 Initials: JT

State of Origin: _____ ☐ For WV projects, all containers verified to ≤6 °C

Cooler #1 Temp.°C: 1.1 (Visual) 0 (Correction Factor) 1.1 (Actual) ☑ Samples on ice, cooling process has begun.
Cooler #2 Temp.°C: _____ (Visual) _____ (Correction Factor) _____ (Actual) ☐ Samples on ice, cooling process has begun.
Cooler #3 Temp.°C: _____ (Visual) _____ (Correction Factor) _____ (Actual) ☐ Samples on ice, cooling process has begun.
Cooler #4 Temp.°C: _____ (Visual) _____ (Correction Factor) _____ (Actual) ☐ Samples on ice, cooling process has begun.
Cooler #5 Temp.°C: _____ (Visual) _____ (Correction Factor) _____ (Actual) ☐ Samples on ice, cooling process has begun.
Cooler #6 Temp.°C: _____ (Visual) _____ (Correction Factor) _____ (Actual) ☐ Samples on ice, cooling process has begun.
Recheck for OOT °C: _____ (Visual) _____ (Correction Factor) _____ (Actual) Time: _____ Initials: _____

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace ☐ Other _____

Shipping Method: ☐ Standard Overnight ☐ First Overnight ☐ Priority Overnight ☐ Ground ☐ International Priority ☐ Other _____

Billing: ☐ Recipient ☐ Sender ☐ Third Party ☐ Credit Card ☐ Unknown

Tracking #: _____

Custody Seal Present: ☐ Yes ☑ No Seal properly placed and intact: ☐ Yes ☑ No Ice: ☑ Wet ☐ Blue ☐ Dry ☐ None ☐ Melted

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Samples shorted to lab: ☐ Yes ☐ No (If yes, complete the following)
Shorted Date: _____ Shorted Time: _____
Bottle Quantity / Type:

Chain of Custody	Present: ☑ Yes ☐ No | Filled Out: ☑ Yes ☐ No ☐ N/A | Sampler Name: ☑ Yes ☐ No ☐ N/A			
	Relinquished To Pace: ☑ Yes ☐ No ☐ N/A | Sampling Date(s): ☑ Yes ☐ No ☐ N/A | Sampling Time(s): ☑ Yes ☐ No ☐ N/A			
Samples Arrived within Hold Time	☑ Yes	☐ No	☐ N/A	Comments
Rush Turnaround Requested on COC	☐ Yes	☑ No	☐ N/A	Comments
Sufficient Volume	☑ Yes	☐ No	☐ N/A	Comments
Correct Containers Used	☐ Yes	☑ No	☐ N/A	Comments: HNO3 bottle used for amenable CN
Containers Intact	☑ Yes	☐ No	☐ N/A	Comments
Sample Labels Match COC (Sample ID, Date/Time of Collection)	☑ Yes	☐ No	☐ N/A	Comments
All containers needing acid / base preservation have been checked	☐ Yes	☐ No	☑ N/A	Preservation Information: Preservative: _____ Date: _____
All containers needing preservation are found to be in compliance with EPA recommendation: Exceptions: VOAs, Microbiology, O&G, PFAS	☐ Yes	☐ No	☑ N/A	Lot / Trace: _____ Time: _____ Amount added (mL): _____ Initials: _____
Headspace in Volatile Vials? (>6mm):	☐ Yes	☐ No	☑ N/A	
Trip Blank Present:	☐ Yes	☐ No	☑ N/A	

Comments / Resolutions (use back for additional comments): _____

Labeled by: DHH Reviewed by: _____ Delivered by: DHH

Pace Analytical Services, LLC
P.O. Box 907
Madisonville, KY 42431
270.821.7375
www.pacelabs.com

Certificate of Analysis
4115017

Cindy Simpson
Pace Analytical Services LLC Tuscaloosa
3516 Greensboro Ave
Tuscaloosa, AL 35401

Customer ID: 44-102111
Report Printed: 12/02/2024 11:28

Project Name:	Cindy Simpson PM	Workorder:	4115017

Dear Cindy Simpson

Enclosed are the analytical results for samples received by the laboratory 11/22/2024 11:20.

The results relate to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services LLC Kentucky - Madisonville

If you have any questions concerning this report, please feel free to contact me.

#460210 Madisonville, KY
#460291 Pikeville, KY
#E871136 Englewood, OH

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Melissia Brown, Project Coordinator

Pace Analytical Services, LLC
P.O. Box 907
Madisonville, KY 42431
270.821.7375
www.pacelabs.com

SAMPLE SUMMARY

Lab ID	Client Sample ID/Alias	Matrix	Date Collected	Date Received	Sampled By
4115017-01	Low Level Mercury/20337875001 EFFLUENT	Wastewater	11/20/2024 07:45	11/22/2024 11:20	
4115017-02	Low Level Mercury Field Blank/20337875002 FIELD BLANK	Wastewater	11/20/2024 07:45	11/22/2024 11:20	

ANALYTICAL RESULTS

Lab Sample ID: **4115017-01**
Description: **Low Level Mercury 20337875001 EFFLUENT**
Sample Collection Date Time: 11/20/2024 07:45
Sample Received Date Time: 11/22/2024 11:20

Metals Analysis Madisonville

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Mercury	**0.6**		ng/L	0.5	0.3	EPA 1631E 2002	11/26/2024 12:26	11/27/2024 11:53	DMH

ANALYTICAL RESULTS

Lab Sample ID: **4115017-02**
Description: **Low Level Mercury Field Blank 20337875002 FIELD BLANK**
Sample Collection Date Time: 11/20/2024 07:45
Sample Received Date Time: 11/22/2024 11:20

Metals Analysis Madisonville

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Mercury	**0.5**		ng/L	0.5	0.3	EPA 1631E 2002	11/26/2024 12:26	11/27/2024 11:22	DMH

Pace Analytical Services, LLC
P.O. Box 907
Madisonville, KY 42431
270.821.7375
www.pacelabs.com

Notes for work order 4115017

- Samples collected by PACE personnel are done so in accordance with procedures set forth in PACE field services SOPs .
- Results contained in this report are only representative of the samples received.
- PACE does not provide interpretation of these results unless otherwise stated .
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identification based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.

Qualifiers

U	Target analyte was analyzed for, but was below detection limit (the value associated with the qualifier is the laboratory method detection limit in our LIMS system).

Standard Qualifiers/Acronyms

MDL	Method Detection Limit
MRL	Minimum Reporting Limit
ND	Not Detected
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
% Rec	Percent Recovery
RPD	Relative Percent Difference
>	Greater than
<	Less than

Pace Analytical Services, LLC
P.O. Box 907
Madisonville, KY 42431
270.821.7375
www.pacelabs.com

Metals Analysis Madisonville - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch BDK2766 - Default Prep Metals										
Blank (BDK2766-BLK1)										
Prepared: 11/26/2024 12:26, Analyzed: 11/27/2024 9:43										
Mercury	ND	0.5	ng/L							U
Mercury	ND	0.5	ng/L							U
Blank (BDK2766-BLK2)										
Prepared: 11/26/2024 12:26, Analyzed: 11/27/2024 9:51										
Mercury	ND	0.5	ng/L							U
Mercury	ND	0.5	ng/L							U
Blank (BDK2766-BLK3)										
Prepared: 11/26/2024 12:26, Analyzed: 11/27/2024 9:58										
Mercury	ND	0.5	ng/L							U
Mercury	ND	0.5	ng/L							U
LCS (BDK2766-BS1)										
Prepared: 11/26/2024 12:26, Analyzed: 11/27/2024 10:06										
Mercury	5.6	0.5	ng/L	5.00		112	77-123			
Mercury	5.6	0.5	ng/L	5.00		112	77-123			
Matrix Spike (BDK2766-MS1)	**Source: 4115017-01**									
Prepared: 11/26/2024 12:26, Analyzed: 11/27/2024 12:39										
Mercury	6.3	0.5	ng/L	5.00	0.6	115	71-125			
Mercury	6.3	0.5	ng/L	5.00	0.6	115	71-125			
Matrix Spike (BDK2766-MS2)	**Source: 4114975-04**									
Prepared: 11/26/2024 12:26, Analyzed: 11/27/2024 12:54										
Mercury	7.7	0.5	ng/L	5.00	3.0	92.4	71-125			
Mercury	7.7	0.5	ng/L	5.00	3.0	92.4	71-125			
Matrix Spike Dup (BDK2766-MSD1)	**Source: 4115017-01**									
Prepared: 11/26/2024 12:26, Analyzed: 11/27/2024 12:47										
Mercury	6.3	0.5	ng/L	5.00	0.6	114	71-125	0.919	24	
Mercury	6.3	0.5	ng/L	5.00	0.6	114	71-125	0.919	24	
Matrix Spike Dup (BDK2766-MSD2)	**Source: 4114975-04**									
Prepared: 11/26/2024 12:26, Analyzed: 11/27/2024 13:02										
Mercury	8.3	0.5	ng/L	5.00	3.0	106	71-125	8.55	24	
Mercury	8.3	0.5	ng/L	5.00	3.0	106	71-125	8.55	24	

Certified Analyses included in this Report

Analyte	Certifications
EPA 1631E 2002 in Water	
Mercury	VA NELAC MDV (460210) KY Wastewater Mdv (00030)
Mercury	VA NELAC MDV (460210) KY Wastewater Mdv (00030) WV Wastewater Madisonville (241), 825 Industrial Rd Madisonville, KY 42431

Pace Analytical Services, LLC
P.O. Box 907
Madisonville, KY 42431
270.821.7375
www.pacelabs.com

Sample Acceptance Checklist for Work Order 4115017

Shipped By: Fed Ex

Temperature: 2.50° Celcius

Condition	
Check if Custody Seals are Present/Intact	☐
Check if Custody Signatures are Present	☑
Check if Collector Signature Present	☐
Check if bottles are intact	☑
Check if bottles are correct	☑
Check if bottles have sufficient volume	☑
Check if samples received on ice	☑
Check if VOA headspace is acceptable	☐
Check if samples received in holding time.	☑
Check if samples are preserved properly	☑

Internal Transfer Chain of Custody

4/15/2017

Pace

☐ Rush Multiplier____X
☐ Samples Pre-Logged into eCOC

State Of Origin: AL
Cert. Needed: ☐ Yes ☐ No

Workorder: 20337875 **Workorder Name:** LL Hg/Amenable Cyanide

Owner Received Date: 11/20/2024 **Results Requested By:** 12/6/2024

Report To	Subcontract To
Cindy Simpson Pace Analytical Tuscaloosa 1168 Whigham Place Tuscaloosa, AL 35405 Phone (205)614-6630	Pace Analytical Madisonville 825 Industrial Rd Madisonville, KY 42431 Phone 270-824-2211

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HNO3						Requested Analysis: Low Level Mercury												LAB USE ONLY
1	Effluent	PS	11/20/2024 07:45	20337875001	Water	1						X												
2	Field Blank	PS	11/20/2024 07:45	20337875002	Water	1						X												
3																								
4																								
5																								

Transfers	Released By	Date/Time	Received By	Date/Time
1		11-21-24 800		11/21/24 1120
2				
3				

Comments

Cooler Temperature on Receipt ____ °C	Custody Seal Y or N	Received on Ice Y or N	Samples Intact Y or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.*

Thermometer Serial Number
✓ 230753815
240381205
Temperature 2.5 °C

Pace

INTER_LABORATORY WORK ORDER # 20337875

(To be completed by sending lab)

Ship To:
Pace Analytical Madisonville
825 Industrial Rd
Madisonville, KY 42431
Phone 270-824-2211

Sending Project No:	20337875
Receiving Project No:	
Check Box for Consolidated Invoice:	☐
Date Prepared:	11/20/24
REQUESTED COMPLETION DATE:	12/6/2024

Sending Region	IR20-New Orleans	Sending Project Mgr.	Cindy Simpson
Receiving Region	IR44-Madisonville	External Client	City of Helena Utilities Board -Sewer
State of Sample Origin	AL	QC Deliverable	STD REPORT

All questions should be addressed to sending project manager.

Requested Reportable Units _____ Report Wet or Dry Weight? Wet Cert. Needed _____

WORK REQUESTED

Method Description	Container Type	Quantity of containers	Preservative	Quantity of Samples	Acode	Acode Desc
Low Level Mercury	BP3N		HNO3	2	SI-21WET0	SUB PASI WTA

Special Requirements: Simple, not TNI Compliant (NTC),FR Only no EDD (0)

FOR ANALYTICAL WORK COMPLETED THIS SECTION ALSO

Return Samples to Sending Region: ☐ Yes ☐ No

DISPOSITION of FORM

Original sent to the receiving lab - Copy kept at the sending lab.

When work completed: Original sent to the ABM at the receiving laboratory. Copies are made to corporate as needed.

Pace Analytical Services, LLC
3516 Greensboro Avenue
Tuscaloosa, AL 35401
(205)614-6630

November 30, 2021

Mr. Keith Sims
City of Helena Utilities Board
P. O. Box 427
Helena, AL 35080

RE: Project: Helena Chronic Tox AL0023116
Pace Project No.: 20224420

Dear Mr. Sims:

Enclosed are the analytical results for sample(s) received by the laboratory between November 01, 2021 and November 05, 2021. This report is a summary of the results based upon our understanding of your data quality objectives. Please contact us if itemized quality control results are needed. These results relate only to the samples included in this report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:
- Pace Analytical Services - SE Kansas

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Cindy Simpson

Cindy Simpson
cindy.simpson@pacelabs.com
(205)614-6630
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3516 Greensboro Avenue
Tuscaloosa, AL 35401
(205)614-6630

CERTIFICATIONS

Project: Helena Chronic Tox AL0023116
Pace Project No.: 20224420

Pace Analytical Services Southeast Kansas
808 West McKay, Frontenac, KS 66763
Arkansas Certification #: 18-016-0
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10426
Louisiana Certification #: 03055
Oklahoma Certification #: 9935
Texas Certification #: T104704407
Utah Certification #: KS00021

Pace Analytical Services, LLC
3516 Greensboro Avenue
Tuscaloosa, AL 35401
(205)614-6630

SAMPLE ANALYTE COUNT

Project: Helena Chronic Tox AL0023116
Pace Project No.: 20224420

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
20224420001	**Day 1 Monday WWTP Effluent**	EPA 821/R-02/013	TDH	1	PASI-SEKS

PASI-SEKS = Pace Analytical Services - SE Kansas

Pace Analytical Services, LLC
3516 Greensboro Avenue
Tuscaloosa, AL 35401
(205)614-6630

ANALYTICAL RESULTS

Project: Helena Chronic Tox AL0023116
Pace Project No.: 20224420

Sample: Day 1 Monday WWTP Effluent **Lab ID: 20224420001** Collected: 11/01/21 08:00

Parameters	Results	Units	Report Limit	DF	Qualifiers
Toxicity, Chronic	**Complete**		1.0	1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
3516 Greensboro Avenue
Tuscaloosa, AL 35401
(205)614-6630

QUALIFIERS

Project: Helena Chronic Tox AL0023116
Pace Project No.: 20224420

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	City of Helena Utilitres Board -Sewer	Report To:	Keith Sims	Attention:	
Address:	P. O. Box 427	Copy To:		Company Name:	
Helena, AL 35080				Address:	
Email:	ksims@cityofhelena.org	Purchase Order #:		Pace Quote:	
Phone:	205-746-5098 Fax:	Project Name:	Helena Chronic Tox AL0023116	Pace Project Manager:	cindy.simpson@pacelabs.com,
Requested Due Date:		Order #:	557045	Pace Profile #:	14176

Regulatory Agency

State / Location: AL

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: Chronic Toxicity	Residual Chlorine (Y/N)
1	WWTP Effluent Comp 24 48%	WT	C24	11-4	8:00	11-5	8:00		3	3									X	
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

WO#: 20224420

20224420

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Mike Bailey	11/5/21	955	Charlie Nelson	11/5/21	955	
	Charlie Nelson	11/5/21	140	[illegible]	11.5.21	1340	

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
0	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Mike Bailey

SIGNATURE of SAMPLER: Mike Bailey

DATE Signed:

WO#: 2022442U

PM: CRS Due Date: 11/15/21

CLIENT: TU-HelenaWW

Pace Analytical

Pace Analytical Services, LLC Tuscaloosa, AL
Pace Analytical Services, LLC - Montgomery, AL

Sample Condition Upon R

Project #: 20

Courier: ☐ Pace Courier ☐ Hired Courier ☐ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] Custody Seals intact: ☐Yes ☐No

Therometer Used:	TUTM-15

Type of Ice: Wet Blue None Samples on ice: [see COC]

Cooler Temperature: [see COC] Temp should be above freezing to 6°C

Date and Initials of person examining contents: bC 11.5.21

Temp must be measured from Temperature blank when present

					Comments:
Temperature Blank Present"?	☐Yes	☐No	☐N/A	1	
Chain of Custody Present:	☐Yes	☐No	☐N/A	2	
Chain of Custody Complete:	☐Yes	☐No	☐N/A	3	
Chain of Custody Relinquished:	☐Yes	☐No	☐N/A	4	
Sampler Name & Signature on COC:	☐Yes	☐No	☐N/A	5	
Samples Arrived within Hold Time:	☐Yes	☐No	☐N/A	6	
Sufficient Volume:	☐Yes	☐No	☐N/A	7	
Correct Containers Used:	☐Yes	☐No	☐N/A	8	
Filtered vol. Rec. for Diss. tests	☐Yes	☐No	☐N/A	9	
Sample Labels match COC:	☐Yes	☐No	☐N/A	10	
All containers received within manafacture's precautionary and/or expiration dates.	☐Yes	☐No	☐N/A	11	
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	☐Yes	☐No	☐N/A	12	
All containers preservation checked found to be in compliance with EPA recommendation.	☐Yes	☐No	☐N/A	13	If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☐N/A	14	
Trip Blank Present:	☐Yes	☐No		15	

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	City of Helena Utilities Board -Sewer	Report To:	Keith Sims	Attention:	
Address:	P. O. Box 427	Copy To:		Company Name:	
Helena, AL 35080				Address:	
Email:	ksims@cityofhelena.org	Purchase Order #:		Pace Quote:	
Phone:	205-746-5098 Fax:	Project Name:	Helena Chronic Tox AL0023116	Pace Project Manager:	cindy.simpson@pacelabs.com,
Requested Due Date:		Order #:	557045	Pace Profile #:	14176

Regulatory Agency
State / Location
AL

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test	Chronic Toxicity	Residual Chlorine (Y/N)
1	WWTP Effluent Comp 24 48%	WT	C24	11-2	8:05	11-3	8:05		3	3									X	
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

WO#: 20224420

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Mike Bailey	11-3	8:57	Brett Green	11-3	8:57	0.3
	Brett Green	11-3	1:32	Doug Waldrop	113	1 32	0.3

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Mike Bailey

SIGNATURE of SAMPLER: Mike Bailey DATE Signed:

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

WO#: 20224420

PM: CRS Due Date: 11/15/21

CLIENT: TU-HelenaWW

Pace Analytical

Pace Analytical Services, LLC - Tuscaloosa, AL
Pace Analytical Services, LLC - Montgomery, AL

Sample Condition Upon I Pro

Courier: ☐ Pace Courier ☐ Hired Courier ☐ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals intact:** ☐Yes ☐No

Therometer Used:	

Type of Ice: Wet Blue None Samples on ice [see COC]

Cooler Temperature [see COC] Temp should be above freezing to 6°C

Date and Initials of person examining contents: BG 11-3-21

Temp must be measured from Temperature blank when present

				Comments
Temperature Blank Present"?	☐Yes	☐No	☐N/A	1
Chain of Custody Present:	☑Yes	☐No	☐N/A	2
Chain of Custody Complete.	☑Yes	☐No	☐N/A	3
Chain of Custody Relinquished	☑Yes	☐No	☐N/A	4
Sampler Name & Signature on COC.	☑Yes	☐No	☐N/A	5
Samples Arrived within Hold Time	☑Yes	☐No	☐N/A	6
Sufficient Volume	☑Yes	☐No	☐N/A	7
Correct Containers Used:	☑Yes	☐No	☐N/A	8
Filtered vol Rec. for Diss. tests	☐Yes	☐No	☑N/A	9
Sample Labels match COC	☑Yes	☐No	☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates	☑Yes	☐No	☐N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	☑Yes	☐No	☐N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO_3 _____ H_2SO_4 _____
Headspace in VOA Vials (>6mm).	☐Yes	☐No	☑N/A	14
Trip Blank Present	☐Yes	☑No		15

Client Notification/ Resolution.

Person Contacted _____ Date/Time: _____

Comments/ Resolution _____

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	City of Helena Utilities Board -Sewer	Report To:	Keith Sims	Attention:	
Address:	P. O. Box 427	Copy To:		Company Name:	
Helena, AL 35080				Address:	
Email:	ksims@cityofhelena.org	Purchase Order #:		Pace Quote:	
Phone:	205-746-5098 Fax:	Project Name:	Helena Chronic Tox AL0023116	Pace Project Manager:	cindy.simpson@pacelabs.com,
Requested Due Date:		Order #:	557045	Pace Profile #:	14176

Regulatory Agency

State / Location: AL

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Y/N	Analyses Test: Chronic Toxicity	Residual Chlorine (Y/N)
1	WWTP Effluent Comp 24 48%	WT	C24	10-31	8:00	11-1	8:00		3	3									X	
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

WO#: 20224420

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Mike Bailey	11-1-21	1250	J.L.R.I Co-Ltd	11-1-21	1250	
	J.L.R.I Co-Ltd	11-1-21	1350	B. Cruz 11-01-21 1350			

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Mike Bailey

SIGNATURE of SAMPLER: Mike Bailey

DATE Signed: 11-1-21

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Y	N	Y

WO#: 20224420

PM: CRS Due Date: 11/15/21

CLIENT: TU-HelenaWW

Pace Analytical

Pace Analytical Services, LLC - Tuscaloosa, AL
Pace Analytical Services, LLC - Montgomery, AL

Sample Condition Upon Receipt

Project #: [illegible]

Courier: ☑ Pace Courier ☐ Hired Courier ☐ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] Custody Seals intact: ☐Yes ☐No

Therometer Used:	TU (mid)

Type of Ice: Wet Blue None Samples on ice: [see COC]

Cooler Temperature. [see COC] Temp should be above freezing to 6°C

Date and Initials of person examining contents: BC 11/5/21

Temp must be measured from Temperature blank when present

				Comments
Temperature Blank Present"?	☐Yes	☐No	☑N/A	1
Chain of Custody Present:	☑Yes	☐No	☐N/A	2
Chain of Custody Complete:	☑Yes	☐No	☐N/A	3
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	4
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	5
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	6
Sufficient Volume:	☑Yes	☐No	☐N/A	7
Correct Containers Used:	☑Yes	☐No	☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes	☐No	☑N/A	9
Sample Labels match COC:	☑Yes	☐No	☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☑Yes	☐No	☐N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	☑Yes	☐No	☐N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	14
Trip Blank Present:	☐Yes	☑No		15

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

November 16, 2021

Cindy Simpson
Pace NOLA

,

RE: Project: 20224420 HELENA AL0023116
Pace Project No.: 60384829

Dear Cindy Simpson:

Enclosed are the analytical results for sample(s) received by the laboratory on November 02, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:
- Pace Analytical Services - SE Kansas

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Nolie Wood
nolie.wood@pacelabs.com
1(913)563-1401
Project Manager

Enclosures

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: 20224420 HELENA AL0023116
Pace Project No.: 60384829

Pace Analytical Services Southeast Kansas
808 West McKay, Frontenac, KS 66763
Arkansas Certification #: 18-016-0
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10426
Louisiana Certification #: 03055
Oklahoma Certification #: 9935
Texas Certification #: T104704407
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: 20224420 HELENA AL0023116
Pace Project No.: 60384829

Lab ID	Sample ID	Matrix	Date Collected	Date Received
20224420001	**DAY 1 WWTP EFF**	Water	11/01/21 08:00	11/02/21 09:45

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE ANALYTE COUNT

Project: 20224420 HELENA AL0023116
Pace Project No.: 60384829

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
20224420001	DAY 1 WWTP EFF	EPA 821/R-02/013	TDH	1	PASI-SE

PASI-SE = Pace Analytical Services - SE Kansas

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

PROJECT NARRATIVE

Project: 20224420 HELENA AL0023116
Pace Project No.: 60384829

Method: **EPA 821/R-02/013**
Description: Chronic Toxicity
Client: PASI New Orleans
Date: November 16, 2021

General Information:
1 sample was analyzed for EPA 821/R-02/013 by Pace Analytical Services SE Kansas. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: 20224420 HELENA AL0023116
Pace Project No.: 60384829

Sample: DAY 1 WWTP EFF **Lab ID: 20224420001** Collected: 11/01/21 08:00 Received: 11/02/21 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Chronic Toxicity	Analytical Method: EPA 821/R-02/013 Pace Analytical Services - SE Kansas							
Toxicity, Chronic	**Complete**		1.0	1		11/02/21 13:00		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: 20224420 HELENA AL0023116
Pace Project No.: 60384829

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 20224420 HELENA AL0023116
Pace Project No.: 60384829

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
20224420001	**DAY 1 WWTP EFF**	EPA 821/R-02/013	755600		

REPORT OF LABORATORY ANALYSIS

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO#: 60384829

60384829

Cindy Simpson 20224420

Client Name: Helena

Courier: FedEx ☐ UPS X ~~VIA~~ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐
BP 11-2-21

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No X

Custody Seal on Cooler/Box Present: Yes X No ☐ Seals intact: Yes X No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None X Other ☐

Thermometer Used: T-243 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 3.9 Corr. Factor -1.1 Corrected 2.8

Date and initials of person examining contents: BP 11-2-21 ~~BP 11.2~~ 945

Temperature should be above freezing to 6°C

Chain of Custody present:	XYes ☐No ☐N/A	
Chain of Custody relinquished	~~☐~~Yes ☐No ☐N/A	
Samples arrived within holding time:	~~☐~~Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	XYes ☐No ☐N/A	
Rush Turn Around Time requested:	☐Yes XNo ☐N/A	
Sufficient volume:	XYes ☐No ☐N/A	
Correct containers used:	XYes ☐No ☐N/A	
Pace containers used:	XYes ☐No ☐N/A	
Containers intact:	XYes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No XN/A	
Filtered volume received for dissolved tests?	☐Yes ☐No XN/A	
Sample labels match COC: Date / time / ID / analyses	XYes ☐No ☐N/A	
Samples contain multiple phases? Matrix:	☐Yes XNo ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	☐Yes ☐No XN/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No XN/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No XN/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No XN/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No Xx/A	

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Internal Transfer Chain of Custody

☐ Samples Pre-Logged into eCOC.

State Of Origin: AL

Cert. Needed: ☐ Yes ☐ No

Pace Analytical® www.pacelabs.com

Workorder: 20224420 Workorder Name: Helena Chronic Tox AL0023116

Owner Received Date: 11/1/2021 Results Requested By: 11/15/2021

Report To	Subcontract To
Cindy Simpson Pace Analytical Tuscaloosa 3516 Greensboro Avenue Tuscaloosa, AL 35401 Phone (205)614-6630	Pace Analytical SE Kansas 808 West McKay Frontenac, KS 66763 Phone (620)235-0003

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved						Requested Analysis: Chronic Toxicity Day1												LAB USE ONLY
1	Day 1 Monday WWTP Effluent	PS	11/1/2021 08:00	20224420001	Water	1						X												603848-001
2																								
3																								
4																								
5																								

Transfers	Released By	Date/Time	Received By	Date/Time
1	R Gray 11-01-21	1445		11-2 945
2				
3				

Comments: IR62 IWC dilution is 48%.

Cooler Temperature on Receipt 2.8 °C | Custody Seal (Y) or N | Received on Ice (Y) or N | Samples Intact (Y) or N

Sample

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.

Pace Analytical
www.pacelabs.com

Ship To:
Pace Analytical SE Kansas
808 West McKay
Frontenac, KS 66763
Phone (620)235-0003

INTER_LABORATORY WORK ORDER # 20224420
(To be completed by sending lab)

Sending Project No:	20224420
Receiving Project No:	
Check Box for Consolidated Invoice:	☐
Date Prepared:	11/01/21
REQUESTED COMPLETION DATE:	**11/15/2021**

Sending Region	IR20-New Orleans	Sending Project Mgr.	Cindy Simpson
Receiving Region	IR62-SE Kansas	External Client	City of Helena Utilities Board -Sewer
State of Sample Origin	AL	QC Deliverable	STD REPORT

All questions should be addressed to sending project manager.

Requested Reportable Units _____ Report Wet or Dry Weight? Wet Cert. Needed _____

WORK REQUESTED

Method Description	Container Type	Quantity of containers	Preservative	Quantity of Samples	Unit Price	Amount
Chronic Toxicity Day1	BP1U		Unpreserved	1	$750.00	$750.00
					TOTAL	$750.00

Special Requirements: Simple, not TNI Compliant (NTC),FR Only no EDD (0)

Receiving Region Department	Acctg. Code	Totals from above	Revenue Allocation	
			Receiving Region (80%)	Client Services Dept. Sending Region (20%)
Wet Chemistry	21	$750.00	$600.00	$150.00
* Custom Revenue Allocation	**TOTAL**	$750.00	$600.00	$150.00

FOR ANALYTICAL WORK COMPLETED THIS SECTION ALSO

Return Samples to Sending Region: ☐ Yes ☐ No

DISPOSITION of FORM

Original sent to the receiving lab - Copy kept at the sending lab.

When work completed: Original sent to the ABM at the receiving laboratory. Copies are made to corporate as needed.

REFERENCE #60384829

CHRONIC TOXICITY TEST FOR CITY OF HELENA WWTP

PERMIT # AL0023116

PERFORMED ON:

Pimephales promelas

and

Ceriodaphnia dubia

PREPARED FOR:

City of Helena WWTP
PO Box 427
Helena, Alabama 35080

PREPARED BY:
Pace Analytical Services, Inc.
808 West McKay
Frontenac, KS 66763
1-620-235-0003

November 11, 2021

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SUMMARY

A Chronic Whole Effluent Toxicity Test using the 7-day chronic fathead minnows (Pimephales promelas), static renewal larval survival and growth test, and three brood 7-day chronic Cladoceran (Ceriodaphnia dubia), static renewal survival and reproduction test, was conducted on effluent discharge water collected at CITY OF HELENA WWTP effluent discharge from November 1, 2021 to November 5, 2021, 2020. All the test methods followed are as listed in EPA 821-R-02-013, "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms."

Statistically significant ($p<0.05$) mortality is determined by Dunnet's procedure using average percent survival of each test concentration versus the average survival of the controls. If significant mortality occurs, median lethal concentrations are calculated using effluent concentrations and their corresponding percent mortality data. The 95% confidence intervals are calculated where appropriate by the Spearman-Karber method. Statistical analysis is accomplished by following steps in EPA 821-R-02-013, November 2002 and by use of Toxstat version 3.4.

In minnow section of testing, it was observed that the effluent had no significant effect on the survival of the larvae at the 48% concentration after the 7-day exposure period. The No Observed Effect Concentration (NOEC) was determined to be 48% for survival. No significant reduction in growth was observed in the 48% effluent concentration. The Toxic Units is <2.08. The IC25 is >48. The NOEC for growth in effluent was determined to be 48%.

In Cladoceran section of testing, it was observed that the effluent had no significant effect on the survival of the organisms in the 48% effluent concentration. No significant mortality was observed in the other effluent concentrations after the 7-day exposure period. The No Observed Effect Concentration (NOEC) was determined to be 48% for survival. No significant reduction in reproduction was observed in the 48% effluent concentrations. The Toxic Units is <2.08. The IC25 is >48. The NOEC for reproduction in effluent was determined to be 48%.

The chronic toxicity exhibited by the fathead minnows and the Ceriodaphnia treated by the effluent sampled from November 1 to November 5 from the CITY OF HELENA WWTP effluent discharge, is acceptable as described in EPA 821-R-02-013.

INTRODUCTION

Pace Analytical was contracted to perform this chronic toxicity test on effluent from CITY OF HELENA WWTP effluent discharge. Chronic toxicity was measured using the Pimephales promelas at larval for survival and growth test and the Ceriodaphnia dubia survival and reproduction test described in EPA 821-R-02-013, "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms." The raw data of the study is stored at Pace Analytical Services, INC. 808 West McKay, Frontenac, KS 66763.

TEST MATERIAL

CITY OF HELENA WWTP personnel collected sampling of the effluent. A sample of the effluent was delivered to Pace by commercial carrier on 11-2-21. Subsequent samples followed by delivery on 11-4-21, and on 11-6-21. All samples were stored at ≤ 6° Celsius. Moderately Hard Synthetic Water was used as a control in the test as described in EPA 821-R-02-013.

TEST METHODS

Pace used EPA test method 1000.0 for conducting the Fathead Minnow, Pimephales promelas, Larval Survival and Growth Test. EPA test method 1002.0 was used for conducting the Cladoceran, Ceriodaphnia dubia, Survival and Reproduction Test. The tests were conducted to estimate the NOEC, and LOEC for survival, growth, and reproduction of these test species.

The Pimephales and Ceriodaphnia tests were initiated on 11-2-21 and carried out until 11-9-21. The Pimephales tests were conducted in 500 ml plastic jars with 250 ml of test solution. Ten larvae were placed in each of at least 4 replicates to make a total of 40 larvae per sample concentration. The Ceriodaphnia tests were carried out in 35ml vials containing 25 ml of test solution. One Neonate was placed in each of 10 replicates to make a total of 10 neonates per sample concentration.

TEST ORGANISMS

The organisms used in these tests were cultured at Pace under controlled temperature and photoperiod conditions and/or were purchased from an external supplier. Pace maintains records of all culture techniques used in producing organisms.

TABLE 1

Permittee: CITY OF HELENA WWTP Effluent discharge.

Date Sampled No. 1: 11-1-21 8:00

No. 2: 11-3-21 8:05

No. 3: 11-5-21 8:00

Test Initiated: 13:00 Date: 11-2-21

Dilution Water used: Moderately Hard Synthetic Water

FATHEAD MINNOW LARVAE GROWTH AND SURVIVAL
(Pimephales promelas)

DATA TABLE FOR GROWTH OF FATHEAD MINNOWS

Effluent Concentration (%)	Average Dry Weight in Milligrams in Replicate Chambers A	B	C	D	Mean Dry Weight (mg)	CV% *
Control 0%	0.549	0.553	0.561	0.531	0.548	2.31
Dilution 1 48%	0.589	0.616	0.626	0.558	0.597	5.10

* Coefficient of Variation = Standard Deviation X 100 / Mean

Permittee: CITY OF HELENA WWTP Effluent discharge.

FATHEAD MINNOW SURVIVAL

Conc. %	Percent Survival in Replicate Chambers A	B	C	D	Mean Percent Survival 24hr	48hr	7 day	CV %
Control 0%	100	100	100	100	100	100	100	0.0
Dilution 1 100%	100	100	100	100	100	100	100	0.0

Permittee: CITY OF HELENA WWTP Effluent discharge.

CERIODAPHNIA SURVIVAL AND REPRODUCTION

DATA TABLE FOR CERIODAPHNIA YOUNG PRODUCTION

Replicate	Control 0%	Dilution 1 100%
1	18	28
2	24	22
3	25	22
4	26	24
5	23	27
6	22	26
7	24	32
8	22	26
9	19	32
10	27	24
Mean	23.0	26.3
SD	2.867	3.592
CV %	12.47	13.66

Permittee: CITY OF HELENA WWTP Effluent discharge.

CERIODAPHNIA MEAN PERCENT SURVIVAL

Time Elapsed	Control 0%	Dilution 1 100%
24 hrs	100	100
48 hrs	100	100
7-day	100	100
SD	0.000	0.000
CV %	0.00	0.00

TABLE 2
SUMMARY OF TEST CONDITIONS FOR THE FATHEAD MINNOW (Pimephales promelas) LARVAL SURVIVAL AND GROWTH TEST

1. Test type	Static renewal
2. Temperature	25 degrees Celsius
3. Light quality	Ambient laboratory light
4. Light intensity	Ambient laboratory levels
5. Photoperiod	16 hr light, 8 hr dark
6. Test chamber size	500 ml
7. Test solution volume	250 ml
8. Renewal of test concentrations	Daily
9. Age of test organism	< 24 hours
10. No. larvae/chamber	10
11. No. replicates/concentration	4
12. No. larvae/concentration	40
13. Feeding regime	Feed 0.15 g newly hatched brine shrimp nauplii two times daily. Larvae are not fed 12 hours prior to termination of test.
14. Cleaning	Siphon daily, immediately before test solution renewal
15. Aeration	None
16. Dilution Water	Moderately Hard Synthetic Water
17. Effluent concentrations	0%, 100%
18. Test duration	7 days
19. Endpoints	Survival and growth
20. Test acceptability	80% or greater survival in the controls, Average dry weight in controls >0.25 mg, Coefficient of variation in the control must not exceed 40%.

TABLE 2 (CONT.)
SUMMARY OF TEST CONDITIONS FOR THE CLADOCERAN (Ceriodaphnia dubia) SURVIVAL AND REPRODUCTION TEST

1. Test type	Static renewal
2. Temperature	25 degrees Celsius
3. Light quality	Ambient laboratory light
4. Light intensity	Ambient laboratory levels
5. Photoperiod	16 hr light, 8 hr dark
6. Test chamber size	30 ml
7. Test solution volume	25 ml
8. Renewal of test concentrations	Daily
9. Age of test organism	< 24 hours
10. No. larvae/chamber	1
11. No. replicates/concentration	10
12. No. larvae/concentration	10
13. Feeding regime	Feed 0.1 ml YCT and 0.1 ml of Algae daily. Larvae are not fed 12 hours prior to termination of test.
14. Cleaning	Siphon daily, immediately before test solution renewal
15. Aeration	None
16. Dilution Water	Moderately Hard Synthetic Water
17. Effluent concentrations	0%, 100%
18. Test duration	Until 60% or more surviving control females have three broods or a maximum of 8 days.
19. Endpoints	Survival and Reproduction
20. Test acceptability	80% or greater survival in the controls, Average reproduction rate of 15 young / adult. Coefficient of variation in the control must not exceed 40%.

TABLE 2 (SECTION 2)

BIOMONITORING CHRONIC TOXICITY REPORT
FATHEAD MINNOW (Pimephales promelas)
CHEMICAL PARAMETERS CHART

Permittee: CITY OF HELENA WWTP Effluent discharge.

ANALYSTS: Pace Analytical Services, Inc.
Timothy Harrell
Mike Bollin

TABLE 2 (SECTION 2)
INITIAL WATER QUALITY
EFFLUENT CONCENTRATION

	Control	100%
PH	7.4	7.7
D.O.	8.1	8.3
Temp	25.0	25.0
Alk	64	100
Hard	90	234
Cond	328	609
Chlorine	<0.1	<0.1

* D.O. is reported as mg/L
Alkalinity is reported as mg/L CaCO3
Hardness is reported as mg/L CaCO3
Conductance is reported as umhos
Chlorine is reported as mg/L

TEST WATER QUALITY

TEST WATER QUALITY

24-Hour Water Quality Measurements

Effluent Concentration (%)	PH	D.O. (mg/l)	Temperature (C)
0% Control	7.4	7.2	24.7
100% Effluent	8.2	7.0	24.7

48-Hour Water Quality Measurements

Effluent Concentration (%)	PH	D.O. (mg/l)	Temperature (C)
0% Control	7.5	7.7	24.7
100% Effluent	8.0	7.5	24.7

TEST VALIDITY

The Pimephales promelas control survival rate was 100. The mean dry weight (growth) of the Pimephales promelas was determined at 0.548 g/organism in the controls. The percent coefficient of variation (%CV) values for the fathead minnow control for survival and growth were 0.00 and 2.31. The Ceriodaphnia dubia survival rates were 100 in the control. The Ceriodaphnia in the control produced an average of 23.0 young over the seven-day exposure period. Percent CV values for Ceriodaphnia dubia control survival and reproduction was 0.00 and 12.47. Control data met or exceeded all criteria set out by EPA 821-R-02-013 for test acceptance.

APPENDIX C

REFERENCE TOXICANTS

The absence of significant control mortality during this test indicated the health of the organisms and indicated that any significant mortality in the test concentrations was not due to contaminants or variations in testing conditions.

Reference toxicity testing is routinely performed by staff members in our biomonitoring - bioassay laboratory.

Start: 10/19/21 11:00 End: 10/26/21 11:20

Reference Toxicant (NaCl) Pimephales promelas

Concentration of Toxicant	Avg. # of Live Organisms/replicate			
	0 hrs	24 hrs	48 hrs	7 days
10 g/l	40	7	2	0
8 g/l	40	36	23	5
6 g/l	40	40	38	25
4 g/l	40	40	40	38
2 g/l	40	40	40	40

IC25 (4.85 g/l Sodium Chloride)

Survival NOEC: 4.0 g/l

Reference Toxicant (NaCl) Ceriodaphnia Dubia

Concentration of Toxicant	Avg. # of Live Organisms/replicate			
	0 hrs	24 hrs	48 hrs	7 days
2.5 g/l	10	7	3	0
2.0 g/l	10	10	8	2
1.5 g/l	10	10	10	9
1.0 g/l	10	10	10	10
0.5 g/l	10	10	10	10

IC25 (1.14 g/l Sodium Chloride)

Survival NOEC: 1.5 g/l

Submitted By: Tim Harrell

Timothy Harrell
Technical Director

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
TOXICITY TEST REPORT SUMMARY

1. GENERAL:

NPDES PERMIT NO.: AL0023116 DSN: 0012 COUNTY: Shelby County
Permitee: City of Helena Utilities Board
Facility Name: Helena WWTP, 590 Old Towne Place, Helena, Alabama
Agent submitting Report: City of Helena Utilities Board, PO Box 427, Helena, AL 35080
Lab Conducting Toxicity Test(s): Pace Analytical, 808 West McKay, Frontenac, KS 66763
Months To Test:
This Report for Toxicity Test(s) Required for the Month of:
Scheduled Test(s): Yes X No ____ Accelerated Test(s): Yes ____ No X
Accelerated Test Number ____ of ____ For Failed Scheduled Test Date: ____
Test Type Required: 48-Hr Acute Screening: ____ -Hr Acute Definitive: ____
Short-term Chronic Screening: X Short-term Chronic Definitive: ____

Test Organism: *Pimephales promelas* Test Organism: *Ceriodaphnia dubia*

Sam No.	Date/Time Start MM/DD/YY HH:MM	Date/Time Ended MM/DD/YY HH:MM	Control Valid	Date/Time Start MM/DD/YY HH:MM	Date/Time Ended MM/DD/YY HH:MM	Control Valid
1	11/2/21 13:00	11/9/21 13:15	Yes	11/2/21 13:00	11/9/21 13:15	Yes

2A. SUMMARY OF RESULTS FOR SCREENING TEST:

Test Org.	Eff. Conc.	Test Number (1) Sur	(1) Rep	(1) Gro	(2) Sur	(2) Rep	(2) Gro	(3) Sur	(3) Rep	(3) Gro	(4) Sur	(4) Rep	(4) Gro
C.d.	48%	Pass	Pass										
P.p.	48%	Pass		Pass									

2B. SUMMARY OF RESULTS FOR DEFINITIVE TEST:

Test Organism	Test Solution Concentration (%)						LC50	NOEC	Not Determined

3. LABORATORY ANALYSIS OF UNDILUTED SAMPLES:

Sample ID	pH s.u.	Alk mg/L	Hard mg/L	Spec Cond umhos/cm					
1	7.7	100	234	609					
2	7.0	118	230	545					
3	7.3	112	216	568					

Municipal Facilities Only

Sample ID	Arsenic (g/L)	Cadium (g/L)	Chromium (g/L)	Copper (g/L)	Lead (g/L)	Hexavalent Chromium (g/L)
Sample ID	Mercury (g/L)	Nickel (g/L)	Silver (g/L)	Zinc (g/L)	Total Cyanide (g/L)	Other(s) (g/L)

Chemical Analysis Performed By (LAB): Pace Analytical.

Instantaneous Flow: (1) ____ GPM (2) ____ GPM (3) ____ GPM
Total 24-Hour Flow: (1) ____ MGD (2) ____ MGD (3) ____ MGD

Comments:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are sifnificant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF RESPONSIBLE OFFICIAL: ____ DATE: ____.

Facility Name: Helena WWTP NPDES #: AL0023116 DSN: 0012 Date: 11/11/21

4. SAMPLE COLLECTION:

Split Samples: N/A X Yes _____ (explain) _____

Samples Collected as Specified in the NPDES Permit: Yes X No (explain) _____

Receiving Water: Buck Creek Design Flow: 4.95 (MGD)

Sample ID	Sample(s) Collected MM/DD/YY HHMM - MM/DD/YY HHMM	Arrival Temp (C)	Used in Test(s) MM/DD/YY - MM/DD/YY
1	11/1/21 8:00	1.0	11/2-11/3/21
2	11/3/21 8:05	2.8	11/4-11/5/21
3	11/5/21 8:00	2.6	11/6-11/8/21

5. CONTROL / DILUTION WATER:

Type	Prepared MM/DD/YY	Begin Use MM/DD/YY	Initial Water Chemistries				
			Hard.	Alk.	pH	Cond.	@ °C
MHSW	10/31/21	11/2/21	90	64	7.4	328	25.0
MHSW	11/1/21	11/4/21	82	66	7.5	357	25.0

6. TOXICITY TEST INFORMATION:

Test Species	Organism Age	Organism Source	Test Solution Concentrations (%)					
Pp	<24 hrs	AquaTox	00	48				
Cd	<24 hrs	In-house Culture	00	48				

Test Species	Test Vessel Type	Vessel Vol. (mL)	Solution Vol. (mL)	Org. / Test Vessel	Replicates per Conc.
Pp	Plastic Beakers	500	250	10	4
Cd	Plastic Beakers	30	15	1	10

Test Species	Temp. Range (C)	D.O. Range (mg/L)	pH Range (s.u.)	Light Intensity Avg. (ft-c)
Pp	24.7-25.2	7.0-9.2	7.0-8.2	67.1
Cd	24.7-25.2	7.0-9.2	7.0-8.2	67.1

7. FEEDING:

Not Fed: _____ Fed Daily: X Fed Irregular: _____ (Explain in comments below)

Brine Shrimp:	Fed	0.15	mL Suspension of Newly Hatched Larvae	2	Times Daily.
YCT:	Fed	0.1	mL Suspension Containing	1.8	mg/L TSS Daily.
Algae:	Fed	0.1	mL Suspension Containing	$3.0x10^7$	Algal Cells/mL Daily.

COMMENTS: _____

Facility Name: Helena WWTP NPDES #: AL0023116 DSN: 0012 Date: 11/11/21

8. REFERENCE TOXICANT TESTS:

Toxicant: Sodium Chloride, NaCL Source: Fisher Lot 202332 CAS#: 7647-14-5

Solution concentration unit: mg/L ___ g/L X % ___ other (specify): ___

Test Org.	Test Date MM/DD - MM/DD	Control Water	Reference Test Solution Concentrations (Cont. to Highest Conc.)						
Pp	10/19/21-10/26/21	MHSW	00	2	4	6	8	10	
Cd	10/19/21-10/26/21	MHSW	00	.5	1.0	1.5	2.0	2.5	

Test Org.	Results	95% Confidence Interval	Upper and Lower CUSUM Chart Control Limit (This Test)	Number (N)
Pp	4.85	4.0012-5.3446	5.27-4.76	40
Cd	1.14	1.0104-1.2250	1.28-1.09	10

9. TEST CONDITION VARIABILITY:

9.A. Deviations From Standard Test Conditions:

9.B. Test Solution Manipulations or Test Modifications:

None.

10. REQUIRED REPORT ATTACHMENTS:

Attach copies of Chain-of-Custody Forms, Reference Toxicant Tests, and Raw Data (Bench Sheets) Pertaining to Physical, Chemical, and Biological Measurements for All Tests. Include Suspended, Interrupted, or Discontinued Toxicity Tests Data.

COMMENTS:

Facility Name Helena WWTP NPDES #: AL0023116 DSN: 0012 Date: 11/11/21

11.C. CHRONIC SCREENING TOXICITY TESTS RESULTS (Freshwater):

TEST ORGANISM: *Ceriodaphnia dubia*

Were Neonates Used to Begin the Test Within 8 Hours of the Same Age ?: Yes: X No:

Did 60% of the CONTROL Females Produce Their Third Brood ?: Yes: X No:

SURVIVAL

CHRONIC TOXICITY INDICATED: **YES** **NO X**

NO SURVIVAL STATISTICAL ANALYSIS NECESSARY: X

CONTROL(%) 24h **100** 48h **100** END **100** EFFLUENT(%) 24h **100** 48h **100** END **100**

Fishers Exact Test: A = B = a = b =

REPRODUCTION (Average Neonates/Female)

CHRONIC TOXICITY INDICATED: **YES** **NO X**

NO REPRODUCTION STATISTICAL ANALYSIS NECESSARY:

CONTROL(%) **23.0** EFFLUENT(%): **26.3**

Normally Distributed: YES X NO

Test Statistic: Critical Value: (Parametric)

Equal variance: Unequal variance:

F Statistic: 5.156 Critical F: 4.41

t - Test Statistic: t - Test Critical Value:

Sample Rank Sum: # Reps.: Critical Rank Sum (Non - Parametric)

COMMENTS: No Ceriodaphnia survival statistical analysis was necessary since effluent survival equaled control survival.

TEST ORGANISM: *Pimephale promelas*

SURVIVAL

CHRONIC TOXICITY INDICATED: **YES** **NO X**

NO SURVIVAL STATISTICAL ANALYSIS NECESSARY: X

CONTROL(%) 24h **100** 48h **100** END **100** EFFLUENT(%) 24h **100** 48h **100** END **100**

Normally Distributed: YES NO

Test Statistic: Critical Value: (Parametric)

Equal variance: Unequal variance:

F Statistic: 5.770 Critical F: 47.50

t - Test Statistic t - Test Critical Value:

Sample Rank Sum: # Reps. Critical Rank Sum (Non - Parametric)

GROWTH (Mean Dry Weight - mg)

CHRONIC TOXICITY INDICATED: **YES** **NO X**

NO GROWTH STATISTICAL ANALYSIS NECESSARY: X

CONTROL: **0.548** EFFLUENT: **0.597**

Normally Distributed YES NO

Test Statistic: Critical Value: (Parametric)

Equal variance: Unequal variance:

F Statistic: 8.722 Critical F: 5.99

t - Test Statistic t - Test Critical Value:

Sample Rank Sum. # Reps Critical Rank Sum: (Non - Parametric)

COMMENTS: No fathead minnow survival statistical analysis was necessary since effluent survival exceeded control survival. No fathead minnow growth statistical analysis was necessary since effluent growth exceeded control growth.

60384829 Helena FATHEAD SURVIVAL
File: 6384829A Transform: ARC SINE(SQUARE ROOT(Y))

Chi-square test for normality: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	0.536	1.936	3.056	1.936	0.536
OBSERVED	0	0	8	0	0

Calculated Chi-Square goodness of fit test statistic = 12.9424
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test. Continue analysis.

60384829 Helena FATHEAD SURVIVAL
File: 6384829A Transform: ARC SINE(SQUARE ROOT(Y))

Shapiro - Wilk's test for normality

D = 0.000

W = 0.000

Critical W (P = 0.05) (n = 8) = 0.818
Critical W (P = 0.01) (n = 8) = 0.749

Data FAIL normality test. Try another transformation.

Warning - The F-test of homogeneity is sensitive to non-normal data and should not be performed.

60384829 Helena FATHEAD SURVIVAL
File: 6384829A Transform: ARC SINE(SQUARE ROOT(Y))

Hartley's test for homogeneity of variance
Bartlett's test for homogeneity of variance

These two tests can not be performed because at least one group has zero variance.

Data FAIL to meet homogeneity of variance assumption.
Additional transformations are useless.

60384829 Helena FATHEAD SURVIVAL
File: 6384829A Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	CONTROL	4	1.412	1.412	1.412
2	48%	4	1.412	1.412	1.412

60384829 Helena FATHEAD SURVIVAL
File: 6384829A Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	CONTROL	0.000	0.000	0.000	0.00
2	48%	0.000	0.000	0.000	0.00

60384829 Helena FATHEAD GROWTH
File: 6384829B Transform: NO TRANSFORMATION

Shapiro - Wilk's test for normality

D = 0.003

W = 0.975

Critical W (P = 0.05) (n = 8) = 0.818
Critical W (P = 0.01) (n = 8) = 0.749

Data PASS normality test at P=0.01 level. Continue analysis.

60384829 Helena FATHEAD GROWTH
File: 6384829B Transform: NO TRANSFORMATION

F-Test for equality of two variances

GROUP	IDENTIFICATION	VARIANCE	F
1	CONTROL	0.000	
2	48%	0.001	5.770

Critical F = 47.50 (P=0.01, 3, 3)

Since F <= Critical F, FAIL TO REJECT Ho: Equal Variances.

60384829 Helena FATHEAD GROWTH
File: 6384829B Transform: NO TRANSFORMATION

Bartlett's test for homogeneity of variance
Calculated B1 statistic = 1.76

Table Chi-square value = 6.63 (alpha = 0.01, df = 1)
Table Chi-square value = 3.84 (alpha = 0.05, df = 1)

Data PASS B1 homogeneity test at 0.01 level. Continue analysis.

60384829 Helena FATHEAD GROWTH
File: 6384829B Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	CONTROL	4	0.531	0.561	0.548
2	48%	4	0.558	0.626	0.597

60384829 Helena FATHEAD GROWTH
File: 6384829B Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	CONTROL	0.000	0.013	0.006	2.31
2	48%	0.001	0.030	0.015	5.10

60384829 Helena FATHEAD GROWTH
File: 6384829B Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	1	0.005	0.005	8.722
Within (Error)	6	0.003	0.001	
Total	7	0.008		

Critical F value = 5.99 (0.05,1,6)
Since F > Critical F REJECT Ho: All equal

60384829 Helena FATHEAD GROWTH
File: 6384829B Transform: NO TRANSFORMATION

DUNNETT'S TEST - TABLE 1 OF 2 Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	CONTROL	0.548	0.548		
2	48%	0.597	0.597	-2.953	

Dunnett table value = 1.94 (1 Tailed Value, P=0.05, df=6,1)

60384829 Helena FATHEAD GROWTH
File: 6384829B Transform: NO TRANSFORMATION

DUNNETT'S TEST - TABLE 2 OF 2 Ho:Control<Treatment

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	CONTROL	4			
2	48%	4	0.032	5.8	-0.049

FISHER'S EXACT TEST

IDENTIFICATION	NUMBER OF ALIVE	NUMBER OF DEAD	TOTAL ANIMALS
CONTROL	10	0	10
48%	10	0	10
TOTAL	20	0	20

CRITICAL FISHER'S VALUE (10,10,10) (p=0.05) IS 6. b VALUE IS 10.
Since b is greater than 6 there is no significant difference between CONTROL and TREATMENT at the 0.05 level.

SUMMARY OF FISHER'S EXACT TESTS

GROUP	IDENTIFICATION	NUMBER EXPOSED	NUMBER DEAD	SIG (P=.05)
	CONTROL	10	0	
1	48%	10	0	

60384829 Helena CERIODAPHNIA DUBIA REP
File: 6384829E Transform: NO TRANSFORMATION

Chi-square test for normality: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	1.340	4.840	7.640	4.840	1.340
OBSERVED	1	5	9	3	2

Calculated Chi-Square goodness of fit test statistic = 1.3582
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test. Continue analysis.

60384829 Helena CERIODAPHNIA DUBIA REP
File: 6384829E Transform: NO TRANSFORMATION

F-Test for equality of two variances

GROUP	IDENTIFICATION	VARIANCE	F
1	CONTROL	8.222	
2	48%	12.900	1.569

Critical F = 6.54 (P=0.01, 9, 9)

Since F <= Critical F, FAIL TO REJECT Ho: Equal Variances.

60384829 Helena CERIODAPHNIA DUBIA REP
File: 6384829E Transform: NO TRANSFORMATION

Bartlett's test for homogeneity of variance
Calculated B1 statistic = 0.43

Table Chi-square value = 6.63 (alpha = 0.01, df = 1)
Table Chi-square value = 3.84 (alpha = 0.05, df = 1)

Data PASS B1 homogeneity test at 0.01 level. Continue analysis.

60384829 Helena CERIODAPHNIA DUBIA REP
File: 6384829E Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	CONTROL	10	18.000	27.000	23.000
2	48%	10	22.000	32.000	26.300

60384829 Helena CERIODAPHNIA DUBIA REP
File: 6384829E Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	CONTROL	8.222	2.867	0.907	12.47
2	48%	12.900	3.592	1.136	13.66

60384829 Helena CERIODAPHNIA DUBIA REP
File: 6384829E Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	1	54.450	54.450	5.156
Within (Error)	18	190.100	10.561	
Total	19	244.550		

Critical F value = 4.41 (0.05,1,18)
Since F > Critical F REJECT Ho: All equal

60384829 Helena CERIODAPHNIA DUBIA REP
File: 6384829E Transform: NO TRANSFORMATION

DUNNETT'S TEST - TABLE 1 OF 2 Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	CONTROL	23.000	23.000		
2	48%	26.300	26.300	-2.271	

Dunnett table value = 1.73 (1 Tailed Value, P=0.05, df=18,1)

60384829 Helena CERIODAPHNIA DUBIA REP
File: 6384829E Transform: NO TRANSFORMATION

DUNNETT'S TEST - TABLE 2 OF 2 Ho:Control<Treatment

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	CONTROL	10			
2	48%	10	2.514	10.9	-3.300

Chronic Toxicity

Pace Analy
www.pacelabs

Project Number: 60[redacted]29 20229420

Date and Time Arrived 11/2/21 945

Date and Time Used 11/2/21 1300

Age of Fish <24 hours old

Age of Water Fleas <24 hours old

Analyst TH MB

Synthetic Number F-9-34

Dilution water used: Synthetic X Upstream

Helena

chemical (TS 11/2/21) testonly

TS 11/9/21 11.6 .21

		SYN	Log1 100	Log2 100	Log3 100				
pH (S.U.)		7.4	7.7	7.0	7.3				
D.O. (mg/L)		8.1	8.3	9.2	8.1				
Temperature (°C)		25.0	25.0	25.0	25.0				
Alkalinity[1]	mL titrant	3.2	5	5.9	5.6				
	mg $CaCO_3$/L	64	100	118	112				
Hardness[2]	mL titrant	4.5	11.7	11.5	10.8				
	mg $CaCO_3$/L	90	234	230	216				
Conductance (µmhos/cm)		328	609	545	548				
Chlorine (mg/L)		<.1	<.1	<.1	<.1				

Comments: CT 67.1

[1] Section 17, ENV-SOP-LEN-0097, *Bioassay Chemical Tests.*
[2] Section 18, ENV-SOP-LEN-0097, *Bioassay Chemical Tests.*

Chronic Toxicity

Pace Analytical®
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Project Number: 60384829

Ceriodaphnia dubia Survival & Reproduction

	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	
Synthetic	0	0	0	0	0	9	9	0	
2				4	0	11	0	9	
3				3	0	11	0	11	
4				3	0	12	11	0	
5				0	0	10	0	13	
6				0	0	10	12	0	
7				0	4	12	0	8	
8				0	3	8	0	11	
9				4	3	0	12	0	
10				0	4	10	0	13	
48%	0	0	0	0	5	10	0	13	
2				3	7	0	12	0	
3				0	5	0	7	0	
4				0	4	0	8	12	
5				0	4	13	0	14	
6				0	4	7	0	15	
7				0	5	13	0	14	
8				4	0	10	0	12	
9				3	0	14	15	0	
10				5	7	0	12	0	

11-6-21

Chronic Toxicity

Pace Analytical®
www.pacelabs.com

Project Number: 60384829

Fathead Growth Oven: T- 138 As-Read 103 CF 0.0 Corrected: 103

	# Alive	Initial Weight (g)	Final Weight (g)	Difference (g)
~~Synthetic~~	10	1.02951	1.03500	0.00 549
2	↓	1.02525	1.03078	0.00 553
3	↓	1.02511	1.03072	0.00 561
4	10	1.03422	1.03953	0.00 531
5				0.00
48 %	10	1.03303	1.03892	0.00 589
2	↓	1.03641	1.04257	0.00 616
3	↓	1.04149	1.04775	0.00 626
4	↓	1.03208	1.03766	0.00 558
5				0.00
___%				0.00
2				0.00
3				0.00
4				0.00
5				0.00
___%				0.00
2				0.00
3				0.00
4				0.00
5				0.00
___%				0.00
2				0.00
3				0.00
4				0.00
5				0.00
___%				0.00
2				0.00
3				0.00
4				0.00
5				0.00
___%				0.00
2				0.00
3				0.00
4				0.00
5				0.00
___%				0.00
2				0.00
3				0.00
4				0.00
				0.00

In 1340

Out 900

Project Number: 60504027

Fathead Minnow Survival

	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Synthetic	10	10	10	10	10	10	10	10
2	↓	↓	↓	↓	↓	↓	↓	↓
3								
4								
5								
48 %	10	10	10	10	10	10	10	10
2	↓	↓	↓	↓	↓	↓	↓	↓
3								
4								
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Chronic Toxicity

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Project Number: 60384829

24-Hour Old Reading MB 1307

Eff Con.	SYN	48				100%	
pH (S.U.)	7.6	7.7					
D.O. (mg/L)	7.3	7.2					
Temp (°C)	25.0	25.0					

Renewed Reading

Eff Con.	SYN					100%	
pH (S.U.)	7.4	7.4					
D.O. (mg/L)	8.1	8.0					

24-Hour Old Reading BP 1315

Eff Con.	SYN					100%	
pH (S.U.)	7.7	7.7					
D.O. (mg/L)	7.4	7.1					
Temp (°C)	25.0	25.0					

Renewed Reading

Eff Con.	SYN					100%	
pH (S.U.)	7.5	7.5					
D.O. (mg/L)	7.8	7.9					

Final Wet Chemistry Ending Date and Time: 11/9/21 1315 MB

		SYN	48						
pH (S.U.)		7.7	7.7						
D.O. (mg/L)		7.1	7.0						
Temperature (°C)		25.2	25.2						
Alkalinity[1]	mL titrant	31	NA						
	mg $CaCO_3$/L	62							
Hardness[2]	mL titrant	4.7							
	mg $CaCO_3$/L	94							
Conductance (µmhos/cm)		360							
Chlorine (mg/L)		<0.1							

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Project Number: 60384829

24-Hour Old Reading TS 1305

Eff Con.	SYN	48				100%	
pH (S.U.)	7.4	8.2					
D.O. (mg/L)	7.2	7.0					
Temp (°C)	24.7	24.7					

Renewed Reading

Eff Con.	SYN					100%	
pH (S.U.)	7.4	7.0					
D.O. (mg/L)	7.9	7.7					

24-Hour Old Reading TS1310

Eff Con.	SYN					100%	
pH (S.U.)	7.5	8.0					
D.O. (mg/L)	7.7	7.5					
Temp (°C)	24.7	24.7					

Renewed Reading

Eff Con.	SYN					100%	
pH (S.U.)	7.4	7.4					
D.O. (mg/L)	7.9	7.8					

24-Hour Old Reading TS 1305

Eff Con.	SYN					100%	
pH (S.U.)	7.6	7.8					
D.O. (mg/L)	7.5	7.6					
Temp (°C)	24.7	24.7					

Renewed Reading

Eff Con.	SYN					100%	
pH (S.U.)	7.4	7.5					
D.O. (mg/L)	8.0	8.0					

24-Hour Old Reading

Eff Con.	SYN	BP 1515				100%	
pH (S.U.)	7.8	7.9					
D.O. (mg/L)	7.2	7.2					
Temp (°C)	24.9	24.9					

Renewed Reading

Eff Con.	SYN					100%	
pH (S.U.)	7.4	7.4					
D.O. (mg/L)	8.0	7.9					

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
110020072785	AL0023116	Helena WWTP	

Form 2F NPDES | EPA

U.S Environmental Protection Agency
Application for NPDES Permit to Discharge Wastewater

STORMWATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY

SECTION 1. OUTFALL LOCATION (40 CFR 122.21(g)(1))

Outfall Location

1.1 Provide information on each of the facility's outfalls in the table below

Outfall Number	Receiving Water Name	Latitude	Longitude
None		° ' "	° ' "
		° ' "	° ' "
		' "	° ' "
		' "	° ' "
		' "	° ' "
		° ' "	° ' "

ALL STORMWATER FLOW AT THE HELENA WWTP IS SHEET FLOW. THERE ARE NO STORMWATER OUTFALLS AT THE WWTP

SECTION 2. IMPROVEMENTS (40 CFR 122.21(g)(6))

Improvements

2.1 Are you presently required by any federal, state, or local authority to meet an implementation schedule for constructing, upgrading, or operating wastewater treatment equipment or practices or any other environmental programs that could affect the discharges described in this application?

☐ Yes ☑ No ➔ SKIP to Section 3.

2.2 Briefly identify each applicable project in the table below.

Brief Identification and Description of Project	Affected Outfalls (list outfall numbers)	Source(s) of Discharge	Final Compliance Dates	
			Required	Projected

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2.3 Have you attached sheets describing any additional water pollution control programs (or other environmental projects that may affect your discharges) that you now have underway or planned? (Optional Item)

☐ Yes ☐ No

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19
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SECTION 3. SITE DRAINAGE MAP (40 CFR 122.26(c)(1)(i)(A))

Site Drainage Map

3.1 Have you attached a site drainage map containing all required information to this application? (See instructions for specific guidance.)

☐ Yes ☑ No

SECTION 4. POLLUTANT SOURCES (40 CFR 122.26(c)(1)(i)(B))

Pollutant Sources

4.1 Provide information on the facility's pollutant sources in the table below.

Outfall Number	Impervious Surface Area (within a mile radius of the facility)		Total Surface Area Drained (within a mile radius of the facility)	
	No Outfalls	*specify units*		*specify units*
		specify units		*specify units*
		specify units		*specify units*
		specify units		*specify units*
		specify units		*specify units*
		specify units		*specify units*

4.2 Provide a narrative description of the facility's significant material in the space below. (See instructions for content requirements.)

4.3 Provide the location and a description of existing structural and non-structural control measures to reduce pollutants in stormwater runoff. (See instructions for specific guidance.)

Stormwater Treatment		
Outfall Number	**Control Measures and Treatment**	**Codes from Exhibit 2F–1 (list)**
	No Outfalls	

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
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SECTION 5. NON STORMWATER DISCHARGES (40 CFR 122.26(c)(1)(i)(C))

Non-Stormwater Discharges

5.1 *I certify under penalty of law that the outfall(s) covered by this application have been tested or evaluated for the presence of non-stormwater discharges. Moreover, I certify that the outfalls identified as having non-stormwater discharges are described in either an accompanying NPDES Form 2C, 2D, or 2E application.*

Name (print or type first and last name)	Official title
Matt Tabor	Project Manager
Signature	**Date signed**
Matt Tabor	02/06/2023

5.2 Provide the testing information requested in the table below.

Outfall Number	Description of Testing Method Used	Date(s) of Testing	Onsite Drainage Points Directly Observed During Test

SECTION 6. SIGNIFICANT LEAKS OR SPILLS (40 CFR 122.26(c)(1)(i)(D))

Significant Leaks or Spills

6.1 Describe any significant leaks or spills of toxic or hazardous pollutants in the last three years.

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SECTION 7. DISCHARGE INFORMATION (40 CFR 122.26(c)(1)(i)(E))

Discharge Information

See the instructions to determine the pollutants and parameters you are required to monitor and, in turn, the tables you must complete. Not all applicants need to complete each table.

7.1 Is this a new source or new discharge?

☐ Yes → See instructions regarding submission of *estimated* data. ☐ No → See instructions regarding submission of *actual* data.

Tables A, B, C, and D

7.2 Have you completed Table A for each outfall?

☐ Yes ☐ No

Discharge Information Continued

7.3	Is the facility subject to an effluent limitation guideline (ELG) or effluent limitations in an NPDES permit for its process wastewater? ☐ Yes ☐ No ➔ SKIP to Item 7.5.
7.4	Have you completed Table B by providing quantitative data for those pollutants that are (1) limited either directly or indirectly in an ELG and/or (2) subject to effluent limitations in an NPDES permit for the facility's process wastewater? ☐ Yes ☐ No
7.5	Do you know or have reason to believe any pollutants in Exhibit 2F–2 are present in the discharge? ☐ Yes ☐ No ➔ SKIP to Item 7.7.
7.6	Have you listed all pollutants in Exhibit 2F–2 that you know or have reason to believe are present in the discharge and provided quantitative data or an explanation for those pollutants in Table C? ☐ Yes ☐ No
7.7	Do you qualify for a small business exemption under the criteria specified in the Instructions? ☐ Yes ➔SKIP to Item 7.18. ☐ No
7.8	Do you know or have reason to believe any pollutants in Exhibit 2F–3 are present in the discharge? ☐ Yes ☐ No ➔ SKIP to Item 7.10.
7.9	Have you listed all pollutants in Exhibit 2F–3 that you know or have reason to believe are present in the discharge in Table C? ☐ Yes ☐ No
7.10	Do you expect any of the pollutants in Exhibit 2F–3 to be discharged in concentrations of 10 ppb or greater? ☐ Yes ☐ No ➔ SKIP to Item 7.12.
7.11	Have you provided quantitative data in Table C for those pollutants in Exhibit 2F–3 that you expect to be discharged in concentrations of 10 ppb or greater? ☐ Yes ☐ No
7.12	Do you expect acrolein, acrylonitrile, 2,4-dinitrophenol, or 2-methyl-4,6-dinitrophenol to be discharged in concentrations of 100 ppb or greater? ☐ Yes ☐ No ➔ SKIP to Item 7.14.
7.13	Have you provided quantitative data in Table C for the pollutants identified in Item 7.12 that you expect to be discharged in concentrations of 100 ppb or greater? ☐ Yes ☐ No
7.14	Have you provided quantitative data or an explanation in Table C for pollutants you expect to be present in the discharge at concentrations less than 10 ppb (or less than 100 ppb for the pollutants identified in Item 7.12)? ☐ Yes ☐ No
7.15	Do you know or have reason to believe any pollutants in Exhibit 2F–4 are present in the discharge? ☐ Yes ☐ No ➔ SKIP to Item 7.17.
7.16	Have you listed pollutants in Exhibit 2F–4 that you know or believe to be present in the discharge and provided an explanation in Table C? ☐ Yes ☐ No
7.17	Have you provided information for the storm event(s) sampled in Table D? ☐ Yes ☐ No

Discharge Information Continued

Used or Manufactured Toxics

7.18 Is any pollutant listed on Exhibits 2F–2 through 2F–4 a substance or a component of a substance used or manufactured as an intermediate or final product or byproduct?

☐ Yes ☐ No ➔ SKIP to Section 8.

7.19 List the pollutants below, including TCDD if applicable.

1.	4.	7.
2.	5.	8.
3.	6.	9.

SECTION 8. BIOLOGICAL TOXICITY TESTING DATA (40 CFR 122.21(g)(11))

Biological Toxicity Testing Data

8.1 Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last three years?

☐ Yes ☐ No ➔ SKIP to Section 9.

8.2 Identify the tests and their purposes below.

Test(s)	Purpose of Test(s)	Submitted to NPDES Permitting Authority?	Date Submitted
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	

SECTION 9. CONTRACT ANALYSIS INFORMATION (40 CFR 122.21(g)(12))

Contract Analysis Information

9.1 Were any of the analyses reported in Section 7 (on Tables A through C) performed by a contract laboratory or consulting firm?

☐ Yes ☐ No ➔ SKIP to Section 10.

9.2 Provide information for each contract laboratory or consulting firm below.

	Laboratory Number 1	Laboratory Number 2	Laboratory Number 3
Name of laboratory/firm			
Laboratory address			
Phone number			
Pollutant(s) analyzed	ALL STORMWATER FLOW AT THE HELENA WWTP IS SHEET FLOW. THERE ARE NO STORMWATER OUTFALLS AT THE WWTP		

SECTION 10. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

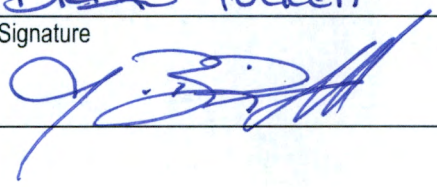
Checklist and Certification Statement

10.1 In Column 1 below, mark the sections of Form 2F that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to complete all sections or provide attachments.

Column 1	Column 2
☐ Section 1	☐ w/ attachments (e.g., responses for additional outfalls)
☐ Section 2	☐ w/ attachments
☐ Section 3	☐ w/ site drainage map
☐ Section 4	☐ w/ attachments
☐ Section 5	☐ w/ attachments
☐ Section 6	☐ w/ attachments
☐ Section 7	☐ Table A ☐ w/ small business exemption request ☐ Table B ☐ w/ analytical results as an attachment ☐ Table C ☐ Table D
☐ Section 8	☐ w/attachments
☐ Section 9	☐ w/attachments (e.g., responses for additional contact laboratories or firms)
☐ Section 10	☐

10.2 **Certification Statement**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name (print or type first and last name)	Official title
BRIAN PUCKETT	CHAIRMAN
Signature	**Date signed**
	9.1.2022

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
110020072785	AL0023116	Helena WWTP	

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TABLE A. CONVENTIONAL AND NON CONVENTIONAL PARAMETERS (40 CFR 122.26(c)(1)(i)(E)(3))[1]

You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details and requirements.

	Pollutant or Parameter	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm Events Sampled	Source of Information (new source/new dischargers only; use codes in instructions)
		Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite		
1.	Oil and grease						
2.	Biochemical oxygen demand (BOD_5)						
3.	Chemical oxygen demand (COD)						
4.	Total suspended solids (TSS)						
5.	Total phosphorus						
6.	Total Kjeldahl nitrogen (TKN)						
7.	Total nitrogen (as N)						
8.	pH (minimum)						
	pH (maximum)						

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
110020072785	AL0023116	Helena WWTP	

Form Approved 03/05/19
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TABLE B. CERTAIN CONVENTIONAL AND NON CONVENTIONAL POLLUTANTS (40 CFR 122.26(c)(1)(i)(E)(4) and 40 CFR 122.21(g)(7)(vi)(A))[1]

List each pollutant that is limited in an effluent limitation guideline (ELG) that the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm Events Sampled	Source of Information (new source/new dischargers only; use codes in instructions)
	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite		

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
110020072785	AL0023116	Helena WWTP	

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TABLE C. TOXIC POLLUTANTS, CERTAIN HAZARDOUS SUBSTANCES, AND ASBESTOS (40 CFR 122.26(c)(1)(i)(E)(4) and 40 CFR 122.21(g)(7)(vi)(B) and (vii))[1]

List each pollutant shown in Exhibits 2F–2, 2F–3, and 2F–4 that you know or have reason to believe is present. Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	Maximum Daily Discharge (specify units)		Average Daily Discharge (specify units)		Number of Storm Events Sampled	Source of Information (new source/new dischargers only; use codes in instructions)
	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite	Grab Sample Taken During First 30 Minutes	Flow-Weighted Composite		

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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EPA Identification Number	NPDES Permit Number	Facility name	Outfall Number
110020072785	AL0023116	Helena WWTP	

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TABLE D. STORM EVENT INFORMATION (40 CFR 122.26(c)(1)(i)(E)(6))

Provide data for the storm event(s) that resulted in the maximum daily discharges for the flow-weighted composite sample.

Date of Storm Event	Duration of Storm Event (in hours)	Total Rainfall During Storm Event (in inches)	Number of Hours Between Beginning of Storm Measured and End of Previous Measurable Rain Event	Maximum Flow Rate During Rain Event (in gpm or specify units)	Total Flow from Rain Event (in gallons or specify units)

Provide a description of the method of flow measurement or estimate.

PART 2 **PERMIT APPLICATION INFORMATION (40 CFR 122.21(q))**

Complete this part if you have an effective NPDES permit or have been directed by the NPDES permitting authority to submit a full permit application. In other words, complete this part if your facility has, or is applying for, an NPDES permit.
Part 2 is divided into five sections. Section 1 pertains to all applicants. The applicability of Sections 2 to 5 depends on your facility's sewage sludge use or disposal practices. See the instructions to determine which sections you are required to complete.

PART 2, SECTION 1. GENERAL INFORMATION (40 CFR 122.21(q)(1 7) AND (q)(13))

General Information

All Part 2 applicants must complete this section.

Facility Information

1.1 Facility name
Helena WWTP

Mailing address (street or P.O. box)
590 Old Towne Place

City or town	State	ZIP code	Phone number
Helena	AL	35080	(205) 663-2161

Contact name (first and last)	Title	Email address
Mr. Brian Puckett	Utility Board Chairman	bpuckett@cityof helena.org

Location address (street, route number, or other specific identifier) ☐ Same as mailing address
816 Hwy 52E

City or town	State	ZIP code
Helena	AL	35080

1.2 Is this facility a Class I sludge management facility?
☐ Yes ☑ No

1.3 **Facility Design Flow Rate** 4.95 million gallons per day (mgd)

1.4 **Total Population Served** 21,560 (2021 Census)

1.5 **Ownership Status**
☐ Public—federal ☑ Public—state ☐ Other public (specify) _____
☐ Private ☐ Other (specify) _____

Applicant Information

1.6 Is applicant different from entity listed under Item 1.1 above?
☑ Yes ☐ No ➔SKIP to Item 1.8 (Part 2, Section 1).

1.7 Applicant name
City of Helena Utilities Board

Applicant mailing address (street or P.O. box)
816 Hwy 52E

City or town	State	ZIP code
Helena	AL	35080

Contact name (first and last)	Title	Phone number	Email address
Mr. Brian Puckett	Utility Board Chariman	(205) 633-2161	bpuckett@cityofhelena.

1.8 Is the applicant the facility's owner, operator, or both? (Check only one response.)
☐ Operator ☐ Owner ☑ Both

1.9 To which entity should the NPDES permitting authority send correspondence? (Check only one response.)
☐ Facility ☑ Applicant ☐ Facility and applicant (they are one and the same)

1.10	Facility's NPDES permit number ☐ Check here if you do not have an NPDES permit but are otherwise required to submit Part 2 of Form 2S.	AL0023116

1.11 Indicate all other federal, state, and local permits or construction approvals received or applied for that regulate this facility's sewage sludge management practices below.

☐ RCRA (hazardous wastes)	☐ Nonattainment program (CAA)	☐ NESHAPs (CAA)
☐ PSD (air emissions)	☐ Dredge or fill (CWA Section 404)	☐ Other (specify)
☐ Ocean dumping (MPRSA)	☐ UIC (underground injection of fluids)	

Indian Country

1.12 Does any generation, treatment, storage, application to land, or disposal of sewage sludge from this facility occur in Indian Country?

☐ Yes ☑ No → SKIP to Item 1.14 (Part 2, Section 1) below.

1.13 Provide a description of the generation, treatment, storage, land application, or disposal of sewage sludge that occurs.

Topographic Map

1.14 Have you attached a topographic map containing all required information to this application? (See instructions for specific requirements.)

☑ Yes ☐ No

Line Drawing

1.15 Have you attached a line drawing and/or a narrative description that identifies all sewage sludge practices that will be employed during the term of the permit containing all the required information to this application? (See instructions for specific requirements.)

☑ Yes ☐ No

Contractor Information

1.16 Do contractors have any operational or maintenance responsibilities related to sewage sludge generation, treatment, use, or disposal at the facility?

☐ Yes ☑ No → SKIP to Item 1.18 (Part 2, Section 1) below.

1.17 Provide the following information for each contractor.

☐ Check here if you have attached additional sheets to the application package.

	Contractor 1	Contractor 2	Contractor 3
Contractor company name			
Mailing address (street or P.O. box)			
City, state, and ZIP code			
Contact name (first and last)			
Telephone number			
Email address			

General Information Continued

1.17 cont.		Contractor 1	Contractor 2	Contractor 3
	Responsibilities of contractor			

Pollutant Concentrations

Using the table below or a separate attachment, provide sewage sludge monitoring data for the pollutants for which limits in sewage sludge have been established in 40 CFR 503 for this facility's expected use or disposal practices. All data must be based on three or more samples taken at least one month apart and must be no more than 4.5 years old.

☐ Check here if you have attached additional sheets to the application package.

1.18

Pollutant	Average Monthly Concentration (mg/kg dry weight)	Analytical Method	Detection Level
Arsenic	<6.9 mg/kg	EPA 6010	6.9 mg/kg
Cadmium	<3.5 mg/kg	EPA 6010	3.5 mg/kg
Chromium	8.5 mg/kg	EPA 6010	6.9 mg/kg
Copper	151 mg/kg	EPA 6010	6.9 mg/kg
Lead	5.3 mg/kg	EPA 6010	3.5 mg/kg
Mercury	0.21 mg/kg	EPA 7471	0.16 mg/kg
Molybdenum	<6.9 mg/kg	EPA 6010	6.9 mg/kg
Nickel	<27.7 mg/kg	EPA 6010	27.7 mg.kg
Selenium	<13.8 mg/kg	EPA 6010	13.8 mg/kg
Zinc	607 mg/kg	EPA 6010	34.6 mg/kg

Checklist and Certification Statement

1.19 In Column 1 below, mark the sections of Form 2S, Part 2, that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing. Note that not all applicants are required to complete all sections or provide attachments. See Exhibit 2S–2 in the Instructions.

Column 1	Column 2
☑ Section 1 (General Information)	☐ w/ attachments
☑ Section 2 (Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge)	☐ w/ attachments
☐ Section 3 (Land Application of Bulk Sewage Sludge)	☐ w/ attachments
☐ Section 4 (Surface Disposal)	☐ w/ attachments
☐ Section 5 (Incineration)	☐ w/ attachments

1.20 **Certification Statement**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name (print or type first and last name)	Official title
BRIAN PUCKETT	CHAIRMAN
Signature	Date signed
	9.1.2022
Telephone number	
205-663-2161	[redacted]

Upon the request of the NPDES permitting authority, you must submit any other information the authority deems necessary to assess sewage sludge use or disposal practices at your facility and identify appropriate permitting requirements.

PART 2, SECTION 2. GENERATION OF SEWAGE SLUDGE OR PREPARATION OF A MATERIAL DERIVED FROM SEWAGE SLUDGE (40 CFR 122.21(q)(8) THROUGH (12))

Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge

2.1 Does your facility generate sewage sludge or derive a material from sewage sludge?

☑ Yes ☐ No ➔ SKIP to Part 2, Section 3.

Amount Generated Onsite

2.2 Total dry metric tons per 365-day period generated at your facility: 292 metric tons per year

Amount Received from Off Site Facility

2.3 Does your facility receive sewage sludge from another facility for treatment use or disposal?

☐ Yes ☑ No ➔ SKIP to Item 2.7 (Part 2, Section 2) below.

2.4 Indicate the total number of facilities from which you receive sewage sludge for treatment, use, or disposal:

Provide the following information for each of the facilities from which you receive sewage sludge.

☐ Check here if you have attached additional sheets to the application package.

2.5

Name of facility			
Mailing address (street or P.O. box)			
City or town		State	ZIP code
Contact name (first and last)	Title	Phone number	Email address
Location address (street, route number, or other specific identifier)		☐ Same as mailing address	
City or town		State	ZIP code
County		County code	☐ Not available

2.6 Indicate the amount of sewage sludge received, the applicable pathogen class and reduction alternative, and the applicable vector reduction option provided at the offsite facility.

Amount (dry metric tons)	Pathogen Class and Reduction Alternative	Vector Attraction Reduction Option
	☐ Not applicable ☐ Class A, Alternative 1 ☐ Class A, Alternative 2 ☐ Class A, Alternative 3 ☐ Class A, Alternative 4 ☐ Class A, Alternative 5 ☐ Class A, Alternative 6 ☐ Class B, Alternative 1 ☐ Class B, Alternative 2 ☐ Class B, Alternative 3 ☐ Class B, Alternative 4 ☐ Domestic septage, pH adjustment	☐ Not applicable ☐ Option 1 ☐ Option 2 ☐ Option 3 ☐ Option 4 ☐ Option 5 ☐ Option 6 ☐ Option 7 ☐ Option 8 ☐ Option 9 ☐ Option 10 ☐ Option 11

2.7 Identify the treatment process(es) that are known to occur at the offsite facility, including blending activities and treatment to reduce pathogens or vector attraction properties. (Check all that apply.)

☐ Preliminary operations (e.g., sludge grinding and degritting)	☐ Thickening (concentration)
☐ Stabilization	☐ Anaerobic digestion
☐ Composting	☐ Conditioning
☐ Disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization)	☐ Dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons)
☐ *Heat drying*	☐ Thermal reduction
☐ Methane or biogas capture and recovery	☐ Other (specify) _____

Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge Continued

Treatment Provided at Your Facility

2.8 For each sewage sludge use or disposal practice, indicate the applicable pathogen class and reduction alternative and the applicable vector attraction reduction option provided at your facility. Attach additional pages, as necessary.

Use or Disposal Practice (check one)	Pathogen Class and Reduction Alternative	Vector Attraction Reduction Option
☐ Land application of bulk sewage	☑ Not applicable	☑ Not applicable
☐ Land application of biosolids (bulk)	☐ Class A, Alternative 1	☐ Option 1
☐ Land application of biosolids (bags)	☐ Class A, Alternative 2	☐ Option 2
☑ Surface disposal in a landfill	☐ Class A, Alternative 3	☐ Option 3
☐ Other surface disposal	☐ Class A, Alternative 4	☐ Option 4
☐ Incineration	☐ Class A, Alternative 5	☐ Option 5
	☐ Class A, Alternative 6	☐ Option 6
	☐ Class B, Alternative 1	☐ Option 7
	☐ Class B, Alternative 2	☐ Option 8
	☐ Class B, Alternative 3	☐ Option 9
	☐ Class B, Alternative 4	☐ Option 10
	☐ Domestic septage, pH adjustment	☐ Option 11

2.9 Identify the treatment process(es) used at your facility to reduce pathogens in sewage sludge or reduce the vector attraction properties of sewage sludge? (Check all that apply.)

- ☐ Preliminary operations (e.g., sludge grinding and degritting)
- ☑ Thickening (concentration)
- ☐ Stabilization
- ☐ Anaerobic digestion
- ☐ Composting
- ☐ Conditioning
- ☐ Disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization)
- ☑ Dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons)
- ☐ Heat drying
- ☐ Thermal reduction
- ☐ Methane or biogas capture and recovery

2.10 Describe any other sewage sludge treatment or blending activities not identified in Items 2.8 and 2.9 (Part 2, Section 2) above.

☐ Check here if you have attached the description to the application package.

Helena disposes of it's dewatered sludge to the landfill. This sludge is not treated to Class B or any other quality standard and is simply stored onsite until it is dewatered.

Preparation of Sewage Sludge Meeting Ceiling and Pollutant Concentrations, Class A Pathogen Requirements, and One of Vector Attraction Reduction Options 1 to 8

2.11 Does the sewage sludge from your facility meet the ceiling concentrations in Table 1 of 40 CFR 503.13, the pollutant concentrations in Table 3 of 40 CFR 503.13, Class A pathogen reduction requirements at 40 CFR 503.32(a), *and* one of the vector attraction reduction requirements at 40 CFR 503.33(b)(1)–(8) and is it land applied?

☐ Yes ☑ No ➔ SKIP to Item 2.14 (Part 2, Section 2) below.

2.12 Total dry metric tons per 365-day period of sewage sludge subject to this subsection that is applied to the land:

2.13 Is sewage sludge subject to this subsection placed in bags or other containers for sale or give-away for application to the land?

☐ Yes ☑ No

☑ Check here once you have completed Items 2.11 to 2.13, then ➔ SKIP to Item 2.32 (Part 2, Section 2) below.

Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge Continued

Sale or Give-Away in a Bag or Other Container for Application to the Land

2.14 Do you place sewage sludge in a bag or other container for sale or give-away for land application?

☐ Yes ☐ No ➔ SKIP to Item 2.17 (Part 2, Section 2) below.

2.15 Total dry metric tons per 365-day period of sewage sludge placed in a bag or other container at your facility for sale or give-away for application to the land:

2.16 Attach a copy of all labels or notices that accompany the sewage sludge being sold or given away in a bag or other container for application to the land.

☐ Check here to indicate that you have attached all labels or notices to this application package.

☐ Check here once you have completed Items 2.14 to 2.16, then ➔ SKIP to Part 2, Section 2, Item 2.32.

Shipment Off Site for Treatment or Blending

2.17 Does another facility provide treatment or blending of your facility's sewage sludge? (This question does not pertain to dewatered sludge sent directly to a land application or surface disposal site.)

☐ Yes ☐ No ➔ SKIP to Item 2.32 (Part 2, Section 2) below.

2.18 Indicate the total number of facilities that provide treatment or blending of your facility's sewage sludge. Provide the information in Items 2.19 to 2.26 (Part 2, Section 2) below for each facility.

☐ Check here if you have attached additional sheets to the application package.

2.19 Name of receiving facility

Mailing address (street or P.O. box)

City or town		State	ZIP code
Contact name (first and last)	Title	Phone number	Email address

Location address (street, route number, or other specific identifier) ☐ Same as mailing address

City or town	State	ZIP code

2.20 Total dry metric tons per 365-day period of sewage sludge provided to receiving facility:

2.21 Does the receiving facility provide additional treatment to reduce pathogens in sewage sludge from your facility or reduce the vector attraction properties of sewage sludge from your facility?

☐ Yes ☐ No ➔ SKIP to Item 2.24 (Part 2, Section 2) below.

2.22 Indicate the pathogen class and reduction alternative and the vector attraction reduction option met for the sewage sludge at the receiving facility.

Pathogen Class and Reduction Alternative	Vector Attraction Reduction Option
☐ Not applicable	☐ Not applicable
☐ Class A, Alternative 1	☐ Option 1
☐ Class A, Alternative 2	☐ Option 2
☐ Class A, Alternative 3	☐ Option 3
☐ Class A, Alternative 4	☐ Option 4
☐ Class A, Alternative 5	☐ Option 5
☐ Class A, Alternative 6	☐ Option 6
☐ Class B, Alternative 1	☐ Option 7
☐ Class B, Alternative 2	☐ Option 8
☐ Class B, Alternative 3	☐ Option 9
☐ Class B, Alternative 4	☐ Option 10
☐ Domestic septage, pH adjustment	☐ Option 11

Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge Continued

2.23 Which treatment process(es) are used at the receiving facility to reduce pathogens in sewage sludge or reduce the vector attraction properties of sewage sludge from your facility? (Check all that apply.)

- ☐ Preliminary operations (e.g., sludge grinding and degritting)
- ☐ Thickening (concentration)
- ☐ Stabilization
- ☐ Anaerobic digestion
- ☐ Composting
- ☐ Conditioning
- ☐ Disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization)
- ☐ Dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons)
- ☐ Heat drying
- ☐ Thermal reduction
- ☐ Methane or biogas capture and recovery
- ☐ Other (specify) _____

2.24 Attach a copy of any information you provide the receiving facility to comply with the "notice and necessary information" requirement of 40 CFR 503.12(g).

☐ Check here to indicate that you have attached material.

2.25 Does the receiving facility place sewage sludge from your facility in a bag or other container for sale or give-away for application to the land?

☐ Yes ☐ No ➔ SKIP to Item 2.32 (Part 2, Section 2) below.

2.26 Attach a copy of all labels or notices that accompany the product being sold or given away.

☐ Check here to indicate that you have attached material.

☐ Check here once you have completed Items 2.17 to 2.26 (Part 2, Section 2), then ➔ SKIP to Item 2.32 (Part 2, Section 2) below.

Land Application of Bulk Sewage Sludge

2.27 Is sewage sludge from your facility applied to the land?

☐ Yes ☑ No ➔ SKIP to Item 2.32 (Part 2, Section 2) below.

2.28	Total dry metric tons per 365-day period of sewage sludge applied to all land application sites:	

2.29 Did you identify all land application sites in Part 2, Section 3 of this application?

☐ Yes ☐ No ➔ Submit a copy of the land application plan with your application.

2.30 Are any land application sites located in states other than the state where you generate sewage sludge or derive a material from sewage sludge?

☐ Yes ☐ No ➔ SKIP to Item 2.32 (Part 2, Section 2) below.

2.31 Describe how you notify the NPDES permitting authority for the states where the land application sites are located. Attach a copy of the notification.

☐ Check here if you have attached the explanation to the application package.

☐ Check here if you have attached the notification to the application package.

Surface Disposal

2.32 Is sewage sludge from your facility placed on a surface disposal site?

☐ Yes ☑ No ➔ SKIP to Item 2.39 (Part 2, Section 2) below.

2.33	Total dry metric tons of sewage sludge from your facility placed on all surface disposal sites per 365-day period:	

2.34 Do you own or operate all surface disposal sites to which you send sewage sludge for disposal?

☐ Yes ➔ SKIP to Item 2.39 (Part 2, Section 2) below. ☐ No

2.35	Indicate the total number of surface disposal sites to which you send your sewage sludge. (Provide the information in Items 2.36 to 2.38 of Part 2, Section 2, for each facility.) ☐ Check here if you have attached additional sheets to the application package.	

Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge Continued

2.36	Site name or number of surface disposal site you do not own or operate			
	Mailing address (street or P.O. box)			
	City or Town		State	ZIP Code
	Contact Name (first and last)	Title	Phone Number	Email Address
2.37	Site Contact (Check all that apply.) ☐ Owner ☐ Operator			
2.38	Total dry metric tons of sewage sludge from your facility placed on this surface disposal site per 365-day period:			
Incineration				
2.39	Is sewage sludge from your facility fired in a sewage sludge incinerator? ☐ Yes ☑ No ➔ SKIP to Item 2.46 (Part 2, Section 2) below.			
2.40	Total dry metric tons of sewage sludge from your facility fired in all sewage sludge incinerators per 365-day period:			
2.41	Do you own or operate all sewage sludge incinerators in which sewage sludge from your facility is fired? ☐ Yes ➔ SKIP to Item 2.46 (Part 2, Section 2) below. ☐ No			
2.42	Indicate the total number of sewage sludge incinerators used that you do not own or operate. (Provide the information in Items 2.43 to 2.45 directly below for each facility.) ☐ Check here if you have attached additional sheets to the application package.			
2.43	Incinerator name or number			
	Mailing address (street or P.O. box)			
	City or town		State	ZIP code
	Contact name (first and last)	Title	Phone number	Email address
	Location address (street, route number, or other specific identifier) ☐ Same as mailing address			
	City or town		State	ZIP code
2.44	Contact (check all that apply) ☐ Incinerator owner ☐ Incinerator operator			
2.45	Total dry metric tons of sewage sludge from your facility fired in this sewage sludge incinerator per 365-day period:			
Disposal in a Municipal Solid Waste Landfill				
2.46	Is sewage sludge from your facility placed on a municipal solid waste landfill? ☑ Yes ☐ No ➔ SKIP to Part 2, Section 3.			
2.47	Indicate the total number of municipal solid waste landfills used. (Provide the information in Items 2.48 to 2.52 directly below for each facility.) ☐ Check here if you have attached additional sheets to the application package.		1	

Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge Continued

2.48 Name of landfill
Highway 70 Landfill

Mailing address (street or P.O. box)
200 West College Street Room 145

City or town	State	ZIP code
Columbiana	AL	35051

Contact name (first and last)	Title	Phone number	Email address
Brandon Hamilton	Environmental Services	(205) 669-3737	

Location address (street, route number, or other specific identifier) ☐ Same as mailing address
401 Landfill road

County	County code	☐ Not available
Shelby	01 117	

City or town	State	ZIP code
Columbiana	AL	35051

2.49 Total dry metric tons of sewage sludge from your facility placed in this municipal solid waste landfill per 365-day period: 292 dry metric tons

2.50 List the numbers of all other federal, state, and local permits that regulate the operation of this municipal solid waste landfill.

Permit Number	Type of Permit
59-15	Municipal Solid Waste Landfill

2.51 Attach to the application information to determine whether the sewage sludge meets applicable requirements for disposal of sewage sludge in a municipal solid waste landfill (e.g., results of paint filter liquids test and TCLP test).

☑ Check here to indicate you have attached the requested information.

2.52 Does the municipal solid waste landfill comply with applicable criteria set forth in 40 CFR 258?

☑ Yes ☐ No

PART 2, SECTION 3 LAND APPLICATION OF BULK SEWAGE SLUDGE (40 CFR 122.21(q)(9))

Land Application of Bulk Sewage Sludge

3.1 Does your facility apply sewage sludge to land?

☐ Yes ☑ No ➔ SKIP to Part 2, Section 4.

3.2 Do any of the following conditions apply?

- The sewage sludge meets the ceiling concentrations in Table 1 of 40 CFR 503.12, the pollutant concentrations in Table 3 of 40 CFR 503.13, Class A pathogen reduction requirements at 40 CFR 503.32(a), *and* one of the vector attraction reduction requirements at 40 CFR 503.33(b)(1)–(8);
- The sewage sludge is sold or given away in a bag or other container for application to the land; or
- You provide the sewage sludge to another facility for treatment or blending.

☐ Yes ➔ SKIP to Part 2, Section 4. ☐ No

3.3 Complete Section 3 for every site on which the sewage sludge is applied.

☐ Check here if you have attached sheets to the application package for one or more land application sites.

Identification of Land Application Site

3.4 Site name or number

Location address (street, route number, or other specific identifier) ☐ Same as mailing address

County	County code ☐ Not available

City or town	State	ZIP code

Latitude/Longitude of Land Application Site (see instructions)

Latitude	Longitude
° ' "	° ' "

Method of Determination

☐ USGS map ☐ Field survey ☐ Other (specify) _____

3.5 Provide a topographic map (or other appropriate map if a topographic map is unavailable) that shows the site location.

☐ Check here to indicate you have attached a topographic map for this site.

Owner Information

3.6 Are you the owner of this land application site?

☐ Yes ➔ SKIP to Item 3.8 (Part 2, Section 3) below. ☐ No

3.7 Owner name

Mailing address (street or P.O. box)

City or town	State	ZIP code

Contact name (first and last)	Title	Phone number	Email address

Applier Information

3.8 Are you the person who applies, or who is responsible for application of, sewage sludge to this land application site?

☐ Yes ➔ SKIP to Item 3.10 (Part 2, Section 3) below. ☐ No

3.9 Applier's name

Mailing address (street or P.O. box)

City or town	State	ZIP code

Contact name (first and last)	Title	Phone number	Email address

Land Application of Bulk Sewage Sludge Continued

Site Type

3.10 Type of land application:

☐ Agricultural land ☐ Forest

☐ Reclamation site ☐ Public contact site

☐ Other (describe)

Crop or Other Vegetation Grown on Site

3.11 What type of crop or other vegetation is grown on this site?

3.12 What is the nitrogen requirement for this crop or vegetation?

Vector Attraction Reduction

3.13 Are the vector attraction reduction requirements at 40 CFR 503.33(b)(9) and (b)(10) met when sewage sludge is applied to the land application site?

☐ Yes ☐ No ➔ SKIP to Item 3.16 (Part 2, Section 3) below.

3.14 Indicate which vector attraction reduction option is met. (Check only one response.)

☐ Option 9 (injection below land surface) ☐ Option 10 (incorporation into soil within 6 hours)

3.15 Describe any treatment processes used at the land application site to reduce vector attraction properties of sewage sludge.

☐ Check here if you have attached your description to the application package.

Cumulative Loadings and Remaining Allotments

3.16 Is the sewage sludge applied to this site since July 20, 1993, subject to the cumulative pollutant loading rates (CPLRs) in 40 CFR 503.13(b)(2)?

☐ Yes ☐ No ➔ SKIP to Part 2, Section 4.

3.17 Have you contacted the NPDES permitting authority in the state where the bulk sewage sludge subject to CPLRs will be applied to ascertain whether bulk sewage sludge subject to CPLRs has been applied to this site on or since July 20, 1993?

☐ Yes ☐ No ➔ Sewage sludge subject to CPLRs may not be applied to this site. SKIP to Part 2, Section 4.

3.18 Provide the following information about your NPDES permitting authority:

NPDES permitting authority name	
Contact person	
Telephone number	
Email address	

3.19 Based on your inquiry, has bulk sewage sludge subject to CPLRs been applied to this site since July 20, 1993?

☐ Yes ☐ No ➔ SKIP to Part 2, Section 4.

3.20 Provide the following information for every facility other than yours that is sending, or has sent, bulk sewage sludge subject to CPLRs to this site since July 20, 1993. If more than one such facility sends sewage sludge to this site, attach additional pages as necessary.

☐ Check here to indicate that additional pages are attached.

Facility name			
Mailing address (street or P.O. box)			
City or town		State	ZIP code
Contact name (first and last)	*Title*	Phone number	Email address

PART 2, SECTION 4 SURFACE DISPOSAL (40 CFR 122.21(q)(10))

Surface Disposal

4.1 Do you own or operate a surface disposal site?

☐ Yes ☑ No ➔ SKIP to Part 2, Section 5.

4.2 Complete all items in Section 4 for each active sewage sludge unit that you own or operate.

☐ Check here to indicate that you have attached material to the application package for one or more active sewage sludge units.

Information on Active Sewage Sludge Units

4.3 Unit name or number

Mailing address (street or P.O. box)

City or town		State	ZIP code
Contact name (first and last)	Title	Phone number	Email address

Location address (street, route number, or other specific identifier) ☐ Same as mailing address

County	County code ☐ Not available	
City or town	State	ZIP code

Latitude/Longitude of Active Sewage Sludge Unit (see instructions)

Latitude	Longitude
° ′ ″	° ′ ″

Method of Determination

☐ USGS map ☐ Field survey ☐ Other (specify) _____

4.4 Provide a topographic map (or other appropriate map if a topographic map is unavailable) that shows the site location.

☐ Check here to indicate that you have completed and attached a topographic map.

4.5	Total dry metric tons of sewage sludge placed on the active sewage sludge unit per 365-day period:	
4.6	Total dry metric tons of sewage sludge placed on the active sewage sludge unit over the life of the unit:	

4.7 Does the active sewage sludge unit have a liner with a maximum permeability of 1×10^{-7} centimeters per second (cm/sec)?

☐ Yes ☐ No ➔ SKIP to Item 4.9 (Part 2, Section 4) below.

4.8 Describe the liner.

☐ Check here to indicate that you have attached a description to the application package.

4.9 Does the active sewage sludge unit have a leachate collection system?

☐ Yes ☐ No ➔ SKIP to Item 4.11 (Part 2, Section 4) below.

4.10 Describe the leachate collection system and the method used for leachate disposal and provide the numbers of any federal, state, or local permit(s) for leachate disposal.

☐ Check here to indicate that you have attached the description to the application package.

Surface Disposal Continued

4.11	Is the boundary of the active sewage sludge unit less than 150 meters from the property line of the surface disposal site? ☐ Yes ☐ No ➔ SKIP to Item 4.13 (Part 2, Section 4) below.	
4.12	Provide the actual distance in meters:	meters
4.13	Remaining capacity of active sewage sludge unit in dry metric tons:	dry metric tons
4.14	Anticipated closure date for active sewage sludge unit, if known (MM/DD/YYYY):	
4.15	Attach a copy of any closure plan that has been developed for this active sewage sludge unit. ☐ Check here to indicate that you have attached a copy of the closure plan to the application package.	

Sewage Sludge from Other Facilities

4.16	Is sewage sludge sent to this active sewage sludge unit from any facilities other than your facility? ☐ Yes ☐ No ➔ SKIP to Item 4.21 (Part 2, Section 4) below.	
4.17	Indicate the total number of facilities (other than your facility) that send sewage sludge to this active sewage sludge unit. (Complete Items 4.18 to 4.20 directly below for each such facility.) ☐ Check here to indicate that you have attached responses for each facility to the application package.	

4.18

Facility name			
Mailing address (street or P.O. box)			
City or town		State	ZIP code
Contact name (first and last)	Title	Phone number	Email address

4.19 Indicate the pathogen class and reduction alternative and the vector attraction reduction option met for the sewage sludge before leaving the other facility.

Pathogen Class and Reduction Alternative	Vector Attraction Reduction Option
☐ Not applicable	☐ Not applicable
☐ Class A, Alternative 1	☐ Option 1
☐ Class A, Alternative 2	☐ Option 2
☐ Class A, Alternative 3	☐ Option 3
☐ Class A, Alternative 4	☐ Option 4
☐ Class A, Alternative 5	☐ Option 5
☐ Class A, Alternative 6	☐ Option 6
☐ Class B, Alternative 1	☐ Option 7
☐ Class B, Alternative 2	☐ Option 8
☐ Class B, Alternative 3	☐ Option 9
☐ Class B, Alternative 4	☐ Option 10
☐ Domestic septage, pH adjustment	☐ Option 11

4.20 Which treatment process(es) are used at the other facility to reduce pathogens in sewage sludge or reduce the vector attraction properties of sewage sludge before leaving the other facility? (Check all that apply.)

☐ Preliminary operations (e.g., sludge grinding and degritting)	☐ Thickening (concentration)
☐ Stabilization	☐ Anaerobic digestion
☐ Composting	☐ Conditioning
☐ Disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization)	☐ Dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons)
☐ Heat drying	☐ Thermal reduction
☐ Methane or biogas capture and recovery	☐ Other (specify) _____

Surface Disposal Continued

Vector Attraction Reduction

4.21 Which vector attraction reduction option, if any, is met when sewage sludge is placed on this active sewage sludge unit?

- ☐ Option 9 (Injection below and surface)
- ☐ Option 10 (Incorporation into soil within 6 hours)
- ☐ Option 11 (Covering active sewage sludge unit daily)
- ☐ None

4.22 Describe any treatment processes used at the active sewage sludge unit to reduce vector attraction properties of sewage sludge.

☐ Check here if you have attached your description to the application package.

Groundwater Monitoring

4.23 Is groundwater monitoring currently conducted at this active sewage sludge unit, or are groundwater monitoring data otherwise available for this active sewage sludge unit?

- ☐ Yes
- ☐ No ➔ SKIP to Item 4.26 (Part 2, Section 4) below.

4.24 Provide a copy of available groundwater monitoring data.

☐ Check here to indicate you have attached the monitoring data.

4.25 Describe the well locations, the approximate depth to groundwater, and the groundwater monitoring procedures used to obtain these data.

☐ Check here if you have attached your description to the application package.

4.26 Has a groundwater monitoring program been prepared for this active sewage sludge unit?

- ☐ Yes
- ☐ No ➔ SKIP to Item 4.28 (Part 2, Section 4) below.

4.27 Submit a copy of the groundwater monitoring program with this permit application.

☐ Check here to indicate you have attached the monitoring program.

4.28 Have you obtained a certification from a qualified groundwater scientist that the aquifer below the active sewage sludge unit has not been contaminated?

- ☐ Yes
- ☐ No ➔ SKIP to Item 4.30 (Part 2, Section 4) below.

4.29 Submit a copy of the certification with this permit application.

☐ Check here to indicate you have attached the certification to the application package.

Site-Specific Limits

4.30 Are you seeking site-specific pollutant limits for the sewage sludge placed on the active sewage sludge unit?

- ☐ Yes
- ☐ No ➔ SKIP to Part 2, Section 5.

4.31 Submit information to support the request for site-specific pollutant limits with this application.

☐ Check here to indicate you have attached the requested information.

PART 2, SECTION 5 INCINERATION (40 CFR 122.21(q)(11))

Incineration

Incinerator Information

5.1 Do you fire sewage sludge in a sewage sludge incinerator?

☐ Yes ☑ No ➔ SKIP to END.

5.2 Indicate the total number of incinerators used at your facility. (Complete the remainder of Section 5 for each such incinerator.)

☐ Check here to indicate that you have attached information for one or more incinerators.

5.3 Incinerator name or number

Location address (street, route number, or other specific identifier)

County	County code	☐ Not available
City or town	State	ZIP code

Latitude/Longitude of Incinerator (see instructions)

Latitude	Longitude
° ' "	° ' "

Method of Determination

☐ USGS map ☐ Field survey ☐ Other (specify) _____

Amount Fired

5.4 Dry metric tons per 365-day period of sewage sludge fired in the sewage sludge incinerator:

Beryllium NESHAP

5.5 Submit information, test data, and a description of measures taken that demonstrate whether the sewage sludge incinerated is beryllium-containing waste and will continue to remain as such.

☐ Check here to indicate that you have attached this material to the application package.

5.6 Is the sewage sludge fired in this incinerator "beryllium-containing waste" as defined at 40 CFR 61.31?

☐ Yes ☐ No ➔ SKIP to Item 5.8 (Part 2, Section 5) below.

5.7 Submit with this application a complete report of the latest beryllium emission rate testing *and* documentation of ongoing incinerator operating parameters indicating that the NESHAP emission rate limit for beryllium has been and will continue to be met.

☐ Check here to indicate that you have attached this information.

Mercury NESHAP

5.8 Is compliance with the mercury NESHAP being demonstrated via stack testing?

☐ Yes ☐ No ➔ SKIP to Item 5.11 (Part 2, Section 5) below.

5.9 Submit a complete report of stack testing and documentation of ongoing incinerator operating parameters indicating that the incinerator has met and will continue to meet the mercury NESHAP emission rate limit.

☐ Check here to indicate that you have attached this information.

5.10 Provide copies of mercury emission rate tests for the two most recent years in which testing was conducted.

☐ Check here to indicate that you have attached this information.

5.11 Do you demonstrate compliance with the mercury NESHAP by sewage sludge sampling?

☐ Yes ☐ No ➔ SKIP to Item 5.13 (Part 2, Section 5) below.

5.12 Submit a complete report of sewage sludge sampling and documentation of ongoing incinerator operating parameters indicating that the incinerator has met and will continue to meet the mercury NESHAP emission rate limit.

☐ Check here to indicate that you have attached this information.

Incineration Continued

Dispersion Factor

5.13	Dispersion factor in micrograms/cubic meter per gram/second:	
5.14	Name and type of dispersion model:	
5.15	Submit a copy of the modeling results and supporting documentation. ☐ Check here to indicate that you have attached this information.	

Control Efficiency

5.16 Provide the control efficiency, in hundredths, for each of the pollutants listed below.

Pollutant	Control Efficiency, in Hundredths
Arsenic	
Cadmium	
Chromium	
Lead	
Nickel	

5.17	Attach a copy of the results or performance testing and supporting documentation (including testing dates). ☐ Check here to indicate that you have attached this information.	

Risk-Specific Concentration for Chromium

5.18	Provide the risk-specific concentration (RSC) used for chromium in micrograms per cubic meter:	
5.19	Was the RSC determined via Table 2 in 40 CFR 503.43? ☐ Yes ☐ No ➔ SKIP to Item 5.21 (Part 2, Section 5) below.	
5.20	Identify the type of incinerator used as the basis. ☐ Fluidized bed with wet scrubber ☐ Other types with wet scrubber ☐ Fluidized bed with wet scrubber and wet electrostatic precipitator ☐ Other types with wet scrubber and wet electrostatic precipitator	
5.21	Was the RSC determined via Table 6 in 40 CFR 503.43 (site-specific determination)? ☐ Yes ☐ No ➔ SKIP to Item 5.23 (Part 2, Section 5) below.	
5.22	Provide the decimal fraction of hexavalent chromium concentration to total chromium concentration in stack exit gas:	
5.23	Attach the results of incinerator stack tests for hexavalent and total chromium concentrations, including the date(s) of any test(s), with this application. ☐ Check here to indicate that you have attached this information. ☐ Not applicable	

Incinerator Parameters

5.24	Do you monitor total hydrocarbons (THC) in the exit gas of the sewage sludge incinerator? ☐ Yes ☐ No	
5.25	Do you monitor carbon monoxide (CO) in the exit gas of the sewage sludge incinerator? ☐ Yes ☐ No	
5.26	Indicate the type of sewage sludge incinerator.	
5.27	Incinerator stack height in meters:	
5.28	Indicate whether the value submitted in Item 5.27 is (check only one response): ☐ Actual stack height ☐ Creditable stack height	

Incineration Continued

Performance Test Operating Parameters

5.29	Maximum performance test combustion temperature:	
5.30	Performance test sewage sludge feed rate, in dry metric tons/day	
5.31	Indicate whether value submitted in Item 5.30 is (check only one response): ☐ Average use ☐ Maximum design	
5.32	Attach supporting documents describing how the feed rate was calculated. ☐ Check here to indicate that you have attached this information.	
5.33	Submit information documenting the performance test operating parameters for the air pollution control device(s) used for this sewage sludge incinerator. ☐ Check here to indicate that you have attached this information.	

Monitoring Equipment

5.34 List the equipment in place to monitor the listed parameters.

Parameter	Equipment in Place for Monitoring
Total hydrocarbons or carbon monoxide	
Percent oxygen	
Percent moisture	
Combustion temperature	
Other (describe)	

Air Pollution Control Equipment

5.35 List all air pollution control equipment used with this sewage sludge incinerator.

☐ Check here if you have attached the list to the application package for the noted incinerator.

END of PART 2

Submit completed application package to your NPDES permitting authority.