LANCE R. LEFLEUR
DIRECTOR

KAY IVEY
GOVERNOR

Alabama Department of Environmental Management
adem.alabama.gov

1400 Coliseum Blvd. 36110-2400 ▪ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ▪ FAX (334) 271-7950

OCTOBER 6, 2022

Steve Hargrove, General Manager
Sheffield Utilities
P.O. Box 580
Sheffield, AL 35660

RE: Draft Permit
NPDES Permit No. AL0050121
Sheffield WWTP
Colbert County, Alabama

Dear Mr. Hargrove:

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.

Our records indicate that you have utilized the Department's web-based electronic environmental (E2) reporting system for submittal of discharge monitoring reports (DMRs) and sanitary sewer overflow (SSO) notifications/reports. The Department transitioned from the E2 Reporting System to the Alabama Environmental Permitting and Compliance System (AEPACS) for the submittal of DMRs and SSOs on November 15, 2021. AEPACS is an electronic system that allows facilities to apply for and maintain permits as well as submit other required applications, registrations, and certifications. In addition, the system allows facilities to submit required compliance reports or other information to the Department. The Department has used the E2 User account information to set up a similar User Profile in AEPACS based on the following criteria:

1. The user has logged in to E2 since October 1, 2019; and
2. The E2 user account is set up using a unique email address.

E2 users that met the above criteria will only need to establish an ADEM Web Portal account (https://prd.adem.alabama.gov/awp) under the same email address as their E2 account to have the same permissions in AEPACS as they did in E2. They will also automatically be linked to the same facilities they were in E2.

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.

Should you have any questions, please contact the undersigned michael.simmons@adem.alabama.gov

Sincerely,

Michael N. Simmons
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 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
3664 Dauphin Street, Suite B
Mobile, AL 36608
(251) 304-1176
(251) 304-1189 (FAX)

ADEM
Alabama Department of Environmental Management

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

PERMITTEE: SHEFFIELD UTILITIES
P.O. BOX 580
SHEFFIELD, AL 35660

FACILITY LOCATION: SHEFFIELD WWTP (3.9 MGD)
700 FURNACE DRIVE
SHEFFIELD, ALABAMA
COLBERT COUNTY

PERMIT NUMBER: AL0050121

RECEIVING WATERS: TENNESSEE RIVER (PICKWICK LAKE)

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 001-1: Municipal/Industrial Effluent Monitoring

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 Sec note (2)
Oxygen, Dissolved (DO) (00300) Effluent Gross Value	*****	*****	*****	(Report) Minimum Daily	*****	*****	mg/l	2X Weekly	Grab	Not Seasonal
pH (00400) Effluent Gross Value	*****	*****	*****	6.0 Minimum Daily	*****	9.0 Maximum Daily	S.U.	2X Weekly	Grab	Not Seasonal
Solids, Total Suspended (00530) Effluent Gross Value	975 Monthly Average	1463 Weekly Average	lbs/day	*****	30.0 Monthly Average	45.0 Weekly Average	mg/l	2X Weekly	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	2X Weekly	24-Hr Composite	Not Seasonal
Nitrogen, Ammonia Total (As N) (00610) Effluent Gross Value	650 Monthly Average	975 Weekly Average	lbs/day	*****	20.0 Monthly Average	30.0 Weekly Average	mg/l	2X Weekly	24-Hr Composite	Not Seasonal
Nitrogen, Kjeldahl Total (As N) (00625) 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
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	Monthly	24-Hr Composite	Not Seasonal
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

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

See Permit Requirements for Stormwater in Part IV.F

(2) S = Summer (April – October)
W = 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.

1. DSN 001-1 (continued): Municipal/Industrial Effluent Monitoring

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) Effluent Gross Value	*****	*****	*****	*****	*****	1.0 Maximum Daily	mg/l	2X Weekly	Grab	Not Seasonal
E. Coli (51040) Effluent Gross Value	*****	*****	*****	*****	548 Monthly Average	2507 Maximum Daily	col/100mL	2X Weekly	Grab	ECW
E. Coli (51040) Effluent Gross Value	*****	*****	*****	*****	126 Monthly Average	298 Maximum Daily	col/100mL	2X Weekly	Grab	ECS
BOD, Carbonaceous 05 Day, 20C (80082) Effluent Gross Value	813 Monthly Average	1219 Weekly Average	lbs/day	*****	25.0 Monthly Average	37.5 Weekly Average	mg/l	2X Weekly	24-Hr Composite	Not Seasonal
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	2X Weekly	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

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

See Permit Requirements for Stormwater in Part IV.F

(2) S = Summer (April – October)
W = 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.

2. DSN 001-T: Toxicity Monitoring

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 Acute (61425) Effluent Gross Value	*****	0 Single Sample	pass=0;fail=1	*****	*****	*****	*****	See Permit Requirements	24-Hr Composite	October
Toxicity, Pimephales Acute (61427) Effluent Gross Value	*****	0 Single Sample	pass=0;fail=1	*****	*****	*****	*****	See Permit Requirements	24-Hr Composite	October

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

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

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

See Permit Requirements for Stormwater in Part IV.F

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

3. DSN 003-S: Stormwater Outfall Monitoring

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 003, 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)
pH (00400) Stormwater	*****	*****	*****	(Report) Minimum Daily	*****	(Report) Maximum Daily	S.U.	Annually	Grab	Not Seasonal
Solids, Total Suspended (00530) Stormwater	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Annually	Grab	Not Seasonal
Oil & Grease (00556) Stormwater	*****	*****	*****	*****	*****	15.0 Maximum Daily	mg/l	Annually	Grab	Not Seasonal
Nitrogen, Ammonia Total (As N) (00610) Stormwater	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Annually	Grab	Not Seasonal
Nitrogen, Kjeldahl Total (As N) (00625) Stormwater	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Annually	Grab	Not Seasonal
Nitrite Plus Nitrate Total 1 Det. (As N) (00630) Stormwater	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Annually	Grab	Not Seasonal
Phosphorus, Total (As P) (00665) Stormwater	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Annually	Grab	Not Seasonal
Flow, In Conduit or Thru Treatment Plant (50050) Stormwater	*****	(Report) Maximum Daily	MGD	*****	*****	*****	*****	Annually	Calculated	Not Seasonal
E. Coli (51040) Stormwater	*****	*****	*****	*****	*****	(Report) Maximum Daily	col/100mL	Annually	Grab	Not Seasonal
BOD, Carbonaceous 05 Day, 20C (80082) Stormwater	*****	*****	*****	*****	*****	(Report) Maximum Daily	mg/l	Annually	Grab	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

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

See Permit Requirements for Stormwater in Part IV.F

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

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" 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" 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). Location should be shown on a USGS quad sheet or copy thereof; 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. **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:

(I) 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 30l(c), 30l(g), 30l(h), 30l(k), or 3l6(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 direct 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 create a fire or explosion hazard in the treatment works;

2. Pollutants which will cause corrosive structural damage to the treatment works, or dischargers with a pH lower than 5.0 s.u., unless the works are specifically designed to accommodate such discharges;

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

4. Pollutants, including oxygen demanding pollutants, released in a discharge of such volume or strength as to cause interference in the treatment works;

5. Heat in amounts which will inhibit biological activity in the treatment plant resulting in interference or in such quantities that the temperature of the treatment plant influent exceeds 40 °C (104 °F) unless the treatment plant is designed to accommodate such heat;

6. Pollutants in amounts which exceed any applicable pretreatment standard under Section 307 of FWPCA or any approved revisions thereof.

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 ACUTE – NO DIFFUSER

The permittee shall perform 48-hour acute toxicity screening tests on the wastewater discharges required to be tested for acute toxicity by Part I of this permit.

1. **Test Requirements**

   a. The tests shall be performed using undiluted effluent.

   b. Any test where survival in the effluent concentration is less than 90% and statistically lower than the control indicates acute toxicity and constitutes noncompliance with this permit.

2. **General Test Requirements:**

   a. A 24-hour composite sample shall be obtained for use in above biomonitoring tests. The holding time for each 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-02-012 or most current edition or another control water selected by the permittee and approved by the Department.

   b. Effluent toxicity tests in which the control survival is less than 90% or in which the other requirements of the EPA Test Procedure are not met shall be unacceptable and the permittee shall rerun the tests as soon as practical within the monitoring period.

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

d. Toxicity tests shall be conducted for the duration of this permit in the month of October. Should results from the Annual Toxicity test indicate that **Outfall 0011** exhibits acute 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 January, April, July, and October.

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 Section 2 and 7 shall be included with the DMR. The test results must be submitted to the Department no later than 28 days after the month in which the tests were performed.

4. Additional Testing Requirements:

a. If acute toxicity is indicated (noncompliance with permit limit), the permittee shall perform four additional valid acute toxicity tests in accordance with these procedures to determine the extent and duration of the toxic condition. The toxicity tests shall be performed once per week and shall be performed during the first four calendar weeks following the date on which the permittee became aware of the permit noncompliance and the results of these tests shall be submitted no later than 28 days following the month in which 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/guidance outlined by EPA (e.g., EPA/600/2-88/062, EPA/600/R-92/080, EPA/600/R-92/081, EPA/833/B-99/022 and/or EPA/600/6-91/005F, etc.).

5. Test Methods:

The tests shall be performed in accordance with the latest edition of the "EPA Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms" and shall be performed using the fathead minnow (*Pimephales promelas*) and the cladoceran (*Ceriodaphnia dubia*).

6. Effluent Toxicity Testing Reports

The following information shall be submitted with each discharge monitoring report unless otherwise directed by the Department. The Department may at any time suspend or reinstate this requirement or may increase or decrease 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 date (MGD, CFS, GPM)

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

c. Source of Effluent and Dilution Water

(1) Effluent samples

(i) Sampling point

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

(iii) Sample collection method

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

(v) Sample temperature when received at the laboratory

(vi) Lapsed time from sample collection to delivery

(vii) Lapsed time from sample collection to test initiation

(2) Dilution Water Samples

(i) Source

(ii) Collection date(s) and time(s) (where applicable)

(iii) Pretreatment

(iv) Physical and chemical characteristics (pH, hardness, water temperature, alkalinity, 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) Feeding frequency, and amount and type of food

(12) Light intensity (mean)

e. Test Organisms

(1) Scientific name

(2) Life stage and age

(3) Source

(4) Disease treatment (if applicable)

f. Quality Assurance

(1) Reference toxicant utilized and source

(2) Date and time of most recent acute reference toxicant test(s), raw data, and current cusum chart(s)

(3) Dilution water utilized in reference toxicant test

(4) Results of reference toxicant test(s) (LC50, etc.), report concentration-response relationship and evaluate test sensitivity. The most recent reference toxicant test shall be conducted within 30-days of the routine.

(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: LC50, NOEC, Pass/Fail (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) (LC50, NOEC, Pass/Fail, etc.), report concentration-response relationship (definitive test only), report percent minimum significant difference (PMSD)

h. Conclusions and Recommendations

(1) Relationship between test endpoints and permit limits

(2) Action to be taken

Adapted from "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms", Fifth Edition, October 2002 (EPA 821-R-02-012), Section 12, 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 chlorine is not detected prior to actual discharge to the receiving stream using one of these methods (i.e., the analytical result is less than the detection level), 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. 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.

F. MAJOR SOURCE STORMWATER REQUIREMENTS

1. Prohibitions

a. The Permittee shall not allow the discharge of non-storm water into permitted storm water outfall(s) unless said discharge is already subject to an NPDES permit.

b. Pollutants removed in the course of treatment or control shall be disposed in a manner that complies with all applicable Department rules and regulations.

2. Operational and Management Practices

The permittee shall prepare and implement a Storm Water Pollution Prevention (SWPP) Plan within one year of the effective date of this permit.

a. In the SWPP Plan, the Permittee shall:

(1) Assess the treatment plant site by developing and presenting site drainage maps, materials inventory, and best management operational practices. The plan shall also include a description of all spill or leak sources;

(2) Describe mechanisms and procedures to prevent the contact of sewage sludge, screenings, raw or partially treated wastewater, or any other waste product or pollutant with storm water discharged from the facility;

(3) Provide for daily inspection on workdays of any structures that function to prevent storm water pollution or that remove pollutants from storm water;

(4) Provide for daily inspection of the facility in general to ensure that the SWPP Plan is continually implemented and effective;

(5) Include a Best Management Practices (BMP) Plan that, as a minimum, addresses housekeeping, preventative maintenance, spill prevention and response, and non-storm water discharges;

(6) Describe mechanisms and procedures to provide sediment control sufficient to prevent or control storm water pollution storm water by particles resulting from soil or sediment migration from the site due to significant clearing, grading, or excavation activities;

(7) Designate by position or name the person or persons responsible for the day to day implementation of the SWPP Plan; and

(8) Bear the signature of an individual meeting signatory requirements as defined in ADEM Administrative Code, Rule 335-6-6-.09.

b. The Director or his designee may notify the permittee at any time that the SWPP Plan is deficient and will require correction of the deficiency. The permittee shall correct any SWPP Plan deficiency identified by the Director or his designee within 30 days of receipt of notification and shall certify to the Department that the correction has been made and implemented.

c. Administrative Procedures

(1) A copy of the SWPP Plan shall be maintained at the facility and shall be available for inspection by the Department.

(2) A log of daily inspections required by Provision IV.F.2.a.(3.) of the permit shall be maintained at the facility and shall be made available for inspection by the Department upon request. The log shall contain records of all inspections performed and each daily entry shall be signed by the person performing the inspection.

(3) The Permittee shall provide training for any personnel required to implement the SWPP Plan and shall retain documentation of such training at the facility. Training records for all personnel shall be available for inspection by the Department. Training shall be performed prior to the date implementation is required.

3. Monitoring Requirements

a. Storm water discharged through each storm water outfall shall be sampled once per calendar year, using first flush grab samples (FFGS) collected during the first 30 minutes of discharge.

b. The total volume of storm water discharged for the event must be monitored, including the date and duration (in hours) and rainfall (in inches) for the storm event(s) sampled. The duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event must be a minimum of 72 hours. This information must be recorded as part of the sampling procedure and records retained in accordance with Provision I.B.5. of this permit. The volume may be measured using flow measurement devices or may be estimated using any method approved in writing by the Department.

G. 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.

FACT SHEET

APPLICATION FOR NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT TO DISCHARGE POLLUTANTS TO WATERS OF THE STATE OF ALABAMA

Date Prepared: June 22, 2022 **By:** Michael Simmons

NPDES Permit No. AL0050121

1. **Name and Address of Applicant:**

   Sheffield Utilities
   P.O. Box 580
   Sheffield, AL 35660

2. **Name and Address of Facility:**

   Sheffield WWTP
   700 Furnace Drive
   Sheffield, AL 35660

3. **Description of Applicant's Type of Facility and/or Activity Generating the Discharge:**

   Discharge Type(s): Surface Water
   Treatment Method(s): Mechanical (WWTP)

4. **Applicant's Receiving Waters**

Feature ID	Receiving Water	Classification
001	Tennessee River (Pickwick Lake)	Fish and Wildlife
003	Tennessee River (Pickwick Lake)	Fish and Wildlife

For the Outfall latitude and longitude see the permit application.

5. **Permit Conditions:**

   See attached Rationale and Draft Permit.

6. **PROCEDURES FOR THE FORMULATION OF FINAL DETERMINATIONS**

   a. **Comment Period**

      The Alabama Department of Environmental Management proposes to issue this NPDES permit subject to the limitations and special conditions outlined above. This determination is tentative.

      Interested persons are invited to submit written comments on the draft permit to the following address:

Jeffery W. Kitchens, Chief
ADEM-Water Division
1400 Coliseum Blvd
[Mailing Address: Post Office Box 301463; Zip 36130-1463]
Montgomery, Alabama 36110-2400
(334) 271-7823
water-permits@adem.alabama.gov

All comments received prior to the closure of the public notice period (see public notice for date) will be considered in the formulation of the final determination with regard to this permit.

b. Public Hearing

A written request for a public hearing may be filed within the public notice period and must state the nature of the issues proposed to be raised in the hearing. A request for a hearing should be filed with the Department at the following address:

Jeffery W. Kitchens, Chief
ADEM-Water Division
1400 Coliseum Blvd
[Mailing Address: Post Office Box 301463; Zip 36130-1463]
Montgomery, Alabama 36110-2400
(334) 271-7823
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The Director shall hold a public hearing whenever it is found, on the basis of hearing requests, that there exists a significant degree of public interest in a permit application or draft permit. The Director may hold a public hearing whenever such a hearing might clarify one or more issues involved in the permit decision. Public notice of such a hearing will be made in accordance with ADEM Admin. Code r. 335-6-6-.21.

c. Issuance of the Permit

All comments received during the public comment period shall be considered in making the final permit decision. At the time that any final permit decision is issued, the Department shall prepare a response to comments in accordance with ADEM Admin. Code r. 335-6-6-.21. **The permit record, including the response to comments, will be available to the public via the eFile System** http://app.adem.alabama.gov/eFile/ **or an appointment to review the record may be made by writing the Permits and Services Division at the above address.**

Unless a request for a stay of a permit or permit provision is granted by the Environmental Management Commission, the proposed permit contained in the Director's determination shall be issued and effective, and such issuance will be the final administrative action of the Alabama Department of Environmental Management.

d. Appeal Procedures

As allowed under ADEM Admin. Code chap. 335-2-1, any person aggrieved by the Department's final administrative action may file a request for hearing to contest such action. Such requests should be received by the Environmental Management Commission within thirty days of issuance of the permit. Requests should be filed with the Commission at the following address:

Alabama Environmental Management Commission
1400 Coliseum Blvd
[Mailing Address: Post Office Box 301463; Zip 36130-1463]
Montgomery, Alabama 36110-2400

All requests must be in writing and shall contain the information provided in ADEM Admin. Code r. 335-2-1-.04.

NPDES PERMIT RATIONALE

NPDES Permit No: **AL0050121** Date: October 6, 2022

Permit Applicant: Sheffield Utilities
P.O. Box 580
Sheffield, AL 35660

Location: **Sheffield WWTP**
700 Furnace Drive
Sheffield, AL 35660

Draft Permit is:

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

Basis for Limitations:

Water Quality Model:	$CBOD_5$, NH_3-N
Reissuance with no modification:	$CBOD_5$, $CBOD_5$ % Removal, NH_3-N, pH, TRC, TSS, TSS % Removal
Instream calculation at 7Q10:	1%
Toxicity based:	TRC
Secondary Treatment Levels:	$CBOD_5$, $CBOD_5$ % Removal, TSS, TSS % Removal
Other (described below):	E. Coli, pH

Design Flow in Million Gallons per Day: 3.9 MGD

Major: Yes

Description of Discharge:

Feature ID	Description	Receiving Water	WBC	303(d)	TMDL
001-1	Municipal/Industrial Effluent Monitoring	Tennessee River (Pickwick Lake)	Fish and Wildlife	No	No
003-S	Stormwater	Tennessee River (Pickwick Lake)	Fish and Wildlife	No	No

Discussion:

This is a permit reissuance due to expiration. Limits for Five Day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$) and Total Ammonia-Nitrogen (NH_3-N), were developed based on a Waste Load Allocation (WLA) model that was completed by ADEM's Water Quality Branch (WQB) on November 1, 2021. The monthly average limits for $CBOD_5$ and NH_3-N are 25.0 mg/L and 20.0 mg/L, respectively. The daily minimum DO limit is to be monitored and reported.

The pH daily minimum and daily maximum limits of 6.0 to 9.0 S.U, respectively, were developed to be supportive of the water-use classification of the receiving stream. The daily maximum Total Residual Chlorine (TRC) limit of 1.0 mg/L is based on EPA's recommended water quality values and on the current Toxicity Rationale, which considers the available dilution in the receiving stream and should be protective of both acute and chronic Water Quality Criteria. Monitoring for TRC is only applicable if chlorine is utilized for disinfection purposes. If monitoring is not applicable during the monitoring period, enter "*9" on the monthly DMR.

The Department revised bacteriological criteria in ADEM Administrative Code R.335-6-10-.09. As a result, this permit includes E. coli limits and seasons that are consistent with the revised regulations. The imposed E. coli limits were determined based on the water-use classification of the receiving stream. Since this segment of the Tennessee River (Pickwick Lake) 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 $CBOD_5$ also in accordance with 40 CFR 133.102 regarding Secondary Treatment.

This permit requires the Permittee to monitor and report the nutrient-related parameters of Nitrate plus Nitrite Nitrogen (NO_2+NO_3-N), Total Kjeldahl Nitrogen (TKN), and Total Phosphorus (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 nutrient limits on this discharge.

Storm water runoff monitoring is being imposed by this permit based on 40 CFR Part 122. The designated outfall for storm water runoff monitoring is 003-S. Storm water runoff is to be monitored annually. The annual monitoring required includes: $CBOD_5$, E. Coli, Flow Rate, NH_3-N, NO_2+NO_3-N, Oil and Grease, pH, TKN, TP, and TSS.

Acute toxicity applies because of the low actual IWC after complete mixing. In addition, this is a major facility (design capacity greater than 1 MGD) treating both municipal and industrial wastewater, acute toxicity testing with two species (Ceriodaphnia and Pimephales) is being imposed on this permit. Acute toxicity is required once per year during the month of October. Should the results show acute toxicity, the permittee would have to conduct follow-up testing as described in Part IV.B of the permit.

Because this is a major facility treating both municipal and industrial wastewater, the Department completed a reasonable potential analysis (RPA) of the discharge based on the application data and background data from station WLHFB. All background data test results were Below Detect except for arsenic and hardness. The RPA indicates whether pollutants in treated effluent have potential to contribute to excursions of Alabama's in-stream water quality standards. Based on the RPA, it appears that there may reasonable potential to cause an in-stream water quality criterion exceedance for Arsenic. However, the discharge does not have a reasonable potential to cause or contribute to a water quality violation for arsenic in the stream. The spreadsheet Water Quality exceedance was due to background data. The arsenic data submitted with the application is less than the Water Quality Criteria; therefore, arsenic monitoring or numeric limitations are required at this time.

In the permit application, it states that Sheffield WWTP has two industries that discharge with SID permits. Upon discussions with the Industrial Section at ADEM and the Permittee, Constellium no longer discharges waste to Sheffield WWTP.

The monitoring frequency for $CBOD_5$, DO, E. Coli, NH_3-N, pH, TRC and TSS is twice per week. The monitoring frequency for nutrient-related parameters NO_2+NO_3-N, TKN, and TP is once per month. $CBOD_5$ % removal and TSS % removal are to be calculated once per month. Flow is to be continuously monitored daily.

This segment of the Tennessee River (Pickwick Lake) is a Tier II stream and is not listed on the most recent 303(d) list. There are no TMDLs affecting this discharge.

The permit language in Parts I.C.1.c and I.C.2.e has been updated to reflect the electronic discharge monitoring reporting and sanitary sewer overflow reporting requirements due to the transition to the Department's new Alabama Environmental Permitting and Compliance System (AEPACS) from the E2 Reporting System.

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: Michael N. Simmons

Facility Name: **Sheffield WWTP**

NPDES No.: **AL0050121**

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

ID	Pollutant	Carcinogen "yes"	Type	Background from upstream source (C_{d2}) Daily Max	Background from upstream source (C_{d2}) Monthly Ave	Background Instream (C_s) Daily, Max	Background Instream (C_s) Monthly Ave	Enter Max. Daily Discharge as reported by Applicant (C_d) Max	Enter Avg Daily Discharge as reported by Applicant (C_d) Ave	Partition Coefficient (Stream / Lake)
				ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
1	Antimony		Metals	0	0	0	0	0	0	-
2	**Arsenic*,****	YES	Metals	0	0	1.3	1.3	0.8	0.26	0.574
3	Beryllium		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	0.9	0.3	0.210
6	Chromium / Chromium VI**		Metals	0	0	0	0	0.9	0.3	
7	Copper**		Metals	0	0	5.7	0.906	3.4	1.9	0.388
8	Lead**		Metals	0	0	0	0	0	0	0.206
9	Mercury**		Metals	0	0	0	0	0.00256	0.00126	0.302
10	Nickel**		Metals	0	0	0	0	1.6	1	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	0	0	41.3	34	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	0	0	86000	84100	-
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	6	2	-
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	0	0	-
59	2, 4-Dinitrophenol		Acids	0	0	0	0	0	0	-
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	0	0	-
64	**Pentachlorophenol***	YES	Acids	0	0	0	0	0	0	-
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	0	0	-
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	-

3.9	Enter Q_d = wastewater discharge flow from facility (MGD)
6.0341931	Q_d = wastewater discharge flow (cfs) (this value is calculated 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)
7153.78	Enter 7Q10, Q_s = background stream flow in cfs above point of discharge
5365.33	Enter or estimated, 1Q10, Q_s = background stream flow in cfs above point of discharge (1Q10 estimated at 75% of 7Q10)
52070.47	Enter Mean Annual Flow, Q_s = background stream flow in cfs above point of discharge
12197.04	Enter 7Q2, Q_s = background stream flow in cfs above point of discharge (For LWF class streams)
Enter to Left	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)
100	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

July 20, 2022

Facility Name: Sheffield WWTP

NPDES No.: AL0050121

Freshwater F&W classification					Max Daily Discharge as reported by Applicant (C_{d2max})	Freshwater Acute (µg/l) Q_s =1Q10				Avg Daily Discharge as reported by Applicant (C_{d2avg})	Freshwater Chronic (µg/l) Q_s = 7Q10				Human Health Consumption Fish only (µg/l) Carcinogen Q_s = Annual Average Non-Carcinogen Q_s = 7Q10			
ID	Pollutant	RP?	Carcinogen yes	Background from upstream source (Cd2) Daily Max		Water Quality Criteria (C_s)	Draft Permit Limit (C_{amax})	20% of Draft Permit Limit	RP?	Background from upstream source (Cd2) Monthly Ave		Water Quality Criteria (C_s)	Draft Permit Limit (C_{amax})	20% of Draft Permit Limit	RP?	Water Quality Criteria (C_s)	Draft Permit Limit (C_{amax})	20% of Draft Permit Limit	RP?
1	Antimony			0	0	-	-	-	-	0	0	-	-	-	-	3.73E+02	4.43E+05	8.86E+04	No
2	Arsenic	YES	YES	0	0.8	592.334	526113.320	105222.664	No	0	0.25	261.324	308530.343	61706.069	No	3.03E-01	-8.60E+03	-1.72E+03	Yes
3	Beryllium			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
4	Cadmium			0	0	5.252	4675.437	935.087	No	0	0	0.737	874.287	174.857	No	-	-	-	-
5	Chromium/ Chromium III			0	0.9	1803.239	1605161.399	321032.280	No	0	0.3	234.564	278320.097	55664.019	No	-	-	-	-
6	Chromium/ Chromium VI			0	0.9	16.000	14242.472	2848.494	No	0	0.3	11.000	13051.945	2610.389	No	-	-	-	-
7	Copper			0	3.4	21.848	14202.327	2840.465	No	0	1.9	15.072	16808.901	3361.780	No	-	-	-	-
8	Lead			0	0	181.403	161476.873	32295.375	No	0	0	7.069	8387.681	1677.536	No	-	-	-	-
9	Mercury			0	0.00256	2.400	2136.371	427.274	No	0	0.00126	0.012	14.238	2.848	No	4.24E-02	5.03E+01	1.01E+01	No
10	Nickel			0	1.6	607.968	541212.153	108242.431	No	0	1	67.530	80126.846	16025.369	No	9.93E+02	1.18E+06	2.36E+05	No
11	Selenium			0	0	20.000	17803.090	3560.618	No	0	0	5.000	5932.702	1186.540	No	2.43E+03	2.88E+06	5.77E+05	No
12	Silver			0	0	1.364	1214.160	242.832	No	0	0	-	-	-	-	-	-	-	-
13	Thallium			0	0	-	-	-	-	0	0	-	-	-	-	2.74E-01	3.25E+02	6.49E+01	No
14	Zinc			0	41.3	232.696	207135.213	41427.043	No	0	34	234.599	278361.487	55672.297	No	1.49E+04	1.77E+07	3.53E+06	No
15	Cyanide			0	0	22.000	19583.399	3916.680	No	0	0	5.200	6170.010	1234.002	No	8.33E+03	1.11E+07	2.21E+06	No
16	Total Phenolic Compounds			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
17	Hardness (As CaCO3)			0	88000	-	-	-	-	0	84100	-	-	-	-	-	-	-	-
18	Acrolein			0	0	-	-	-	-	0	0	-	-	-	-	6.43E+00	6.44E+03	1.29E+03	No
19	Acrylonitrile		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.44E-01	1.24E+03	2.49E+02	No
20	Aldrin		YES	0	0	3.000	2670.464	534.093	No	0	0	-	-	-	-	2.94E-05	2.54E-01	5.07E-02	No
21	Benzene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.55E+01	1.34E+05	2.67E+04	No
22	Bromoform		YES	0	0	-	-	-	-	0	0	-	-	-	-	7.66E+01	6.60E+05	1.36E+05	No
23	Carbon Tetrachloride		YES	0	0	-	-	-	-	0	0	-	-	-	-	9.57E-01	8.26E+03	1.65E+03	No
24	Chlordane		YES	0	0	2.400	2136.371	427.274	No	0	0	0.0043	5.102	1.020	No	4.73E-04	4.08E+00	8.16E-01	No
25	Clorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	9.06E+02	1.08E+06	2.15E+05	No
26	Chlorodibromo-Methane		YES	0	0	-	-	-	-	0	0	-	-	-	-	7.41E+00	6.39E+04	1.28E+04	No
27	Chloroethane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
28	2-Chloro-Ethylvinyl Ether			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
29	ChloroForm		YES	0	6	-	-	-	-	0	2	-	-	-	-	1.02E+02	8.80E+05	1.76E+05	No
30	4,4' - DDD		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.81E-04	1.57E+00	3.13E-01	No
31	4,4' - DDE		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.28E-04	1.10E+00	2.21E-01	No
32	4,4' - DDT		YES	0	0	1.100	979.170	195.834	No	0	0	0.001	1.187	0.237	No	1.28E-04	1.10E+00	2.21E-01	No
33	Dichlorobromo-Methane		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.00E+01	8.66E+04	1.73E+04	No
34	1, 1-Dichloroethane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
35	1, 2-Dichloroethane		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.14E+01	1.84E+05	3.69E+04	No
36	Trans-1, 2-Dichloro-Ethylene			0	0	-	-	-	-	0	0	-	-	-	-	5.91E+03	7.01E+06	1.40E+06	No
37	1, 1-Dichloroethylene		YES	0	0	-	-	-	-	0	0	-	-	-	-	4.17E+03	3.60E+07	7.19E+06	No
38	1, 2-Dichloropropane			0	0	-	-	-	-	0	0	-	-	-	-	8.49E+00	1.01E+04	2.02E+03	No
39	1, 3-Dichloro-Propylene			0	0	-	-	-	-	0	0	-	-	-	-	1.23E+01	1.46E+04	2.91E+03	No
40	Dieldrin		YES	0	0	0.240	213.637	42.727	No	0	0	0.056	66.446	13.289	No	3.12E-05	2.70E-01	5.39E-02	No
41	Ethylbenzene			0	0	-	-	-	-	0	0	-	-	-	-	1.24E+03	1.48E+06	2.95E+05	No
42	Methyl Bromide			0	0	-	-	-	-	0	0	-	-	-	-	8.71E+02	1.03E+06	2.07E+05	No
43	Methyl Chloride			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
44	Methylene Chloride		YES	0	0	-	-	-	-	0	0	-	-	-	-	3.46E+02	2.98E+06	5.97E+05	No
45	1, 1, 2, 2-Tetrachloro-Ethane		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.39E+00	2.01E+04	4.03E+03	No
46	Tetrachloro-Ethylene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.92E+00	1.65E+04	3.31E+03	No
47	Toluene			0	0	-	-	-	-	0	0	-	-	-	-	8.72E+03	1.03E+07	2.07E+06	No
48	Toxaphene		YES	0	0	0.730	649.813	129.963	No	0	0	0.0002	0.237	0.047	No	1.62E-04	1.40E+00	2.79E-01	No
49	Tributyltin (TBT)		YES	0	0	0.460	409.471	81.894	No	0	0	0.072	85.431	17.086	No	-	-	-	-
50	1, 1, 1-Trichloroethane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
51	1, 1, 2-Trichloroethane		YES	0	0	-	-	-	-	0	0	-	-	-	-	8.10E+00	7.85E+04	1.57E+04	No
52	Trichloroethylene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.75E+01	1.51E+05	3.02E+04	No
53	Vinyl Chloride		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.42E+00	1.23E+04	2.46E+03	No
54	P-Chloro-M-Cresol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
55	2-Chlorophenol			0	0	-	-	-	-	0	0	-	-	-	-	8.71E+01	1.03E+05	2.07E+04	No
56	2, 4-Dichlorophenol			0	0	-	-	-	-	0	0	-	-	-	-	1.72E+02	2.04E+05	4.08E+04	No
57	2, 4-Dimethylphenol			0	0	-	-	-	-	0	0	-	-	-	-	4.98E+02	5.90E+05	1.18E+05	No
58	4, 6-Dinitro-O-Cresol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
59	2, 4-Dinitrophenol			0	0	-	-	-	-	0	0	-	-	-	-	3.11E+03	3.69E+06	7.38E+05	No
60	4,6-Dinitro-2-methylphenol		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.65E+02	1.43E+06	2.86E+05	No
61	Dioxin (2,3,7,8-TCDD)		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.67E-06	2.30E-04	4.60E-05	No
62	2-Nitrophenol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
63	4-Nitrophenol			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
64	Pentachlorophenol		YES	0	0	8.723	7765.103	1553.021	No	0	0	6.693	7941.021	1588.204	No	1.77E+00	1.53E+04	3.05E+03	No
65	Phenol			0	0	-	-	-	-	0	0	-	-	-	-	5.00E+05	5.93E+08	1.19E+08	No
66	2, 4, 6-Trichlorophenol		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.41E+00	1.22E+04	2.44E+03	No
67	Acenaphthene			0	0	-	-	-	-	0	0	-	-	-	-	5.79E+02	6.66E+05	1.37E+05	No
68	Acenaphthylene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
69	Anthracene			0	0	-	-	-	-	0	0	-	-	-	-	2.33E+04	2.77E+07	5.54E+06	No
70	Benzidine			0	0	-	-	-	-	0	0	-	-	-	-	1.16E-04	1.38E-01	2.75E-02	No
71	Benzo(A)Anthracene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	9.20E+01	1.84E+01	No
72	Benzo(A)Pyrene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	9.20E+01	1.84E+01	No
73	Benzo(b)fluoranthene			0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	1.26E+01	2.53E+00	No
74	Benzo(GHI)Perylene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
75	Benzo(K)Fluoranthene			0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	1.26E+01	2.53E+00	No
76	Bis (2-Chloroethoxy) Methane			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
77	Bis (2-Chloroethyl)-Ether		YES	0	0	-	-	-	-	0	0	-	-	-	-	3.07E-01	2.65E+03	5.31E+02	No
78	Bis (2-Chloroiso-Propyl) Ether			0	0	-	-	-	-	0	0	-	-	-	-	3.76E+04	4.48E+07	8.97E+06	No
79	Bis (2-Ethylhexyl) Phthalate		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.26E+00	1.11E+04	2.21E+03	No
80	4-Bromophenyl Phenyl Ether			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
81	Butyl Benzyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	1.13E+03	1.34E+06	2.67E+05	No
82	2-Chloronaphthalene			0	0	-	-	-	-	0	0	-	-	-	-	9.24E+02	1.10E+06	2.19E+05	No
83	4-Chlorophenyl Phenyl Ether			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
84	Chrysene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	9.20E+01	1.84E+01	No
85	Di-N-Butyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	2.62E+03	3.11E+06	6.22E+05	No
86	Di-N-Octyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
87	Dibenzo(A,H)Anthracene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	9.20E+01	1.84E+01	No
88	1, 2-Dichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	7.56E+02	8.96E+05	1.79E+05	No
89	1, 3-Dichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	5.62E+02	6.67E+05	1.33E+05	No
90	1, 4-Dichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	1.12E+02	1.33E+05	2.67E+04	No
91	3, 3-Dichlorobenzidine		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.66E-02	1.43E+02	2.87E+01	No
92	Diethyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	2.56E+04	3.03E+07	6.07E+06	No
93	Dimethyl Phthalate			0	0	-	-	-	-	0	0	-	-	-	-	6.48E+05	7.69E+08	1.54E+08	No
94	2, 4-Dinitrotoluene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.90E+00	1.71E+04	3.42E+03	No
95	2, 6-Dinitrotoluene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
96	1,2-Diphenylhydrazine			0	0	-	-	-	-	0	0	-	-	-	-	1.17E-01	1.39E+02	2.78E+01	No
97	Endosulfan (alpha)		YES	0	0	0.22	195.834	39.167	No	0	0	0.056	66.446	13.289	No	5.19E+01	4.47E+05	8.95E+04	No
98	Endosulfan (beta)		YES	0	0	0.22	195.834	39.167	No	0	0	0.056	66.446	13.289	No	5.19E+01	4.47E+05	8.95E+04	No
99	Endosulfan sulfate		YES	0	0	-	-	-	-	0	0	-	-	-	-	5.19E+01	4.47E+05	8.95E+04	No
100	Endrin		YES	0	0	0.086	76.553	15.311	No	0	0	0.036	42.715	8.543	No	9.63E-02	3.04E+02	6.09E+01	No
101	Endrin Aldeyhde		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.76E-01	1.52E+03	3.04E+02	No
102	Fluoranthene			0	0	-	-	-	-	0	0	-	-	-	-	8.12E+01	9.63E+04	1.93E+04	No
103	Fluorene			0	0	-	-	-	-	0	0	-	-	-	-	3.11E+03	3.69E+06	7.38E+05	No
104	Heptochlor		YES	0	0	0.52	462.880	92.576	No	0	0	0.0038	4.509	0.902	No	4.69E-05	4.00E-01	7.99E-02	No
105	Heptachlor Epoxide		YES	0	0	0.52	462.880	92.576	No	0	0	0.0038	4.509	0.902	No	2.29E-05	1.96E-01	3.95E-02	No
106	Hexachlorobenzene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.68E-04	1.45E+00	2.90E-01	No
107	Hexachlorobutadiene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.08E+01	9.29E+04	1.86E+04	No
108	Hexachlorocyclohexan (alpha)		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.65E-03	2.46E+01	4.92E+00	No
109	Hexachlorocyclohexan (beta)		YES	0	0	-	-	-	-	0	0	-	-	-	-	9.97E-03	8.61E+01	1.72E+01	No
110	Hexachlorocyclohexan (gamma)		YES	0	0	0.95	845.647	169.129	No	0	0	-	-	-	-	1.08E+00	9.29E+03	1.86E+03	No
111	HexachlorocycloPentadiene			0	0	-	-	-	-	0	0	-	-	-	-	6.45E+02	7.66E+05	1.53E+05	No
112	Hexachloroethane			0	0	-	-	-	-	0	0	-	-	-	-	1.92E+00	2.28E+03	4.55E+02	No
113	Indeno(1, 2, 3-CK)Pyrene		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.07E-02	9.20E+01	1.84E+01	No
114	Isophorone			0	0	-	-	-	-	0	0	-	-	-	-	5.61E+02	6.65E+05	1.33E+05	No
115	Naphthalene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
116	Nitrobenzene			0	0	-	-	-	-	0	0	-	-	-	-	4.04E+02	4.79E+05	9.58E+04	No
117	N-Nitrosodi-N-Propylamine		YES	0	0	-	-	-	-	0	0	-	-	-	-	2.95E-01	2.55E+03	5.09E+02	No
118	N-Nitrosodimethylamine		YES	0	0	-	-	-	-	0	0	-	-	-	-	1.76E+00	1.52E+04	3.04E+03	No
119	N-Nitrosodiphenylamine		YES	0	0	-	-	-	-	0	0	-	-	-	-	3.50E+00	3.02E+04	6.04E+03	No
120	PCB-1016		YES	0	0	-	-	-	-	0	0	0.014	16.612	3.322	No	3.74E-05	3.23E-01	6.45E-02	No
121	PCB-1221		YES	0	0	-	-	-	-	0	0	0.014	16.612	3.322	No	3.74E-05	3.23E-01	6.45E-02	No
122	PCB-1232		YES	0	0	-	-	-	-	0	0	0.014	16.612	3.322	No	3.74E-05	3.23E-01	6.45E-02	No
123	PCB-1242		YES	0	0	-	-	-	-	0	0	0.014	16.612	3.322	No	3.74E-05	3.23E-01	6.45E-02	No
124	PCB-1248		YES	0	0	-	-	-	-	0	0	0.014	16.612	3.322	No	3.74E-05	3.23E-01	6.45E-02	No
125	PCB-1254		YES	0	0	-	-	-	-	0	0	0.014	16.612	3.322	No	3.74E-05	3.23E-01	6.45E-02	No
126	PCB-1260		YES	0	0	-	-	-	-	0	0	0.014	16.612	3.322	No	3.74E-05	3.23E-01	6.45E-02	No
127	Phenanthrene			0	0	-	-	-	-	0	0	-	-	-	-	-	-	-	-
128	Pyrene			0	0	-	-	-	-	0	0	-	-	-	-	2.33E+03	2.77E+06	5.54E+05	No
129	1, 2, 4-Trichlorobenzene			0	0	-	-	-	-	0	0	-	-	-	-	4.09E+01	4.86E+04	9.71E+03	No

TOXICITY AND DISINFECTION RATIONALE

Facility Name:	**Sheffield WWTP**	
NPDES Permit Number:	**AL0050121**	
Receiving Stream:	**Tennessee River (Pickwick Lake)**	
Facility Design Flow (Q_w):	**3.900 MGD**	
Receiving Stream $7Q_{10}$:	**7153.780 cfs**	
Receiving Stream $1Q_{10}$:	**5365.330 cfs**	
Winter Headwater Flow (WHF):	**12197.04 cfs**	
Summer Temperature for CCC:	**28 deg. Celsius**	
Winter Temperature for CCC:	**28 deg. Celsius**	
Headwater Background NH_3-N Level:	**0.24 mg/l**	
Receiving Stream pH:	**7.0 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.

$$\text{Stream Dilution Ration (SDR)} = \frac{Qw}{7Q10 + Qw} = \textbf{0.08\%}$$

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.

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

= **0.08%** **Stream-Dominated, CMC 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:	**36.09 mg/l**	**2.48 mg/l**
Allowable Winter Instream NH_3-N:	**36.09 mg/l**	**2.48 mg/l**

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

= **42540.5 mg/l NH3-N at 7Q10**

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

= **N./A.**

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	**20.00 mg/l NH3-N**	**42540.50 mg/l NH3-N**
Winter	**N./A.**	**N./A.**

Summer: The DO based limit of 20.00 mg/l NH3-N applies.
Winter limits are not applicable.

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.

Acute toxicity testing is required

Instream Waste Concentration (IWC) = $\frac{Qw}{1Q10 + Qw}$ = **0.11%**

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

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:	13.052 mg/l (chronic)	(0.011)/(SDR)
Maximum allowable TRC in effluent:	22.544 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: Michael Simmons Date: 6/22/2022

Waste Load Allocation Summary

REQUEST INFORMATION

Request Number: 3815

From:	Nicholas Lowe	**In Branch/Section**	Municipal		
Date Submitted	8/11/2021	**Date Required**	9/10/2021	**FUND Code**	605
Date Permit application received by NPDES program	5/19/2021				
Receiving Waterbody	Tennessee River (Pickwick Lake)				
Previous Stream Name					
Facility Name	Sheffield WWTP	(Name of Discharger-WQ will use to file)			
		Previous Discharger Name			
River Basin	Tennessee	**Outfall Latitude**	34.759262	(decimal degrees)	
***County**	Colbert	**Outfall Longitude**	-87.718966	(decimal degrees)	
Permit Number	AL0050121	**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.	Florence Cypress Creek WWTP Tuscumbia WWTP Essity Professional Hygiene LLC - Barton Cherokee WWTP Cherokee Nitrogen	**Impacting dischargers permit numbers.**	AL0023884 AL0057100 AL0074667 AL0022594 AL0000418

Existing Discharge Design Flow	3.9	**MGD**	**Note: The flow rates given should be those requested for modeling.**
Proposed Discharge Design Flow		**MGD**	

Comments included ☐ Yes ☑ No

Information Verified By JJM

Year File Was Created 2000

Response ID Number 1853

Lat/Long Method GPS

12 Digit HUC Code	060300050808		
Use Classification	F&W		
Site Visit Completed?	☑ Yes ☐ No	**Date of Site Visit**	10/21/2021
Waterbody Impaired?	☐ Yes ☑ No	**Date of WLA Response**	11/1/2021
Antidegradation	☐ Yes ☑ No	**Approved TMDL?**	☐ Yes ☑ No
Waterbody Tier Level	Tier II		
Use Support Category	1	**Approval Date of TMDL**	

Waste Load Allocation Information

Modeled Reach Length	28	**Miles**	**Date of Allocation**	11/1/2021	
Name of Model Used	QUAL2K		**Allocation Type**	Annual	
Model Completed by	James Mooney		**Type of Model Used**	Data-based	
Allocation Developed by	Water Quality Branch				

Waste Load Allocation Summary

Annual Effluent Limits		
Qw	3.9	MGD
CBOD5	25	mg/L
NH3-N	20	mg/L
TKN		
D.O.		

Conventional Parameters				Other Parameters			
Qw		MGD	Qw	MGD	Qw	MGD	Qw	MGD
Season			Season		Season		Season	
From			From		From		From	
Through			Through		Through		Through	
CBOD5			CBOD5		TP		TP	
NH3-N			NH3-N		TN		TN	
TKN			TKN		TSS		TSS	
D.O.			D.O.					

"Monitor Only" Parameters for Effluent:	Parameter	Frequency	Parameter	Frequency
	DO	Monthly	NO2+NO3-N	Monthly
	TP	Monthly		
	TKN	Monthly		

Water Quality Characteristics Immediately Upstream of Discharge

Parameter	Summer		Winter	
CBODu	1.89	mg/l		mg/l
NH3-N	0.2404	mg/l		mg/l
Temperature	28	°C		°C
pH	7	su		su

Hydrology at Discharge Location

Drainage Area Qualifier				Method Used to Calculate
Exact	Drainage Area	31000	sq mi	
	Stream 7Q10	7153.78	cfs	ADEM Estimate w/TVA Data
	Stream 1Q10	5365.33	cfs	ADEM Estimate w/TVA Data
	Stream 7Q2	12197.04	cfs	ADEM Estimate w/TVA Data
	Annual Average	52070.47	cfs	ADEM Estimate w/TVA Data

Comments and/or Notations

LANCE R. LEFLEUR
DIRECTOR

COPY

KAY IVEY
GOVERNOR

Alabama Department of Environmental Management
adem.alabama.gov
1400 Coliseum Blvd. 36110-2400 ▪ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ▪ FAX (334) 271-7950

AUG 12 2021

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SEP 01 2021
MUNICIPAL SECTION

Steve Hargrove, General Manager
Sheffield Utilities
P.O. Box 580
Sheffield, Alabama 35660

RE: Permit Renewal - Requesting additional fee
NPDES Permit Number AL0050121
Sheffield WWTP
Colbert County

Dear Mr. Hargrove:

The Department has received your application requesting renewal of the NPDES permit for the above mentioned facility. The application included ADEM Form 188, EPA Forms 2A, 2F, 2S and a check in the amount of $8,075.00. Before developing the Permit, the Department must receive a fee for a Wasteload Allocation Model, which is $4,855.00.

Please submit the additional fee as soon as possible so that ADEM can proceed with the development of the permit. All fees should be made payable to the Alabama Department of Environmental Management and sent to the attention of:

Water Division, Alabama Department of Environmental Management
PO Box 301463
Montgomery, Alabama 36130-1463.

Should you have any questions concerning this matter, please feel free to contact me at 334-271-7811.

Sincerely,

Nicholas Lowe

Nicholas Lowe
Municipal Section
Water Division

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
3664 Dauphin Street, Suite B
Mobile, AL 36606
(251) 304-1176
(251) 304-1189 (FAX)

SHEFFIELD UTILITIES
P.O. BOX 580 • SHEFFIELD, AL 35660 • (256) 389-2000

May 13, 2021

Mr. Nicholas Lowe
Alabama Department of Environmental Management
Municipal Section – Water Division
P.O. Box 301463
Montgomery, Alabama 36130-1463

RE: Permit Renewal
NPDES Permit No. AL0050121
Sheffield WWTP
Colbert County, Alabama

Dear Mr. Lowe:

Please find enclosed two (2) copies of the completed application for reissuance of the above-referenced permit. Per the instructions, we are also enclosing a check in the amount of $8,075 to cover the processing fee.

You may contact me at (256) 248-2706; Civil Operations Manager Tommy Barnes at (256) 248-2742; or Chief Operator Joey Lindsey at (256) 710-0280 should you have questions or concerns.

Sincerely,

Steve Hargrove

Steve Hargrove
General Manager

Enclosures 3
By certified mail
cc/enc: Joey Lindsey, Chief Operator

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:

RECEIVED
MAY 19 2021
MUNICIPAL SECTION

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: Sheffield Wastewater Treatment Plant Facility County: Colbert

   a. Operator Name: Sheffield Utilities

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

   If No, provide the following information:

   Operator Name: Steve Hargrove

   Operator Address (Street or PO Box): P.O. box 580

   City: Sheffield Alabama Zip: 35660

   Phone Number: 256-389-2000 Email Address: shargrove@sheffieldutilities.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:

   General Manager of Sheffield Utilties

   c. Name of Permittee* if different than Operator:

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

2. NPDES Permit Number: AL0050121 (Not applicable if initial permit application)

3. Facility Location (Front Gate): Latitude: 34deg45'28.487N Longitude: 87deg42'56.904W

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

   Name and Title: Steve Hargrove

   Address: P.O. box 580

   City: Sheffield State: Alabama Zip: 35660

   Phone Number: 256-389-2000 Email Address: shargrove@sheffieldutilities.org

5. Designated Facility/DMR Contact:

Name: Joe E. Lindsey Title: Chief Operator

Phone Number: 256-710-0280 Email Address: jlindsey@sheffieldutilities.org

6. Designated Emergency Contact:

Name: Charles Cummings Title: Chief Operator

Phone Number: 256-412-9252 Email Address: ccummings@sheffieldutilities.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: _____ Title: _____

Address: P.O. Box 580

City: Sheffield State: Alabama Zip: 35660

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
N/A			

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?
N/A			

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:

Ultrasonic flow devices on Influent and Effulent
laco auto samplers on Inf. and Eff.

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
Class B sludge	Covered Pavillion for storage

***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?
Ford Motor Company	Contamited ground water	Existing	.08	■ Yes ☐ No
Constellium	Non-Process Wastewater	Existing	.001	■ Yes ☐ No
				☐ Yes ☐ No
				☐ 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?

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

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

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

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

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

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?*
	Tennessee River	☐ 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: Steve L. Hargrove Date Signed: May 13, 2021

Name: Steve Hargrove Title: General Manager

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

Mailing Address: P.O. Box 580

City: Sheffield State: Alabama Zip: 35660

Phone Number: 256-389-2000 Email Address: shargrove@sheffieldutilities.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:

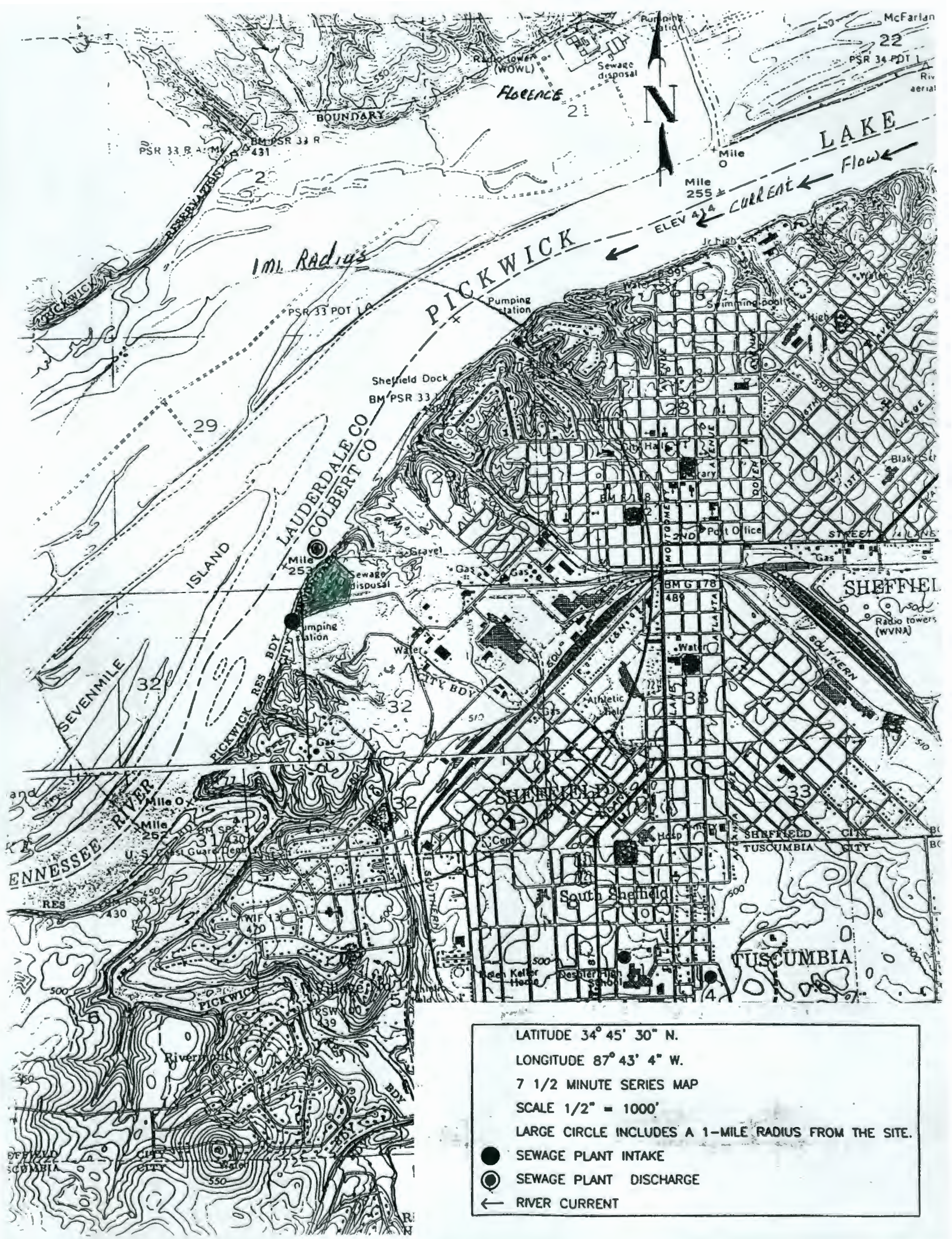
(a) In the case of a corporation, by a principal executive officer of at least the level of vice president, or a manager assigned or delegated in accordance with corporate procedures, with such delegation submitted in writing if required by the Department, who is responsible for manufacturing, production, 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.

Sheffield Wastewater Treatment Plant


FLORENCE
PICKWICK LAKE
CURRENT Flow
1MI RADIUS
SHEFFIELD
TUSCUMBIA
TENNESSEE RIVER
LAUDERDALE CO
COLBERT CO
SEVENMILE ISLAND
Sewage disposal
Pumping station
LATITUDE 34° 45' 30" N.
LONGITUDE 87° 43' 4" W.
7 1/2 MINUTE SERIES MAP
SCALE 1/2" = 1000'
LARGE CIRCLE INCLUDES A 1-MILE RADIUS FROM THE SITE.
SEWAGE PLANT INTAKE
SEWAGE PLANT DISCHARGE
RIVER CURRENT

Sheffield Wastewater Treatment Plant

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
	AL0050121	Sheffield Wastewater Plant	

Form 2A NPDES | EPA

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
Sheffield Wastewater Treatment Plant

Mailing address (street or P.O. box)
P.O. Box 580

City or town	State	ZIP code
Sheffield	Al	35660

Contact name (first and last)	Title	Phone number	Email address
Steve Hargrove	General Manager	(256) 389-2000	shargrove@sheffieldutilities.o

Location address (street, route number, or other specific identifier) ☐ Same as mailing address
700 Furnace Drive

City or town	State	ZIP code
Sheffield	Al	35660

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

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JUL 26 2022
MUNICIPAL SECTION

Applicant Information

1.3 Is applicant different from entity listed under Item 1.1 above?
☑ Yes ☐ No → SKIP to Item 1.4.

Applicant name
Sheffield Utilities

Applicant address (street or P.O. box)
P.O. Box 580

City or town	State	ZIP code
Sheffield	Al	35660

Contact name (first and last)	Title	Phone number	Email address
Steve Hargrove	General Manager	(256) 389-2000	sharvrove@sheffieldutilities.o

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)	☐ 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)

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
	AL0050121	Sheffield Wastewater Plant	

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
Sheffield		100 % separate sanitary sewer	☑ Own ☑ Maintain
		____ % combined storm and sanitary sewer	☐ Own ☐ Maintain
		☐ Unknown	☐ Own ☐ Maintain
		____ % separate sanitary sewer	☐ Own ☐ Maintain
		____ % combined storm and sanitary sewer	☐ Own ☐ Maintain
		☐ Unknown	☐ Own ☐ Maintain
		____ % separate sanitary sewer	☐ Own ☐ Maintain
		____ % combined storm and sanitary sewer	☐ Own ☐ Maintain
		☐ Unknown	☐ Own ☐ Maintain
		____ % separate sanitary sewer	☐ Own ☐ Maintain
		____ % combined storm and sanitary sewer	☐ Own ☐ Maintain
		☐ Unknown	☐ Own ☐ Maintain
Total Population Served	9300		

	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
3.9 mgd

Annual Average Flow Rates (Actual)		
Two Years Ago	**Last Year**	**This Year**
1.493 mgd	1.721 mgd	mgd

Maximum Daily Flow Rates (Actual)		
Two Years Ago	**Last Year**	**This Year**
6.104 mgd	7.461 mgd	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				

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			

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

Outfalls to Waters of the United States

Design Flow

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
10000 gpd

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

Grants and loans to upgrade our lines.

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
	AL0050121	Sheffield Wastewater Plant	

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 001	Outfall Number ____	Outfall Number ____
State	Alabama		
County	Colbert		
City or town	Sheffield		
Distance from shore	22.0 ft.	ft.	ft.
Depth below surface	3.0 ft.	ft.	ft.
Average daily flow rate	1.721 mgd	mgd	mgd
Latitude	34° 45′ 30″	° ′ ″	° ′ ″
Longitude	87° 43′ 9.6″	° ′ ″	° ′ ″

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.

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Receiving Water Description

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

	Outfall Number 001	Outfall Number ___	Outfall Number ___
Receiving water name	Tennessee River		
Name of watershed, river, or stream system	Pickwick		
U.S. Soil Conservation Service 14-digit watershed code	N/A		
Name of state management/river basin	Tennessee River		
U.S. Geological Survey 8-digit hydrologic cataloging unit code	unknown		
Critical low flow (acute)	unknown cfs	cfs	cfs
Critical low flow (chronic)	unknown cfs	cfs	cfs
Total hardness at critical low flow	unknown 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 001	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 $CBOD_5$	85 %	%	%
TSS	85 %	%	%
Phosphorus	☑ Not applicable %	☐ Not applicable %	☐ Not applicable %
Nitrogen	☑ Not applicable %	☐ Not applicable %	☐ Not applicable %
Other (specify) ___	☑ Not applicable %	☐ Not applicable %	☐ Not applicable %

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

	Outfall Number 001	Outfall Number ____	Outfall Number ____
Disinfection type	Chlorine Gas (Retamite)		
Seasons used	Year round		
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 001		Outfall Number ____		Outfall Number ____	
	Acute	Chronic	Acute	Chronic	Acute	Chronic
Number of tests of discharge water	4					
Number of tests of receiving water						

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.

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
	AL0050121	Sheffield Wastewater Plant	

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
10/18/2017 10/03/2018 10/15/2019 10/[illegible]/2020 List other Dates	No test results showed toxicity. Copies have been sent each year to Nicholas Lowe. A copy of 2018 thru 2020 test results are included in permit renewal. Dates & Passed All Passed

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.

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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
2	

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 Users Discharging Hazardous Wastes and Others

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
Steve L. Hargrove	G.M.
Signature	**Date signed**
Steve L Hargrove	May 13, 2021

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
	AL0050121	Sheffield Wastewater Plant	001

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

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)	29.5	mg/l	3.78	mg/l	312	SM5210B	1.00 mg/l ☑ ML ☐ MDL
Fecal coliform	33000	mg/l	6.04	mg/l	312	mColiBlue-24	col/100ml ☑ ML ☐ MDL
Design flow rate	7.515	MGD	1.57	MGD	312		
pH (minimum)	6.2	s.u.					
pH (maximum)	7.7	s.u.					
Temperature (winter)	N/A						
Temperature (summer)	N/A						
Total suspended solids (TSS)	40.0	mg/l	9.0	mg/l	312	usg1-3785-85	2.50 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).

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
	AL0050121	Sheffield Wastewater Plant	

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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)	8.5	mg/l	.34	mg/l	312	4500-E	0.01 mg/l ☐ ML ☐ MDL
Chlorine (total residual, TRC)[2]	.95	mg/l	.122	mg/l	312	4500-CLE	0.01 mg/l ☐ ML ☐ MDL
Dissolved oxygen	10.70	mg/l	9.11	mg/l	312	4500-OG	0.01 mg/l ☐ ML ☐ MDL
Nitrate/nitrite	9.98	mg/l	2.72	mg/l	36	4500-N ORG-B	1.0 mg/l ☐ ML ☐ MDL
Kjeldahl nitrogen	1.33	mg/l	.461	mg/l	36	EPA 353.3	0.10 mg/l ☐ ML ☐ MDL
Oil and grease	1.8	mg/l	.6	mg/l	4	EPA 166A	5.00 mg/l ☐ ML ☐ MDL
Phosphorus	2.03	mg/l	.206	mg/l	36	EPA 365.3	.124 mg/l ☐ ML ☐ MDL
Total dissolved solids	176	mg/l	90.6	mg/l	4	EPA 160.1	1.00mg/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.

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
	AL0050121	Sheffield Wastewater Plant	001

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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 $CaCO_3$)	88.0	mg/l	84.1	mg/l	3	EPA 200.7	0.01 mg/L ☐ ML ☑ MDL
Antimony, total recoverable	0	mg/l	0	mg/l	3	EPA 200.7	.078 mg/L ☐ ML ☑ MDL
Arsenic, total recoverable	.0008	mg/l	.00026	mg/l	3	EPA 200.7	.052 mg/L ☐ ML ☑ MDL
Beryllium, total recoverable	0	mg/l	0	mg/l	3	EPA 200.7	.002mg/L ☐ ML ☑ MDL
Cadmium, total recoverable	0	mg/l	0	mg/l	3	EPA 200.7	.003 mg/L ☐ ML ☑ MDL
Chromium, total recoverable	.0009	mg/l	.0003	mg/l	3	EPA 200.7	0.05 mg/L ☐ ML ☑ MDL
Copper, total recoverable	.0034	mg/l	.0019	mg/l	3	EPA 200.7	.035 mg/L ☐ ML ☑ MDL
Lead, total recoverable	0	mg/l	0	mg/l	3	EPA 200.7	.075 mg/L ☐ ML ☑ MDL
Mercury, total recoverable	2.56	ng/l	1.26	ng/l	3	CFR136A1631	0.5 mg/L ☐ ML ☑ MDL
Nickel, total recoverable	.0016	mg/l	.001	mg/l	3	EPA 200.7	0.03 mg/L ☐ ML ☑ MDL
Selenium, total recoverable	0	mg/l	0	mg/l	3	EPA 200.7	.078 mg/L ☐ ML ☑ MDL
Silver, total recoverable	0	mg/l	0	mg/l	3	EPA 200.7	0.01mg/L ☐ ML ☑ MDL
Thallium, total recoverable	0	mg/l	0	mg/l	3	EPA 200.7	0.02 mg/L ☐ ML ☑ MDL
Zinc, total recoverable	.0413	mg/l	.034	mg/l	3	EPA 200.7	0.02mg/L ☐ ML ☑ MDL
Cyanide	0	mg/l	0	mg/l	3	EPA 335.2	0.01mg/L ☐ ML ☑ MDL
Total phenolic compounds	0	mg/l	0	mg/l	3	EPA 420.1	0.01mg/L ☐ ML ☑ MDL
Volatile Organic Compounds							
Acrolein	0	mg/l	0	mg/l	3	EPA 624	5ug/L ☐ ML ☑ MDL
Acrylonitrile	0	mg/l	0	mg/l	3	EPA 624	10ug/L ☐ ML ☑ MDL
Benzene	0	mg/l	0	mg/l	3	EPA 624	1 ug/L ☐ ML ☑ MDL
Bromoform	0	mg/l	0	mg/l	3	EPA 624	1 ug/L ☐ ML ☑ MDL

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
	AL0050121	Sheffield Wastewater Plant	001

Form Approved 03/05/19
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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	mg/l	0	mg/l	3	EPA 624	5 ug/L ☐ ML ☑ MDL
Chlorobenzene	0	mg/l	0	mg/l	3	EPA 624	5 ug/L ☐ ML ☑ MDL
Chlorodibromomethane	0	mg/l	0	mg/l	3	EPA 624	5 ug/L ☑ ML ☑ MDL
Chloroethane	0	mg/l	0	mg/l	3	EPA 624	10 ug/L ☐ ML ☑ MDL
2-chloroethylvinyl ether	0	mg/l	0	mg/l	3	EPA 624	10 ug/L ☐ ML ☑ MDL
Chloroform	.006	mg/l	.002	mg/l	3	EPA 624	5 ug/L ☐ ML ☑ MDL
Dichlorobromomethane	0	mg/l	0	mg/l	3	EPA 624	5 ug/L ☐ ML ☑ MDL
1,1-dichloroethane	0	mg/l	0	mg/l	3	EPA 624	5 ug/l ☐ ML ☑ MDL
1,2-dichloroethane	0	mg/l	0	mg/l	3	EPA 624	5 ug/L ☐ ML ☑ MDL
trans-1,2-dichloroethylene	0	mg/l	0	mg/l	3	EPA 624	5 ug/L ☐ ML ☑ MDL
1,1-dichloroethylene	0	mg/l	0	mg/l	3	EPA 624	5 ug/L ☐ ML ☑ MDL
1,2-dichloropropane	0	mg/l	0	mg/l	3	EPA 624	5 ug/L ☐ ML ☑ MDL
1,3-dichloropropylene	0	mg/l	0	mg/l	3	EPA 624	5 ug/L ☐ ML ☑ MDL
Ethylbenzene	0	mg/l	0	mg/l	3	EPA 624	5 ug/L ☐ ML ☑ MDL
Methyl bromide	0	mg/l	0	mg/l	3	EPA 624	10 ug/L ☐ ML ☑ MDL
Methyl chloride	0	mg/l	0	mg/l	3	EPA 624	10 ug/l ☐ ML ☑ MDL
Methylene chloride	0	mg/l	0	mg/l	3	EPA 624	20 ug/L ☐ ML ☑ MDL
1,1,2,2-tetrachloroethane	0	mg/l	0	mg/l	3	EPA 624	5 ug/L ☐ ML ☑ MDL
Tetrachloroethylene	0	mg/l	0	mg/l	3	EPA 624	5 ug/L ☐ ML ☑ MDL
Toluene	0	mg/l	0	mg/l	3	EPA 624	5 ug/L ☐ ML ☑ MDL
1,1,1-trichloroethane	0	mg/l	0	mg/l	3	EPA 624	5 ug/L ☐ ML ☑ MDL
1,1,2-trichloroethane	0	mg/l	0	mg/l	3	EPA 624	5 ug/L ☐ ML ☑ MDL

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
	AL0050121	Sheffield Wastewater Plant	001

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		
Trichloroethylene	0	mg/L	0	ug/L	3	EPA 624	5 ug/L ☐ ML ☑ MDL
Vinyl chloride	0	mg/L	0	ug/L	3	EPA 624	10 ug/L ☐ ML ☑ MDL
Acid-Extractable Compounds							
p-chloro-m-cresol	0	mg/L	0	mg/L	3	EPA 625	1 ug/L ☐ ML ☑ MDL
2-chlorophenol	0	mg/L	0	mg/L	3	EPA 625	10 ug/L ☐ ML ☑ MDL
2,4-dichlorophenol	0	mg/L	0	mg/L	3	EPA 625	10 ug/L ☐ ML ☑ MDL
2,4-dimethylphenol	0	mg/L	0	mg/L	3	EPA 625	10 ug/L ☐ ML ☑ MDL
4,6-dinitro-o-cresol	0	mg/L	0	mg/L	3	EPA 625	10 ug/L ☐ ML ☑ MDL
2,4-dinitrophenol	0	mg/L	0	mg/L	3	EPA 625	10 ug/L ☐ ML ☑ MDL
2-nitrophenol	0	mg/L	0	mg/L	3	EPA 625	10 ug/L ☐ ML ☑ MDL
4-nitrophenol	0	mg/L	0	mg/L	3	EPA 625	10 ug/L ☐ ML ☑ MDL
Pentachlorophenol	0	mg/L	0	mg/L	3	EPA 625	10 ug/L ☐ ML ☑ MDL
Phenol	0	mg/L	0	mg/L	3	EPA 625	10 ug/L ☐ ML ☑ MDL
2,4,6-trichlorophenol	0	mg/L	0	mg/ l	3	EPA 625	10 ug/L ☐ ML ☑ MDL
Base-Neutral Compounds							
Acenaphthene	0	mg/L	0	mg/L	3	EPA 625	1 ug/L ☐ ML ☑ MDL
Acenaphthylene	0	mg/L	0	mg/L	3	EPA 625	1 ug/L ☐ ML ☑ MDL
Anthracene	0	mg/L	0	mg/L	3	EPA 625	1 ug/L ☐ ML ☑ MDL
Benzidine	0	mg/L	0	mg/L	3	EPA 625	10 ug/L ☐ ML ☑ MDL
Benzo(a)anthracene	0	mg/L	0	mg/L	3	EPA 625	1 ug/L ☐ ML ☑ MDL
Benzo(a)pyrene	0	mg/L	0	mg/L	3	EPA 625	1 ug/L ☐ ML ☑ MDL
3,4-benzofluoranthene	0	mg/L	0	mg/L	3	EPA 625	1 ug/L ☐ ML ☑ MDL

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
	AL0050121	Sheffield Wastewater Plant	001

Form Approved 03/05/19
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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		
Benzo(ghi)perylene	0	mg/L	0	mg/L	3	EPA 625	1 ug/L ☐ ML ☑ MDL
Benzo(k)fluoranthene	0	mg/L	0	mg/L	3	EPA 625	1 ug/L ☐ ML ☑ MDL
Bis (2-chloroethoxy) methane	0	mg/L	0	mg/L	3	EPA 625	10 ug/L ☐ ML ☑ MDL
Bis (2-chloroethyl) ether	0	mg/L	0	mg/L	3	EPA 625	10 ug/L ☐ ML ☑ MDL
Bis (2-chloroisopropyl) ether	0	mg/L	0	mg/L	3	EPA 625	10 ug/L ☐ ML ☑ MDL
Bis (2-ethylhexyl) phthalate	0	mg/L	0	mg/L	3	EPA 625	0.3 ug/L ☐ ML ☑ MDL
4-bromophenyl phenyl ether	0	mg/L	0	mg/L	3	EPA 625	10 ug/L ☐ ML ☑ MDL
Butyl benzyl phthalate	0	mg/L	0	mg/L	3	EPA 625	0.3 ug/L ☐ ML ☑ MDL
2-chloronaphthalene	0	mg/L	0	mg/L	3	EPA 625	1 ug/L ☐ ML ☑ MDL
4-chlorophenyl phenyl ether	0	mg/L	0	mg/L	3	EPA 625	10 ug/L ☐ ML ☑ MDL
Chrysene	0	mg/L	0	mg/L	3	EPA 625	1 ug/L ☐ ML ☑ MDL
di-n-butyl phthalate	0	mg/L	0	mg/L	3	EPA 625	0.3 ug/L ☐ ML ☑ MDL
di-n-octyl phthalate	0	mg/L	0	mg/L	3	EPA 625	0.3 ug/L ☐ ML ☑ MDL
Dibenzo(a,h)anthracene	0	mg/L	0	mg/L	3	EPA 625	1 ug/L ☐ ML ☑ MDL
1,2-dichlorobenzene	0	mg/L	0	mg/L	3	EPA 624	1 ug/L ☐ ML ☑ MDL
1,3-dichlorobenzene	0	mg/L	0	mg/L	3	EPA 624	1 ug/L ☐ ML ☑ MDL
1,4-dichlorobenzene	0	mg/L	0	mg/L	3	EPA 624	1 ug/L ☐ ML ☑ MDL
3,3-dichlorobenzidine	0	mg/L	0	mg/L	3	EPA 625	10 ug/L ☐ ML ☑ MDL
Diethyl phthalate	0	mg/L	0	mg/L	3	EPA 625	0.3 ug/L ☐ ML ☑ MDL
Dimethyl phthalate	0	mg/L	0	mg/L	3	EPA 625	0.3 ug/L ☐ ML ☑ MDL
2,4-dinitrotoluene	0	mg/L	0	mg/L	3	EPA 625	10 ug/L ☐ ML ☑ MDL
2,6-dinitrotoluene	0	mg/L	0	mg/L	3	EPA 625	10 ug/l ☐ ML ☑ MDL

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
	AL0050121	Sheffield Wastewater Plant	001

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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	mg/l	0	mg/l	3	EPA 625	10ug/l ☐ ML ☑ MDL
Fluoranthene	0	mg/l	0	mg/l	3	EPA 625	1ug/l ☐ ML ☑ MDL
Fluorene	0	mg/l	0	mg/l	3	EPA 625	1ug/l ☐ ML ☑ MDL
Hexachlorobenzene	0	mg/l	0	mg/l	3	EPA 625	10ug/l ☐ ML ☑ MDL
Hexachlorobutadiene	0	mg/l	0	mg/l	3	EPA 625	10ug/l ☐ ML ☑ MDL
Hexachlorocyclo-pentadiene	0	mg/l	0	mg/l	3	EPA 625	10ug/l ☐ ML ☑ MDL
Hexachloroethane	0	mg/l	0	mg/l	3	EPA 625	10ug/l ☐ ML ☑ MDL
Indeno(1,2,3-cd)pyrene	0	mg/l	0	mg/l	3	EPA 625	1ug/l ☐ ML ☑ MDL
Isophorone	0	mg/l	0	mg/l	3	EPA 625	10ug/l ☐ ML ☑ MDL
Naphthalene	0	mg/l	0	mg/l	3	EPA 625	1ug/l ☐ ML ☑ MDL
Nitrobenzene	0	mg/l	0	mg/l	3	EPA 625	10ug/l ☐ ML ☐ MDL
N-nitrosodi-n-propylamine	0	mg/l	0	mg/l	3	EPA 625	10ug/l ☑ ML ☑ MDL
N-nitrosodimethylamine	0	mg/l	0	mg/l	3	EPA 625	10ug/l ☐ ML ☑ MDL
N-nitrosodiphenylamine	0	mg/l	0	mg/l	3	EPA 625	10ug/l ☐ ML ☑ MDL
Phenanthrene	0	mg/l	0	mg/l	3	EPA 625	1ug/l ☐ ML ☑ MDL
Pyrene	0	mg/l	0	mg/l	3	EPA 625	1ug/l ☐ ML ☑ MDL
1,2,4-trichlorobenzene	0	mg/l	0	mg/l	3	EPA 625	10ug/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).

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
	AL0050121	Sheffield Wastewater Plant	001

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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
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							☐ 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).

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
EPA 821/R-02/012	AL0050121	Sheffield Wastewater Plant	001

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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 2022	Test Number 2019	Test Number 2018
Test Type			
Indicate the type of test performed. (Check one response.) Acute Toxicity EPA 821/R-02/012	☒ 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.	Synthetic DI water	Synthetic from DI water	
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.	100%	100%	100%

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Parameters Tested	Test Number 2022		Test Number 2019		Test Number 2018	
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	100 %	100 %	100 %
LC_{50}	>100%	>100	>100
95% confidence interval	NA %	NA %	NA %
Control percent survival	90% %	100 %	100 %

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
EPA 821/R-02/012	AL0050121	Sheffield Wastewater Plant	001

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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 2-1	Test Number 2-2	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.	Synthetic DI water		
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.	100%		

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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	100 No Acute Toxicity %		%		%	
LC_{50}	No Toxicity.					
95% confidence interval	.31 %		%		%	
Control percent survival	100% NA %		%		%	

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
	AL0050121	Sheffield Wastewater Plant	

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	Constellium	Ford Motor	
Mailing address (street or P.O. box)	4805 Second Street	SIU attached	
City, state, and ZIP code	Muscle Shoals ,AL. 35661-1282		
Description of all industrial processes that affect or contribute to the discharge.	This industry no longer has a SIU number or produces waste to Sheffield		
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.	0 gpd	gpd	gpd
How much of the average daily volume is attributable to process flow?	1000 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

EPA Identification Number	NPDES Permit Number	Facility Name
	AL0050121	Sheffield Wastewater Plant

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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 ___
Under what categories and subcategories is the SIU subject?	Category 465 and 467		
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.			

GOLDER

November 8, 2019 Project No. 19123701

Theo Pinson
ADEM-Water Division
Industrial/Municipal Branch
PO Box 301463
Montgomery, AL 36130-1463

RE: FORD MOTOR COMPANY (FORMER SACP)
SHEFFIELD, COLBERT COUNTY
SID PERMIT NUMBER IU08-17-00369

Dear Mr. Pinson:

Golder Associates Inc. (Golder), on behalf of Ford Motor Company, has reviewed draft State Indirect Discharge (SID) Permit No. IU08-17-00369 dated October 10, 2019 for the Former SACP site located in Sheffield, Alabama. We have no comments regarding the draft and request issuance of the final permit.

Sincerely,

Golder Associates Inc.

R. Luke Bragg, PE
Senior Project Environmental Engineer

Christine J. Paul
Program Leader/Principal

CC: Haley Kelly, ADEM
Tommy Barnes, Sheffield Utilities
Jon Urrengoetxea, Ford Motor Company
Andy Lewis, Golder Associates Inc.

Golder Associates Inc.
5170 Peachtree Road Building 100 Suite 300, Atlanta, Georgia, USA 30341 T: +1 770 496-1893 F: +1 770 934-9476

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
	AL0050121	Sheffield Wastewater	

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
003S	Tennessee River	34° 45′ 28″ N	87° 43′ 7″ W
		° ′ ″	° ′ ″
		° ′ ″	° ′ ″
		° ′ ″	° ′ ″
		° ′ ″	° ′ ″
		° ′ ″	° ′ ″

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 OMB No. 2040-0004
	AL0050121	Sheffield Wastewater	

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)	
003S	1.0 Ac +/-	specify units	3.47 Ac +/-	specify units
		specify units		specify units
		specify units		specify units
		specify units		specify units
		specify units		specify units
		specify units		specify units

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4.2 Provide a narrative description of the facility's significant material in the space below. (See instructions for content requirements.)

Class B sludge stored in vacinity. BMP includes rip rap basin and concrete curbing to direct flow.

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)
	Material is stored in covered building. Removed monthly	3A,5A,5C

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
	AL0050121	Sheffield Wastewater	

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
Steve L. Hargrove	G.M.
Signature	**Date signed**
Steve L. Hargrove	May 13, 2021

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
	N/A		

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.

None

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			

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
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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
Steve L. Hargrove	G.M.
Signature	**Date signed**
Steve L Hargrove	May 13, 2021

EPA Identification Number	NPDES Permit Number	Facility Name	Outfall Number
	AL0050121	Sheffield Wastewater	003S

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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	<5.00 mg/l		<5.00 mg/l		3	
2.	Biochemical oxygen demand (BOD_5)	28.2 mg/l	N/A	26.5 mg/l	N/A	3	
3.	Chemical oxygen demand (COD)	N/A	N/A	N/A	N/A	3	
4.	Total suspended solids (TSS)	116 mg/l	N/A	91.8 mg/l	N/A	3	
5.	Total phosphorus	.600 mg/l	N/A	.20 mg/l	N/A	3	
6.	Total Kjeldahl nitrogen (TKN)	8.05 mg/l	N/A	5.07 mg/l	N/A	3	
7.	Total nitrogen (as N)	.614 mg/l	N/A	.487 mg/l	N/A	3	
8.	pH (minimum)	6.9 S.U.		6.9 S.U.		3	
	pH (maximum)	9.6 S.U.		9.6 S.U.		3	

[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. 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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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
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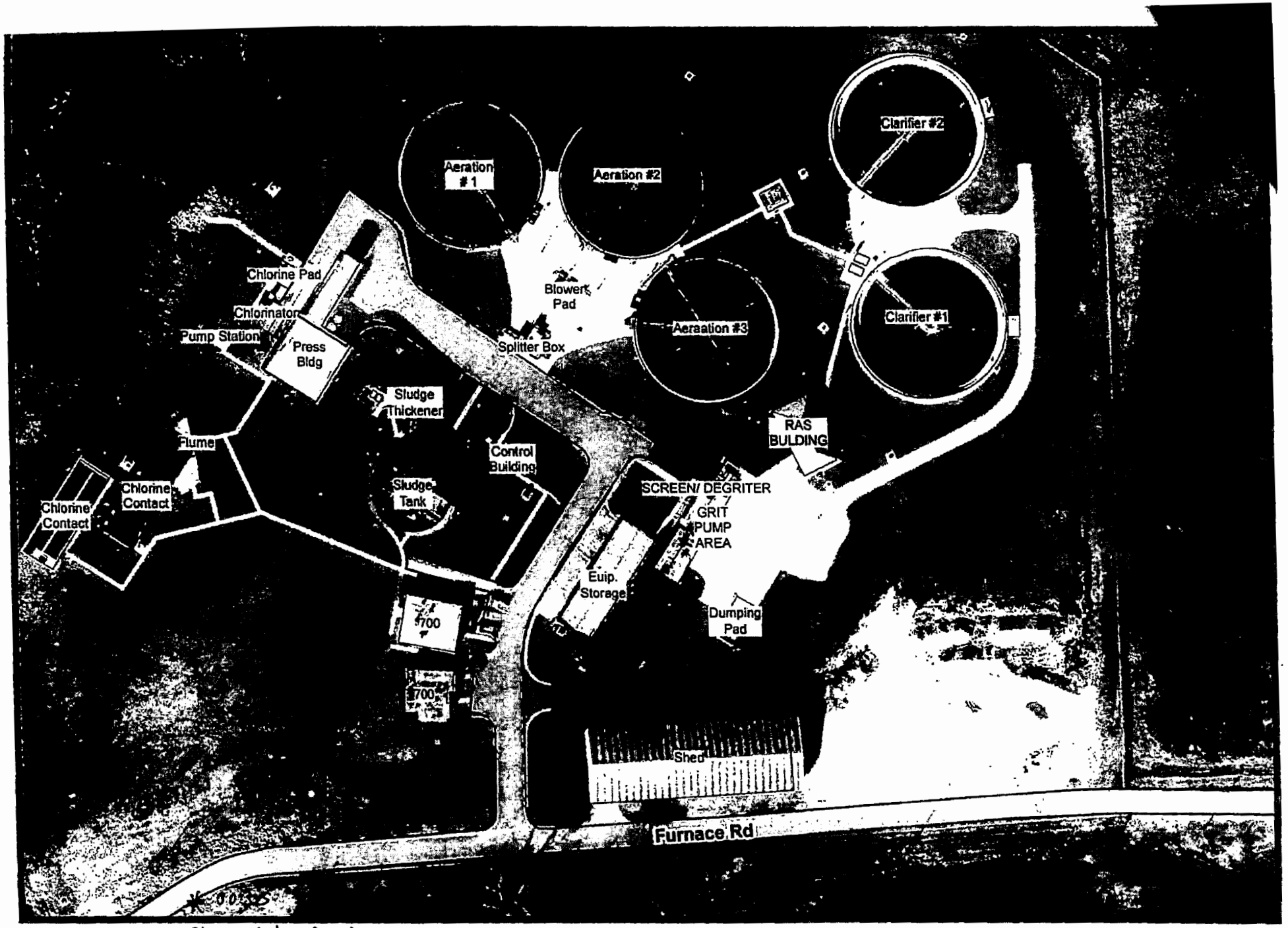
TABLE D. STORM EVENT INFORMATION (40 CFR 122.26(c)(1)(i)(E)(6))

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.



Storm Water Discharge
34°45'28"N 87°43'7"W

Sheffield Wastewater Treatment Plant

SEP 29 2022

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EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
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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 Shefiield Utilites			
	Mailing address (street or P.O. box) P.O. Box 580			
	City or town Sheffield	State Alabama	ZIP code 35660	Phone number (256) 389-2000
	Contact name (first and last) Tommy Barnes	Title Supervisor	Email address tbarnes@sheffieldutilities.org	
	Location address (street, route number, or other specific identifier) ☑ Same as mailing address			
	City or town	State	ZIP code	
1.2	Is this facility a Class I sludge management facility? ☐ Yes ☑ No			
1.3	**Facility Design Flow Rate**	3.9 million gallons per day (mgd)		
1.4	**Total Population Served**	9200		
1.5	**Ownership Status** ☐ Public—federal ☐ Public—state ☑ Other public (specify) Utilities ☐ 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			
	Applicant mailing address (street or P.O. box)			
	City or town		State	ZIP code
	Contact name (first and last)	Title	Phone number	Email address
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)			

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EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
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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.	AL0050121

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)	

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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	Synagro Inc.		
Mailing address (street or P.O. box)	501 Woodall Rd		
City, state, and ZIP code	Decatur, Al. 35601		
Contact name (first and last)	Chuck Simmons		
Telephone number	(256) 565-3374		
Email address	csimmons@synagro.com		

General Information Continued

1.17 cont.		Contractor 1	Contractor 2	Contractor 3
	Responsibilities of contractor	Incorporates waste into the soil.		

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	7.51	6010D	1
Cadmium	.943	6010D	1
Chromium	25.2	6010D	1
Copper	195	6010D	1
Lead	34.25	6010D	1
Mercury	.854	SW-7471B	1
Molybdenum	5.31	6010D	1
Nickel	19.1	6010D	1
Selenium	4.75	6010D	1
Zinc	934	6010D	1

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) Steve L. Hargrove	Official title G.M.
Signature Steve L. Hargrove	Date signed May 13, 2021
Telephone number 256-389-2800	

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.

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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: 226 tons

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:

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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) None (Land applied)

(BIA G6989-0169-48-21)

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
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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)
- ☐ Stabilization
- ☐ Composting
- ☐ Disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization)
- ☐ Heat drying
- ☐ Methane or biogas capture and recovery
- ☑ Thickening (concentration)
- ☐ Anaerobic digestion
- ☐ Conditioning
- ☑ Dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons)
- ☐ Thermal reduction

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.

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.	

Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge Continued

2.48	Name of landfill			
	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
2.49	Total dry metric tons of sewage sludge from your facility placed in this municipal solid waste landfill per 365-day period:			

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

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.

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
	AI0050121	Sheffield Wastewater	

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.

Sec. 62-143. Bills.

(a) *Based on meter readings.* Bills for services shall be rendered on the basis of the meter readings on the day of the month selected therefor. The rates set forth above are net, the gross rates being 110 percent thereof. If the current monthly bill is paid within ten days from the date of its rendition, the net rates shall apply; otherwise, the gross rates shall apply.

(b) *Failure to pay* Any customer failing or refusing to pay his bill within 15 days after the rendition thereof shall be denied the use of the services and facilities afforded by the system, his deposit shall be applied to the payment of the unpaid balance and his connection to the gas system shall be shut off until such time as all past due bills, together with a reconnecting charge of $5.00 and a new deposit shall have been paid.
(Code 1957, §§ 22-19, 22-20; Ord. of 5-30-1950, §§ 4(Bk. F, p. 529), 5(Bk. F, p. 529); Ord. of 3-16-1954, Bk. G, p. 297)

Secs. 62-144—62-171. Reserved.

ARTICLE VII. WATERWORKS*

Sec. 62-172. Water consumer allowing any other person to use water through consumer's connection.

It shall be unlawful for any person who is a water consumer of the city to allow any other person the use of water through their connections or hydrant, either for a compensation, or as a gratuity, or any other arrangement to share the water rental.
(Code 1957, § 22-9)

Sec. 62-173. Closing valves of water pipes; persons authorized to do so. Look OK updating

It shall be unlawful for any person, except the members of the fire department or employees of the city water department or street or sanitary employees to open or close any valve of any water pipe, fire cistern, fire hydrant, or water plug.
(Code 1957, § 22-10; Ord. of 8-4-1936, § 3)

Sec. 62-174. Connecting to water main or turning on water supply; authority required.

It shall be unlawful for any person, without authority, to connect any pipe with the pipes or the mains of the waterworks, or turn the water on any premises after the same has been cut off.
(Code 1957, § 22-11; Ord. of 8-4-1936, § 4)

***State law reference**—Authority to operate water system, Code of Ala. 1975, § 11-50-1.

Sec. 62-175. Water mains, pipes, meters—Injuring.

It shall be unlawful for any person to injure any of the water mains, water pipes, water meters, or other appliances now laid or erected, or hereafter to be laid or erected in the corporate or police limits of the city.
(Code 1957, § 22-12; Ord. of 7-5-2005, § 1(Bk. A, p. 397))

Sec. 62-176. Same—Interference.

It shall be unlawful for any person to interfere with any of the water mains, water pipes, water meters, or other appliances now laid or erected or hereafter to be laid or erected in the corporate or police limits of the city.
(Code 1957, § 22-13; Ord. of 7-5-2005, § 2(Bk. A, p. 397))

Secs. 62-177—62-205. Reserved.

ARTICLE VIII. SEWER SYSTEM*

DIVISION 1. GENERALLY

Sec. 62-206. Purpose, policy and scope.

(a) This article sets forth uniform requirements for direct and indirect contributors into the wastewater collection and treatment system for the city and enables the city to comply with all applicable state and federal laws required by the Clean Water Act of 1977 and the General Pretreatment Regulations (40 CFR 403).

(b) The objectives of this article are:

(1) To prevent the introduction of pollutants into the municipality wastewater system which will interfere with the operation of the system or contaminate the resulting sludge;

(2) To prevent the introduction of pollutants into the municipal wastewater system which will pass through the system, inadequately treated, into receiving waters or the atmosphere or otherwise be incompatible with the system;

(3) To improve the opportunity to recycle and reclaim wastewaters and sludges from the system; and

(4) To provide for equitable distribution of the cost of the municipal wastewater system.

(c) This article provides for the regulation of direct and indirect contributors to the municipal wastewater system through the issuance of permits to certain nondomestic users and through enforcement of general requirements for the other users, authorizes monitoring

*State law reference—Authority to operate sewer system, Code of Ala. 1975, § 11-50-50 et seq.

and enforcement activities, requires user reporting, assumes that existing customer's capacity will not be preempted, and provides for the setting of fees for the equitable distribution of costs resulting from the program established herein.

(d) This article shall apply to the city and to persons outside the city who are, by contract or agreement with the city, users of the city POTW. Except as otherwise provided herein, the general manager of the city utilities department, or his duly authorized representative, shall administer, implement, and enforcement the provisions of this article.
(Code 1957, § 22-25; Ord. of 2-1-1983, § 25.1)

Sec. 62-207. Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Act or *the act* means the Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, 33 USC 1251 et seq.

Approval authority means the director of the Alabama Department of Environmental Management (ADEM).

Authorized representative of industrial user. An authorized representative of an industrial user may be:

(1) A principal executive officer of at least the level of vice-president, if the industrial user is a corporation;

(2) A general partner or proprietor if the industrial user is a partnership or proprietorship, respectively; or

(3) A duly authorized representative of the individual designated above if such representative is responsible for the overall operation of the facilities from which the indirect discharge originates.

Biochemical oxygen demand (BOD) means the quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure, five days at 20 degrees Celsius, expressed in terms of weight and concentration (milligrams per liter (mg/l)).

Building sewer means a sewer conveying wastewater from the premises of a user to the POTW.

Categorical standards means national categorical pretreatment standards or pretreatment standard.

Control authority means the general manager of the ciity utilities department, or his duly authorized representative.

Cooling water means the water discharged from any use such as air conditioning, cooling or refrigeration, or to which the only pollutant added is heat.

Direct discharge means the discharge of treated or untreated wastewater directly to the waters of the state.

Environmental Protection Agency or *EPA* means the U.S. Environmental Protection Agency or, where appropriate, the term may also be used as a designation for the administrator or other duly authorized official of said agency.

Grab sample means a sample which is taken from a waste stream on a one-time basis with no regard to the flow in the waste stream and without consideration of time.

Holding tank waste means any waste from holding tanks such as vessels, chemical toilets, campers, trailers, septic tanks and vacuum-pump tank trucks.

Indirect discharge means the discharge or the introduction of nondomestic pollutants from any source regulated under section 307(b)(c) of the act (33 USC 1917), into the POTW (including holding tank waste discharged into the system).

Industrial user means a source of indirect discharge which does not constitute a discharge of pollutants under regulations issued pursuant to section 402 of the act (33 USC 1342).

Interference means the inhibition or disruption of the POTW treatment processes or operations which contributes to a violation of any requirement of the city's NPDES permit. The term includes prevention of sewage sludge use or disposal by the POTW in accordance with section 405 of the act (33 USC 1345), or any criteria, guidelines or regulations developed pursuant to the Solid Waste Disposal Act (SWDA), the Clean Water Act, the Toxic Substances Control Act, or more stringent state criteria (including those contained in any state sludge management plan prepared pursuant to Title IV of SWDA) applicable to the method of disposal or use employed by the POTW.

National categorical pretreatment standard or *pretreatment standard* means any regulation containing pollutant discharge limits promulgated by the EPA in accordance with section 307(b) and (c) of the act (33 USC 1347) which applies to a specific category of industrial users.

National pollution discharge elimination system or *NPDES permit.* A permit issued pursuant to section 402 of the act (33 USC 1342).

National prohibitive discharge standard or *prohibitive discharge standard* means any regulation developed under the authority of section 307(b) of the act and 40 CFR 403.5.

New source means any source, the construction of which is commenced after the publication of proposed regulations prescribing a section 307(c) of the act (33 USC 1317) categorical pretreatment standard, which will be applicable to such source, if such standard is thereafter promulgated within 120 days of proposal in the federal register. Where the standard is promulgated later than 120 days after proposal, a new source means any source, the construction of which is commenced after the date of promulgation of the standard.

Normal domestic wastewater means wastewater having BOD of not greater than 300 mg/l and a suspended solids concentration of not greater than 300 mg/l.

Person means any individual, partnership, copartnership, firm, company, corporation, association, joint stock company, trust, estate, governmental entity or any other legal entity, or their legal representatives, agents or assigns. The masculine gender shall include the feminine, the singular shall include the plural where indicated by the context.

pH means the logarithm (base 10) of the reciprocal of the concentration of hydrogen ions, expressed in grams per liter of solution.

Pollutant means any dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discharged equipment, rock, sand, cellar dirt and industrial, municipal and agricultural waste discharged into water.

Pollution means the manmade or man-induced alteration of the chemical, physical, biological and radiological integrity of water.

Pretreatment or *treatment* means the reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater to a less harmful state prior to or in lieu of discharging or otherwise introducing such pollutants into a POTW. The reduction or alteration can be obtained by physical, chemical or biological processes, or process changes by other means, except as prohibited by 40 CFR 403.6(d).

Pretreatment requirements means any substantive or procedural requirement related to pretreatment, other than a national pretreatment standard imposed on an industrial user.

Publicly owned treatment works (POTW) means a treatment works as defined by section 212 of the act (33 USC 1292), which is owned in this instance by the city. This definition includes any sewers that convey wastewater to the POTW treatment plant, but does not include pipes, sewers or other conveyances not connected to a facility providing treatment. For the purposes of this article, the term "POTW" shall also include any sewers that convey wastewaters to the POTW from persons outside the city who are, by contract or agreement with the city, users of the city's POTW.

POTW treatment plant means that portion of the POTW designed to provide treatment to wastewater.

Significant industrial user means any industrial user of the city's wastewater disposal system who:

(1) Has a discharge flow of 25,000 gallons or more per average workday;

(2) Has a flow greater than five percent of the flow in the city's wastewater treatment system;

(3) Has in his wastes toxic pollutants as defined pursuant to section 307 of the act or state statutes and rules; or

(4) Is found by the city, state control agency or the U.S. Environmental Protection Agency (EPA) to have significant impact, either singly or in combination with other contributing industries, on the wastewater treatment system, the quality of sludge, the system's effluent quality, or air emissions generated by the system.

Standard industrial classification (SIC). A classification pursuant to the Standard Industrial Classification Manual issued by the Executive Office of the President, Office of Management and Budget, 1972.

State indirect discharge (SID) permit. As set forth in section 22-63.

Stormwater means any flow occurring during or following any form of natural precipitation and resulting therefrom.

Superintendent means the general manager of the city utilities department, or his duly authorized representative.

Suspended solids means the total suspended matter that floats on the surface of, or is suspended in, water, wastewater or other liquids, and which is removable by laboratory filtering.

Toxic pollutant means any pollutant or combination of pollutants listed as toxic in regulations promulgated by the administrator of the Environmental Protection Agency under the provision of CWA 307(a) or other acts.

User means any person who contributes, causes or permits the contribution of wastewater into city's POTW.

Wastewater means the liquid and water-carried industrial or domestic wastes from dwellings, commercial buildings, industrial facilities and institutions, together with any groundwater, surface water, and stormwater that may be present, whether treated or untreated, which is contributed into or permitted to enter the POTW.

Waters of the state means all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state or any portion thereof. (Code 1957, § 22-26; Ord. of 2-1-1983, § 25.2)

Sec. 62-208. Abbreviations.

The following abbreviations shall have the designated meanings:

BOD	Biochemical oxygen demand.
CFR	Code of Federal Regulations.
COD	Chemical oxygen demand.
EPA	Environmental Protection Agency.
l	Liter.
mg	Milligrams.

mg/l	Milligrams per liter.
NPDES	National pollutant discharge elimination system.
POTW	Publicly owned treatment works.
SIC	Standard industrial classification.
SWDA	Solid Waste Disposal Act, 42 USC 6901 et seq.
USC	United States Code.
TSS	Total suspended solids.

(Code 1957, § 22-27; Ord. of 2-1-1983, § 25.3)

Secs. 62-209—62-239. Reserved.

DIVISION 2. SCHEDULE OF RATES AND REGULATIONS

Sec. 62-240. Definitions.

The following words, terms and phrases, when used in this division, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Commercial or other establishment means any establishment or water user of any kind other than an industrial establishment, church, residence, or multiple residence.

Industrial establishment means any manufacturing establishment, business, or other establishment of any kind, except a church, residence or multiple residence, that receives water from the water system through a water meter of not less than one inch in diameter capacity.

Month, monthly and monthly billing period means the period of approximately 30 days intervening between the periodic reading of meters forming a part of the water system, and any meters, installed pursuant to this division, registering the volume of wastewater discharged into the wastewater disposal system.

Multiple residence means an apartment house, duplex, or other structure or group of structures containing or consisting of more than one residence.

Residence means a separate dwelling house designed for occupancy by one family, or an apartment or other residential unit designed for occupancy by one family.

Wastewater disposal system means the wastewater disposal system of the city including all lines, equipment and appurtenant parts thereof and the wastewater treatment facility.

Wastewater treatment facility means the wastewater treatment and disposal plant of the city as it now exists and as it may hereafter be from time to time improved and enlarged.

Water system means the water treatment plant and water distribution system of the city.
(Code 1957, § 22-34; Ord. No. 1180B, § 1, 7-14-1964; Ord. of 6-7-1983, § 1)

Sec. 62-241. Wastewater user charges.

The following monthly user charges for services rendered by or from the city wastewater disposal system shall be and are hereby established:

(1) *Charges where city water used.* For each residence, multiple residence, church, commercial or other establishment, and industrial establishment having one or more water meters served by the city water system, and having wastewater disposal facilities connected or available to the city wastewater disposal system (whether any wastewater is disposed of into the wastewater disposal system or not), there shall be paid a monthly minimum charge of $3.00 for each meter, plus an amount equal to $0.86 for each 100 cubic feet of water consumed through each such water meter during such month, subject to the provisions of subsections (3) and (4) of this section; provided, that where a multiple residence is served by a single water meter, there shall be a minimum monthly charge of $3.00 for each residence occupied.

(2) *Sanitary sewer service charge to commercial establishments and churches; city water.* Sanitary sewer service charges for sanitary sewer service rendered to each commercial establishment shall be an amount equal to $0.946 per unit of water used per month (one unit = 100 cubic feet) plus a $3.30 customer charge with a minimum charge of $3.30 per month. Sanitary sewer service charges for sanitary sewer service rendered to each church shall be an amount equal to $0.946 per unit of water used per month (one unit = 100 cubic feet) plus a $3.30 customer charge with a minimum charge of $3.30 per month and a maximum charge of 19 units plus a $3.30 customer charge.

(3) *Charges to users of metered wastewater.* Any user of water as referred to in subsections (1) and (2) of this section shall have the right, at his own cost, to install and maintain a metering device or system to measure accurately the volume of wastewater discharged into the city wastewater disposal system monthly; provided, that each such device or system must be approved in advance by the general manager of the city utilities board or his authorized agent; provided further, that each such user shall keep and maintain a continuous and accurate record of such volume of wastewater so disposed of monthly for a period of not less than three years; and provided further, that such device or system and records shall be available for inspection by such manager or agent at all reasonable times. Any user so metering the wastewater discharged into the city wastewater disposal system shall pay a minimum monthly charge of $3.00 for each water meter used, a minimum monthly charge of $3.00 for each wastewater metering device or system so used, and an amount equal to $0.86 per 100 cubic feet of wastewater discharged into the city wastewater disposal system so metered during each month.

(4) In any case provided in subsections (1) and (2) of this section where the water measured through a water meter is consumed or used in any lawful process or product of the user, or is used for any other lawful purpose, and no part thereof is discharged into the city wastewater disposal system, then there shall be only the minimum charge of $3.00 monthly for each such meter and no other charge.

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Sec. 62-241. Wastewater user charges.

The following monthly user charges for services rendered by or from the city wastewater disposal system shall be and are hereby established:

(a) *Charges where city water used.* For each residence, multiple residence, church, commercial or other establishment, and industrial establishment having one or more water meters served by the city water system, and having wastewater disposal facilities connected or available to the city wastewater disposal system (whether any wastewater is disposed of into the wastewater disposal system or not), there shall be paid ***the current*** monthly minimum charge ~~of $3.00~~ for each meter, plus an amount equal to ***the current commodity charge*** ~~$0.86~~ for each 100 cubic feet of water consumed through each such water meter during such month, subject to the provisions of subsections (b) and (c) of this section; provided, that where a multiple residence is served by a single water meter, there shall be a minimum monthly charge at ***the current rate*** ~~$3.00~~ for each residence occupied.

(b) *Charges to users of metered wastewater.* Any user of water as referred to in subsection (a) ~~and (2)~~ of this section shall have the right, at his own cost, to install and maintain a metering device or system to measure accurately the volume of wastewater discharged into the city wastewater disposal system monthly; provided, that each such device or system must be approved in advance by the General Manager of the city utilities board or his authorized agent; provided further, that each such user shall keep and maintain a continuous and accurate record of such volume of wastewater so disposed of monthly for a period of not less than three years; and provided further, that such device or system and records shall be available for inspection by such manager or agent at all reasonable times. Any user so metering the wastewater discharged into the city wastewater disposal system shall pay ***the current*** minimum monthly charge ~~of $3.00~~ for each water meter used, a ***current*** minimum monthly charge ~~of $3.00~~ for each wastewater metering device or system so used, and an amount equal to ***current commodity charge*** ~~$0.86~~ per 100 cubic feet of wastewater discharged into the city wastewater disposal system so metered during each month.

(c) In any case provided in subsection (a) ~~and (2)~~ of this section where the water measured through a water meter is consumed or used in any lawful process or product of the user, or is used for any other lawful purpose, and no part thereof is discharged into the city wastewater disposal system, then there shall be only the ***current*** minimum ***monthly*** charge ~~of $3.00 monthly~~ for each such meter and no other charge. ***If a customer can prove to Sheffield Utilities that at least fifty percent of their consumed water is not discharged in to the city wastewater disposal system, the wastewater commodity rate for this meter shall be fifty percent of the current commodity charge. Sheffield Utilities may periodically verify this reduction in usage.***

(d) Notwithstanding anything in sections 62-240 through 62-243 to the contrary, and in the case of each residence and multiple residence user as referred to in subsection (1) ~~and (2)~~of this section, no charge for wastewater disposal shall be made for use of water in excess of ***1,000***~~800~~ cubic feet per month for each meter used; provided that, in the case of a multiple residence where one water meter serves more than one residence, then no charge for wastewater disposal shall be

made for use of water in excess of ***1,000***~~800~~ cubic feet per month for each residence so served; and provided further, that the minimum charges provided in said subsections (1) ~~and (2)~~ of this section shall still apply. ***Churches, commercial or other establishments, and industrial establishments shall not have a commodity cap for wastewater disposal; the commodity charge will be based on actual metered water usage unless the customer has met the requirements of subsections (b) or (c). This subsection (d) shall apply retroactively to the effective date provided in section 62-243, and any changes in this subsection (d)*** shall ~~This subsection shall~~ apply retroactively to the effective date provided in section 62-243 ~~(July 2, 1983)~~, and any charges heretofore made from and after the effective date provided in section 62-243 in excess of the charges established in this subsection ***(d)***~~(c)~~ shall be credited on future utility charges to such user.

(Code 1957, § 22-35; Ord. No. 1180B, § 2, 7-14-1964; Ord. of 8-15-1978; Ord. of 11-4-1980; Ord. of 6-7-1983, § 2; Ord. of 9-6-1983; Ord. No. 2000-0403, 4-3-2000)

Sec. 62-242. Billing, delinquency, and discontinuance of service.

All charges for services rendered by or from the city wastewater disposal system shall be rendered with bills for water furnished from the city water system during the same monthly billing period, and bills for electricity, gas and garbage collection service rendered by the city. Each bill for wastewater disposal service shall be due when rendered and shall become delinquent if not paid on or before the 15th day after the date on which such bill is rendered. Payment of any wastewater disposal charge shall not be accepted unless the charge for water, including the minimum charge, appearing on the statement is also paid. If any such bill for water and wastewater sewer service shall remain delinquent for a period of five days, the furnishing of both water from the water system and wastewater disposal service by and from the wastewater disposal system shall thereupon be discontinued to the user whose bill is so delinquent. In the event of such discontinuance, ***an applicable reconnection fee*** ~~of $10.00~~ must be paid before either water or wastewater disposal service shall again be furnished to such user, and a deposit for water service must be replaced or restored before the furnishing of water and wastewater disposal is reconnected.

(Code 1957, § 22-36; Ord. No. 1180B, § 3, 7-14-1964; Ord. of 6-7-1983, § 3)

Sec. 62-243. Effective date of wastewater disposal user charge.

The charges for wastewater disposal user charge as prescribed in this division shall become effective with respect to all service billed by and from the wastewater disposal system during each billing period ***commencing on the effective date of the current rate schedule as approved by the City Council.*** ~~and after July 2, 1983.~~

(Code 1957, § 22-37; Ord. No. 1180B, § 4, 7-14-1964; Ord. of 8-15-1978; Ord. of 11-4-1980; Ord. of 6-7-1983, § 4)

Peggy Robinson

From: Peggy Robinson
Sent: Thursday, March 15, 2012 12:19 PM
To: 'ambwllc@yahoo.com'
Cc: 'Janice Rikard'; Allen Hughes; 'ckelly@sheffieldalabama.org'
Subject: Resolution Concerning WW Sections of City Code

Vince:

Please find attached the Resolution concerning the Wastewater Sections of the City Code to be used at Monday's City Council Meeting. These changes were approved by the Utilities Board on February 24, 2012.

Thanks,

Peggy

Peggy S. Robinson
Administrative Assistant
Sheffield Utilities
E-mail: probinson@sheffieldutilities.org
Office: 256-248-2705
Fax: 256-383-6727

approved April, 2012

RESOLUTION

BE IT RESOLVED by the City Council of the City of Sheffield that the Wastewater Sections 62-241, 62-242, and 62-243 of the City Code be updated to reflect current wastewater rates as declared by the Board of Sheffield Utilities.

(5) Notwithstanding anything in sections 62-240 through 62-243 to the contrary, and in the case of each residence and multiple residence user as referred to in subsections (1) and (2) of this section, no charge for wastewater disposal shall be made for use of water in excess of 800 cubic feet per month for each meter used; provided that, in the case of a multiple residence where one water meter serves more than one residence, then no charge for wastewater disposal shall be made for use of water in excess of 800 cubic feet per month for each residence so served; and provided further, that the minimum charges provided in said subsections (1) and (2) of this section shall still apply. This subsection (e) shall apply retroactively to the effective date provided in section 62-243 (July 2, 1983), and any charges heretofore made from and after the effective date provided in section 62-243 in excess of the charges established in this subsection (e) shall be credited on future utility charges to such user.

(Code 1957, § 22-35; Ord. No. 1180B, § 2, 7-14-1964; Ord. of 8-15-1978; Ord. of 11-4-1980; Ord. of 6-7-1983, § 2; Ord. of 9-6-1983; Ord. No. 2000-0403, 4-3-2000)

Sec. 62-242. Billing, delinquency, and discontinuance of service.

All charges for services rendered by or from the city wastewater disposal system shall be rendered with bills for water furnished from the city water system during the same monthly billing period, and bills for electricity, gas and garbage collection service rendered by the city. Each bill for wastewater disposal service shall be due when rendered and shall become delinquent if not paid on or before the 15th day after the date on which such bill is rendered. Payment of any wastewater disposal charge shall not be accepted unless the charge for water, including the minimum charge, appearing on the statement is also paid. If any such bill for water and wastewater sewer service shall remain delinquent for a period of five days, the furnishing of both water from the water system and wastewater disposal service by and from the wastewater disposal system shall thereupon be discontinued to the user whose bill is so delinquent. In the event of such discontinuance, a reconnection charge of $10.00 must be paid before either water or wastewater disposal service shall again be furnished to such user, and a deposit for water service must be replaced or restored before the furnishing of water and wastewater disposal is reconnected.

(Code 1957, § 22-36; Ord. No. 1180B, § 3, 7-14-1964; Ord. of 6-7-1983, § 3)

Sec. 62-243. Effective date of wastewater disposal user charge.

The charges for wastewater disposal user charge as prescribed in this division shall become effective with respect to all service billed by and from the wastewater disposal system during each billing period commencing on and after July 2, 1983.

(Code 1957, § 22-37; Ord. No. 1180B, § 4, 7-14-1964; Ord. of 8-15-1978; Ord. of 11-4-1980; Ord. of 6-7-1983, § 4)

Secs. 62-244—62-264. Reserved.

DIVISION 3. USE RESTRICTIONS

Sec. 62-265. General discharge prohibitions.

(a) No user shall contribute or cause to be contributed, directly or indirectly, any pollutant or wastewater which will interfere with the operation or performance of the POTW. These general prohibitions apply to all such users of a POTW, whether or not the user is subject to national categorical pretreatment standards or any other national, state or local pretreatment standards or requirements. A user may not contribute the following substances to any POTW:

(1) Any liquids, solids or gases which by reason of their nature or quantity are, or may be, sufficient either alone or by interaction with other substances to cause fire or explosion or be injurious in any other way to the POTW or the operation of the POTW. At no time, shall two successive readings on any explosion hazard meter, at the point of discharge into the system, or at any point in the system, be more than five percent, nor any single reading over ten percent of the lower explosive limit (LEL) of the meter. Prohibited materials include, but are not limited to, gasoline, kerosene, naphtha, benzene, toluene, xylene, ethers, alcohols, ketones, aldehydes, peroxides, chlorates, perchlorates, bromates, carbides, hydrides, sulfides and any other substances which the city, the state or the EPA has notified the user is a fire hazard or a hazard to the system.

(2) Solid or viscous substances which may cause obstruction to the flow in a sewer or other interference with the operation of the wastewater treatment facilities such as, but not limited to, grease, garbage with particles greater than one-half inch in any dimension, animal guts or tissues, paunch manure, bones, hair, hides, or fleshings, entrails, whole blood, feathers, ashes, cinders, sand, spent lime, stone or marble dust, metal, glass, straw shavings, grass clippings, rags, spent grains, spent hops, wastepaper, wood, plastics, gas, tar, asphalt residues, residues from refining, or processing of fuel or lubricating oil, mud, or glass grinding or polishing wastes.

(3) Any wastewater having a pH less than 5.0, unless the POTW is specifically designed to accommodate such wastewater, or wastewater having any other corrosive property capable of causing damage or hazard to structures, equipment and/or personnel of the POTW.

(4) Any wastewater containing toxic pollutants in sufficient quantity, either singly or by interaction with other pollutants, to injure or interfere with any wastewater treatment process, constitute a hazard to humans or animals, create a toxic effect in the receiving waters of the POTW, or to exceed the limitation set forth in a categorical pretreatment standard. A toxic pollutant shall include but not be limited to any pollutant identified pursuant to section 307(a) of the act.

(5) Any noxious or malodorous liquids, gases or solids which either singly or by interaction with other wastes are sufficient to create a public nuisance or hazard to life or are sufficient to prevent entry into the sewers for maintenance and repair.

(6) Any substance which may cause the POTW's effluent or any other product of the POTW such as residues, sludges or scums, to be unsuitable for reclamation and reuse or to interfere with the reclamation process. In no case shall a substance discharged to the POTW cause the POTW to be a noncompliance with sludge use or disposal criteria, guidelines or regulations developed under section 405 of the act; any criteria, guidelines or regulations affecting sludge use or disposal developed pursuant to the Solid Waste Disposal Act, the Clean Air Act, the Toxic Substances Control Act, or state criteria applicable to the sludge management method being used.

(7) Any substance which will cause the POTW to violate its NPDES and/or state disposal system permit or the receiving water quality standards.

(8) Any wastewater with objectionable color not removed in the treatment process, such as, but not limited to, dye wastes and vegetable tanning solutions.

(9) Any wastewater having a temperature which will inhibit biological activity in the POTW treatment plant resulting in interference, but in no case wastewater with a temperature at the introduction into the POTW which exceeds 40 degrees Celsius (104 degrees Fahrenheit) unless the POTW treatment plant is designed to accommodate such temperature.

(10) Any pollutants, including oxygen demanding pollutants (BOD, etc.,) released at a flow rate and/or pollutant concentration which a user knows or has reason to know will cause interference to the POTW. In no case shall a slug load have a flow rate or contain concentrations or qualities of pollutants that exceed for any time period longer than 15 minutes more than five times the average 24-hour concentration, quantities or flow during normal operation.

(11) Any wastewater containing any radioactive wastes or isotopes of such half-life or concentration as may exceed limits established by the superintendent in compliance with applicable state or federal regulations.

(12) Any wastewater which causes a hazard to human life or creates a public nuisance.

(b) When the superintendent determines that a user is contributing to the POTW, any of the substances enumerated in subsection (a) of this section in such amounts as to interfere with the operation of the POTW, the superintendent shall:

(1) Advise the user of the impact of the contribution on the POTW; and

(2) Develop effluent limitation for such user to correct the interference with the POTW.
(Code 1957, § 22-41; Ord. of 2-1-1983, § 26.1)

Sec. 62-266. Federal categorical pretreatment standards—Applicability.

Upon the promulgation of the federal categorical pretreatment standards for a particular industrial subcategory, the federal standard, if more stringent than limitations imposed under

this article for sources in that subcategory, shall immediately supersede the limitations imposed under this article. The superintendent shall notify all affected users of the applicable reporting requirements under 40 CFR 403.12.
(Code 1957, § 22-42; Ord. of 2-1-1983, § 26.2)

Sec. 62-267. Same—Modifications.

Where the city's wastewater treatment system achieves consistent removal of pollutants limited by federal pretreatment standards, the city may apply to the approval authority for modification of specific limits in the federal pretreatment standards. The term "consistent removal" shall mean reduction in the amount of a pollutant or alteration of the nature of the pollutant by the wastewater treatment system to a less toxic or harmless state in the effluent which is achieved by the system for 95 percent of the samples taken when measured according to the procedures set forth in section 493.7(c)(2) of 40 CFR 403, General Pretreatment Regulations for Existing and New Sources of Pollution, promulgated pursuant to the act. The city may then modify pollutant discharge limits in the federal pretreatment standards if the requirements contained in 40 CFR 403.7 are fulfilled and prior approval from the approval authority is obtained.
(Code 1957, § 22-43; Ord. of 2-1-1983, § 26.3)

Sec. 62-268. Fundamentally different factors (FDF) variance.

Any interested person believing that the factors relating to an industrial user are fundamentally different from the factors considered during the development of a categorical pretreatment standard applicable to that user, and further, that the existence of those factors justifies a different discharge limit from that specified in the applicable pretreatment standard, may request a fundamentally different factors variance under this section or such variance request may be initiated by the EPA or the ADEM; and, if such factors are found to exist, such variance may be granted with the approval of EPA.
(Code 1957, § 22-44; Ord. of 2-1-1983, § 26.4)

Sec. 62-269. Specific pollutant limitations.

(a) No person shall discharge wastewater containing in excess of the following specific pollutants (except in the case of oil and grease, total suspended solids, and BOD, the prescribed amounts of which may be exceeded with the limitations and the payment of a surcharge as provided in subsection (b) of this section):

	30-Day Average (mg/l)	*Daily Maximum (mg/l)*
Aluminum, dissolved	25.0	50.0
Cadium, total	0.1	0.2
Cobalt, total	0.8	1.6
Copper, total	1.0	2.0

	30-Day Average (mg/l)	*Daily Maximum (mg/l)*
Chromium, hexavalent	0.1	0.2
Chromium, total	2.5	5.0
Cyanide, total	0.5	
Iron, total	10.1	20.0
Lead, total	0.1	0.2
Nickel, total	0.5	1.0
Silver, total	0.25	0.5
Tin, total	5.0	10.0
Zinc, total	1.8	3.6
Total metals, except aluminum and iron	5.0	10.5
Phosphates, (total as P)	20.0	40.0
Oil and grease	100.0	100.0
Total suspended solids	300.0	300.0
BOD	300.0	300.0
pH: 6.0—10.0 S.U.		

A variance from the pollutant limitations listed above may be granted on a case-by-case basis by the city commission provided that it is demonstrated that no other provision of this article shall be violated.

(b) Surcharge. The prescribed amounts of total suspended solids and/or BOD may be increased to not to exceed 5,000 mg/l and/or 500 pounds, on the 30-day average and the daily maximum, upon payment of the surcharge hereafter provided. The prescribed amounts of oil and grease may be increased to not to exceed 500 mg/l and/or 50 pounds, on the 30-day average and the daily maximum, upon payment of such surcharge. The excess in each case shall be monitored and measured as provided in the permit required under the provisions of section 62-203. The surcharge shall be billed and paid for on a monthly basis in addition to all other charges required by this subsection (b) and section 62-241 relating to sanitary sewer charges, and shall be calculated on a monthly basis and determined by the formula following:

$$B_v = V_u + V_u \left(\frac{BOD\text{-}BL}{BL} + \frac{TSS\text{-}SL}{SL} + \frac{OG\text{-}OL}{OL}\right)$$

B_v = Billing volume

V_u = Average quantity of the water actually consumed

BOD = Average BOD_s of the wastewater discharged

BL = Average BOD of domestic wastewater as defined in the sewer use ordinance (300 mg/l)

TSS = Total suspended solids concentration in the wastewater discharged

SL = Average total suspended solids concentrated in domestic

wastewater as defined in sewer use ordinance (300 mg/l)

OG = Average oil and grease concentration of the wastewater discharged

OL = Average oil and grease concentration of domestic wastewater as defined in this article (100 mg/l)

The terms $\frac{\text{BOD-BL}}{\text{BL}}$, $\frac{\text{TTS-SL}}{\text{SL}}$, and $\frac{\text{OG-OL}}{\text{OL}}$ shall be greater than or equal to zero at all times.

(Code 1957, § 22-45; Ord. of 2-1-1983, § 26.5; Ord. of 7-30-1985; Ord. of 6-16-1987)

Sec. 62-270. State requirements.

State requirements and limitations on discharges shall apply in any case where they are more stringent than federal requirements and limitations or those in this article.
(Code 1957, § 22-46; Ord. of 2-1-1983, § 26.6)

Sec. 62-271. City's right of revision.

The city reserves the right to establish by ordinance more stringent limitations or requirements on discharges to the wastewater disposal system if deemed necessary to comply with the objectives presented in section 62-206.
(Code 1957, § 22-47; Ord. of 2-1-1983, § 26.7)

Sec. 62-272. Excessive discharge.

No user shall ever increase the use of process water or, in any way, attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with the limitations contained in the federal categorical pretreatment standards, or in any other pollutant-specific limitation developed by the city or state. (Comment: Dilution may be an acceptable means of complying with some of the prohibitions set forth in section 62-265, e.g., the pH prohibition.)
(Code 1957, § 22-48; Ord. of 2-1-1983, § 26.8)

Sec. 62-273. Accidental discharges.

(a) *Protection required.* Each user shall provide protection from accidental discharge of prohibited materials or other substances regulated by this article. Facilities to prevent the accidental discharge of prohibited materials shall be provided and maintained at the owner's or user's own cost and expense. Detailed plans showing facilities and operating procedures to provide this protection shall be submitted to the city for review, and shall be approved by the city before construction of the facility. All existing users shall complete such a plan by construction of the facility. All existing users shall complete such a plan by the effective date of the ordinance from which this article is derived. No user who commences contribution to the

POTW after the effective date the ordinance from which this article is derived shall be permitted to introduce pollutants into the system until accidental discharge procedures have been approved by the city. Review and approval of such plans and operating procedures shall not relieve the industrial user from the responsibility to modify the user's facility as necessary to meet the requirements of this article. In the case of an accidental discharge, it is the responsibility of the user to immediately telephone and notify the POTW of the incident. The notification shall include location of discharge, type of waste, concentration and volume, and corrective actions.

(b) *Written notice.* Within five days following an accidental discharge, the user shall submit to the superintendent a detailed written report describing the cause of the discharge and the measures to be taken by the user to prevent similar future occurrences. Such notification shall not relieve the user of any expense, loss, damage, or other liability which may be incurred as a result of damage to the POTW, fish kills, or any other damage to person or property; nor shall such notification relieve the user of any fines, civil penalties, or other liability which may be imposed by this article or other applicable law.

(c) *Notice to employees.* A notice shall be permanently posted on the user's bulletin board or other prominent place advising employees whom to call in the event of a dangerous discharge. Employers shall ensure that all employees who may cause or suffer such a dangerous discharge to occur are advised of the emergency notification procedure.
(Code 1957, § 22-49; Ord. of 2-1-1983, § 26.9)

Sec. 62-274. Private sewage disposal.

(a) The owner of all houses, buildings or properties used for human occupancy, employment, recreation or other purposes, situated within the city and abutting on any street, alley or right-of-way in which there is now located or may in the future be located a public sanitary or combined sewer of the city, is hereby required at his expense to install suitable toilet facilities therein, and to connect such facilities directly with the proper public sewer in accordance with the provisions of this article, within 90 days after date of official notice to do so, provided that said public sewer is within 100 feet (30 5/10 meters) of the property line.

(b) Except as hereinafter provided, it shall be unlawful to construct or maintain within the city any privy, privy vault, septic tank, cesspool, or other facility intended or used for the disposal of sewage.

(c) It shall be unlawful for any person to place, deposit, or permit to be deposited in any unsanitary manner on public or private property within the city, or in any area under the jurisdiction of the city, any human or animal excrement, garbage or other objectionable waste.

(d) A private sewage disposal facility shall not be approved on any lot in the city having an area of less than 15,000 square feet.

(e) Plans for private sewage disposal facilities shall be submitted to and approved by the county health department before construction.
(Code 1957, § 22-50; Ord. of 2-1-1983, § 26.10)

Sec. 62-275. Building sewers and connections.

(a) No unauthorized person shall uncover, make any connections with or opening into, use, alter, or disturb any public sewer or appurtenance thereof without first obtaining a written permit from the superintendent.

(b) All cost and expense incident to the installation and connection of the building sewer shall be borne by the owner. The owner shall indemnify the city from any loss or damage that may directly or indirectly be occasioned by the installation of the building sewer.

(c) A separate and independent building sewer shall be provided for every building; except that where one building stands at the rear of another on an interior lot and no private sewer is available or can be constructed to the rear building through an adjoining alley, court, yard, or driveway, the building sewer from the front building may be extended to the rear building and the whole considered as one building sewer.

(d) Old building sewers may be used in connection with new buildings only when they are found, on examination and test by the superintendent, to meet all requirements of this article.

(e) The size, slope, alignment, materials of construction of a building sewer, and the methods to be used in excavating, placing of the pipe, jointing, testing and backfilling the trench, shall all conform to the requirements of the building and plumbing code or other applicable rules and regulations of the city. In the absence of code provisions or in amplification thereof, the materials and procedures set forth in appropriate specifications of the ASTM and WPCF Manual of Practice No. 9 shall apply.

(f) Whenever possible, the building sewer shall be brought to the building at an elevation below the basement floor. In all buildings in which any building drain is too low to permit gravity flow to the public sewer, sanitary sewage carried by such building drain shall be lifted by an approved means and discharged to the building sewer.

(g) No person shall make connection of roof downspouts, exterior foundation drains, areaway drains, or other sources of surface runoff or groundwater to a building sewer or building drain which in turn is connected directly or indirectly to a public sanitary sewer.

(h) The connection of the building sewer into the public sewer shall conform to the requirements of the building and plumbing code or other applicable rules and regulations of the city, or the procedures set forth in appropriate specifications of the ASTM and the WPCF Manual of Practice No. 9. All such connections shall be made gastight and watertight. Any deviation from the prescribed procedures and materials must be approved by the superintendent before installation.

(i) The applicant for the building sewer permit shall notify the superintendent when the building sewer is ready for inspection and connection to the public sewer. The connection shall be made under the supervision of the superintendent or his representative.

(j) All excavations for building sewer installation shall be adequately guarded with barricades and lights so as to protect the public from hazard. Streets, sidewalks, parkways, and other public property disturbed in the course of the work shall be restored in a manner satisfactory to the city, and all work for the construction of building sewers shall be in accordance with applicable OSHA regulations.
(Code 1957, § 22-51; Ord. of 2-1-1983, § 26.11)

Sec. 62-276. Stormwater.

No person shall discharge or cause to be discharged any stormwater, surface water, groundwater, roof runoff, subsurface drainage, uncontaminated cooling water, or unpolluted industrial process waters to any sanitary sewer; stormwater and all other unpolluted drainage shall be discharged to such sewers as are specifically designated as storm sewers, or to a natural outlet approved by the ADEM; industrial cooling water or unpolluted process waters may be discharged, on approval of the ADEM, to a storm sewer, or natural outlet; and no person shall, under any circumstances, discharge or cause, allow or permit to be discharged any sanitary wastewater, septic tank effluent or cesspool overflow into a storm sewer system, open drain, ditch, stream or well penetrating water-bearing formations.
(Code 1957, § 22-52; Ord. of 2-1-1983, § 26.12)

Secs. 62-277—62-300. Reserved.

DIVISION 4. ADMINISTRATION

Sec. 62-301. Cost recovery fees.

(a) *Purpose.* It is the purpose of this section to provide for the recovery of costs from users of the city's wastewater disposal system for the implementation of the program established herein. The applicable charges or fees shall be set forth in the city's schedule of charges and fees. The fees and charges herein provided are in addition to the service charges provided for in section 62-241, as now or hereafter amended.

(b) *Charges and fees.* The city may adopt charges and fees which may include:

(1) Fees for reimbursement of the costs of setting up and operating the city's pretreatment program;

(2) Fees for monitoring, inspections and surveillance procedures;

(3) Fees for reviewing accidental discharge procedures and construction;

(4) Fees for permit applications;

(5) Fees for filing appeals;

(6) Fees for consistent removal by the city of pollutants otherwise subject to federal pretreatment standards;

(7) Other fees as the city may deem necessary to carry out the requirements contained herein.

These fees relate solely to the matters covered by this article and are separate from all other fees chargeable by the city.
(Code 1957, § 22-61; Ord. of 2-1-1983, §§ 27.1, 27.2)

Sec. 62-302. Wastewater discharges.

It shall be unlawful to discharge without a permit, to any natural outlet within the city, or in any area under the jurisdiction of the city, and/or to the POTW, any wastewater, except as authorized by the superintendent and the ADEM in accordance with the provisions of this article.
(Code 1957, § 22-62; Ord. of 2-1-1983, § 28.1)

Sec. 62-303. State indirect discharge (SID) permits.

(a) *General permits.* All significant users proposing to connect to or to contribute to the POTW shall obtain an SID permit before connecting to or contributing to the POTW. All existing significant users connected to or contributing to the POTW shall obtain an SID permit within 180 days after the effective date of the ordinance from which this article is derived.

(b) *Permit application.* Users required to obtain an SID permit shall complete and file with the city and the ADEM an application in the form prescribed by the ADEM, accompanied by a fee of $25.00 to the city. Existing users shall apply for an SID permit within 30 days after the effective date of the ordinance from which this article is derived, and proposed new users shall apply at least 90 days prior to connecting to or contributing to the POTW. In support of the application, the user shall submit, in units and terms appropriate for evaluation, the following information:

(1) Name, address and location (if different from the address).

(2) SIC number according to the Standard Industrial Classification Manual, Bureau of the Budget, 1972, as amended.

(3) Wastewater constituents and characteristics, including but not limited to those mentioned in division 3 of this article, as determined by a reliable analytical laboratory; sampling and analysis shall be performed in accordance with procedures established by the EPA pursuant to section 304(g) of the act and contained in 40 CFR 136, as amended.

(4) Time and duration of contribution.

(5) Average daily and three-minute peak wastewater flow rates, including daily, monthly and seasonal variations if any.

(6) Site plans, floor plans, mechanical and plumbing plans and details to show all sewers, sewer connections and appurtenances by the size, location and elevation.

(7) Description of activities, facilities and plant processes on the premises including all materials which are or could be discharged.

(8) Where known, the nature and concentration of any pollutants in the discharge which are limited by any city, state or federal pretreatment standards, and a statement regarding whether or not the pretreatment standards are being met on a consistent basis and, if not, whether additional operation and maintenance (O&M) and/or additional pretreatment is required for the user to meet applicable pretreatment standards.

(9) If additional pretreatment and/or O&M will be required to meet the pretreatment standards, the shortest schedule by which the user will provide such additional pretreatment. The completion date in this schedule shall not be later than the compliance date established for the applicable pretreatment standard. The following conditions shall apply to this schedule:

a. The schedule shall contain increments of progress in the form of dates for the commencement and completion of major events leading to the construction and operation of additional pretreatment required for the user to meet the applicable pretreatment standards (e.g., hiring an engineer, completing preliminary plans, completing final plans, executing contracts for major components, commencing construction, completing construction, etc).

b. No increment referred to in subsection (b)(9)a of this section shall exceed nine months.

c. Not later than 14 days following each date in the schedule and the final date for compliance, the user shall submit a progress report to the superintendent and the ADEM including, as a minimum, whether or not it complied with the increment of progress to be met on such date and, if not, the date on which it expects to comply with this increment of progress, the reason for delay, and the steps being taken by the user to return the construction to the schedule established. In no event shall more than nine months lapse between such progress reports to the superintendent.

(10) Each product produced by type, amount, process or processes and rate of production.

(11) Type and amount of raw materials processed (average and maximum, per day).

(12) Number and type of employees, and hours of operation of plant and proposed or actual hours of operation of pretreatment system.

(13) Any other information as may be deemed by the city and the ADEM to be necessary to evaluate the permit application. The city and the ADEM will evaluate the data furnished by the user and may require additional information. After evaluation and acceptance of the data furnished, the ADEM may issue an SID permit subject to the terms and conditions provided herein.

(c) *Permit modifications.* Within nine months of the promulgation of a national categorical pretreatment standard, the SID permit of users subject to such standards shall be revised to require compliance with such standard within the timeframe prescribed by such standard. Where a user, subject to a national categorical pretreatment standard, has not previously submitted an application for an SID permit as required by subsection (b) of this section, the user shall apply for an SID permit within 180 days after the promulgation of the applicable national categorical pretreatment standard. In addition, the user with an existing SID permit shall submit to the superintendent and the ADEM within 180 days after the promulgation of an applicable federal categorical pretreatment standard, the information required by subsections (b)(8) and (9) of this section.

(d) *Permit conditions.* SID permits shall be expressly subject to all provisions of this article and all other applicable regulations, user charges and fees established by the city. Permits may contain the following:

(1) The unit charge or schedule of user charges and fees for the wastewater to be discharged to a community sewer.

(2) Limits on the average and maximum wastewater constituents and characteristics.

(3) Limits on the average and maximum rate and time of discharge or requirements for flow regulations and equalization.

(4) Requirements for the installation and maintenance of inspection and sampling facilities.

(5) Specifications for monitoring programs which may include sampling locations, frequency of sampling, number, types and standards for tests and reporting schedules.

(6) Compliance schedules.

(7) Requirements for submission of technical reports or discharge reports (see section 62-304).

(8) Requirements for maintaining and retaining plant records relating to wastewater discharge as specified by the city and the ADEM, and affording city and the ADEM access thereto.

(9) Requirements for notification of the city and the ADEM of any new introduction of wastewater constituents or any substantial change in the volume or character of the wastewater constituents being introduced into the wastewater treatment system.

(10) Requirements for notification of slug discharges.

(11) Other conditions as deemed appropriate by the city and the ADEM to ensure compliance with this article.

(e) *Permit duration.* Permits shall be issued for a specified time period, not to exceed five years. A permit may be issued for a period less than a year or may be stated to expire on a specific date. The user shall apply for permit reissuance a minimum of 180 days prior to the expiration of the user's existing permit. The terms and conditions of the permit may be subject

to modification by the ADEM during the term of the permit as limitations or requirements as identified in division 3 of this article are modified or other just cause exists. The user shall be informed of any proposed changes in his permit at least 30 days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.

(f) *Permit transfer.* SID permits are issued to a specific user for a specific operation. An SID permit shall not be reassigned or transferred or sold to a new owner, new user, different premises, or a new or changed operation without the approval of the city and the ADEM. Any succeeding owner or user shall also comply with the terms and conditions of the existing permit.
(Code 1957, § 22-63; Ord. of 2-1-1983, § 28.2)

Sec. 62-304. Reporting requirements for permittee.

(a) *Compliance date report.* Within 90 days following the date for final compliance with applicable pretreatment standards or, in the case of a new source, following commencement of the introduction of wastewater into the POTW, any user subject to pretreatment standards and requirements shall submit to the superintendent and the ADEM a report indicating the nature and concentration of all pollutants in the discharge from the regulated process which are limited by pretreatment standards and requirements and the average and maximum daily flow for these process units in the user facility which are limited by such pretreatment standards or requirements. The report shall state whether the applicable pretreatment standards or requirements are being met on a consistent basis, and, if not, what additional O&M and/or pretreatment is necessary to bring the user into compliance with the applicable pretreatment standards or requirements. This statement shall be signed by an authorized representative of the industrial user, and certified to by a qualified disinterested professional.

(b) *Periodic compliance reports.*

(1) Any user subject to a pretreatment standard, after the compliance date of such pretreatment standard, or, in the case of a new source, after commencement of the discharge into the POTW, shall submit to the superintendent and the ADEM during the months of June and December, unless required more frequently in the pretreatment standard or by the city or the ADEM, a report indicating the nature and concentration, of pollutants in the effluent which are limited by such pretreatment standards. In addition, this report shall include a record of all daily flows which, during the reporting period, exceeded the average daily flow reported in section 62-303(b)(5). At the discretion of the ADEM and in consideration of such factors as local high or low flow rates, holidays, budget cycles, etc., the ADEM may agree to alter the months during which the above reports are to be submitted.

(2) The ADEM may impose mass limitations on users which are using dilution to meet applicable pretreatment standards or requirements, or in other cases where the imposition of mass limitations are appropriate. In such cases, the report required by subsection (b)(1) of this section shall indicate the mass of pollutants regulated by

pretreatment standards in the effluent of the user. These reports shall contain the results of sampling and analysis of the discharge, including the flow and the nature and concentration, or production and mass where requested by the ADEM, of pollutants contained therein which are limited by the applicable pretreatment standards. The frequency of monitoring shall be prescribed in the applicable pretreatment standard. All analyses shall be performed in accordance with procedures established by the administrator pursuant to section 304(g) of the act and contained in 40 CFR 136, and amendments thereto, or with any other test procedures approved by the administrator. Sampling shall be performed in accordance with the techniques approved by the administrator. (Comment: Where 40 CFR 136, does not include a sampling or analytical technique for the pollutant in question, sampling and analysis shall be performed in accordance with the procedures set forth in the EPA publication, Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutants, April 1977, and amendments thereto, or with any other sampling and analytical procedures approved by the administrator.)

(Code 1957, § 22-64; Ord. of 2-1-1983, § 28.3)

Sec. 62-305. Monitoring facilities.

(a) The city and the ADEM shall require to be provided and operated, at the user's own expense, monitoring facilities to allow inspection, sampling and flow measurement of the building sewer and/or internal drainage systems. The monitoring facility should normally be situated on the user's premises, but the city may, when such a location would be impractical or cause undue hardship on the user, allow the facility to be constructed in the public street or sidewalk area and located so that it will not be obstructed by landscaping or parked vehicles.

(b) There shall be ample room in or near such sampling manhole or facility to allow accurate sampling and preparation of samples for analysis. The facility, sampling and measuring equipment shall be maintained at all times in a safe and proper operating condition at the expense of the user.

(c) Whether constructed on public or private property, the sampling and monitoring facilities shall be provided in accordance with the ADEM's requirements and all applicable local construction standards and specifications.

(Code 1957, § 22-65; Ord. of 2-1-1983, § 28.4)

Sec. 62-306. Inspection and sampling.

The city and/or the ADEM shall inspect the facilities of any user to ascertain whether the purpose of this article is being met and all requirements are being complied with. Persons or occupants of premises where wastewater is created or discharged shall allow the city, ADEM, or their representatives ready access at all reasonable times to all parts of the premises for the purposes of inspection, sampling, records examination or in the performance of any of their duties. The city, approval authority and EPA shall have the right to set up on the user's property such devices as are necessary to conduct sampling inspection, compliance monitoring

and/or metering operations. Where a user has security measures in force which would require proper identification and clearance before entry into their premises, the user shall make necessary arrangements with their security guards so that upon presentation of suitable identification, personnel from the city, approval authority and EPA will be permitted to enter, without delay, for the purposes of performing their specific responsibilities.
(Code 1957, § 22-66; Ord. of 2-1-1983, § 28.5)

Sec. 62-307. Pretreatment.

(a) Users shall provide necessary wastewater treatment as required to comply with this article and shall achieve compliance with all federal categorical pretreatment standards within the time limitations as specified by the federal pretreatment regulations. Any facilities required to pretreat wastewater to a level acceptable to the city shall be provided, operated and maintained at the user's expense. Detailed plans showing the pretreatment facilities and operating procedures shall be submitted to the ADEM for review, and shall be acceptable to the ADEM before construction of the facility. The review of such plans and operating procedures will in no way relieve the user from the responsibility of modifying the facility as necessary to produce an effluent acceptable to the ADEM under the provisions of this article. Any subsequent changes in the pretreatment facilities or method of operation shall be reported to and be acceptable to the city and the ADEM prior to the user's initiation of the changes.

(b) The city may annually publish in a newspaper having general circulation in the city a list of the users which were not in compliance with any pretreatment requirements or standards at least once during the 12 previous months. The notification shall also summarize any enforcement actions taken against the users during the same 12 months.

(c) All records relating to compliance with pretreatment standards shall be made available to officials of the EPA or approval authority upon request.
(Code 1957, § 22-67; Ord. of 2-1-1983, § 28.6)

Sec. 62-308. Confidential information.

(a) Information and data on a user obtained from reports, questionnaires, permit applications, permits and monitoring programs and from inspections shall be available to the public or other governmental agency without restriction, unless the user specifically requests and is able to demonstrate to the satisfaction of the city and the ADEM that the release of such information would divulge information, processes or methods of production entitled to protection as trade secrets of the user.

(b) When requested by the person furnishing a report, the portions of a report which might disclose trade secrets or secret processes shall not be made available for inspection by the public but shall be made available upon written request to governmental agencies for uses related to this article, the NPDES permit, the state disposal system permit and/or the pretreatment programs; provided, however, that such portions of a report shall be available for

use by the state or any state agency in judicial review or enforcement proceedings involving the person furnishing the report. Wastewater constituents and characteristics will not be recognized as confidential information.

(c) Information accepted by the city and the ADEM as confidential shall not be transmitted to any governmental agency or to the general public by the city or the ADEM until and unless a ten-day notification is given to the user.
(Code 1957, § 22-68; Ord. of 2-1-1983, § 28.7)

Secs. 62-309—62-334. Reserved.

DIVISION 5. ENFORCEMENT

Sec. 62-335. Harmful contributions.

(a) *Suspension of service or permit.* The city may suspend the wastewater treatment service and/or a wastewater contribution permit when such suspension is necessary, in the opinion of the city, in order to stop an actual or threatened discharge which presents or may present an imminent or substantial endangerment to the health or welfare of persons, to the environment, causes interference to the POTW or causes the city to violate any condition of its NPDES permit.

(b) *Notification; failure to comply with suspension order.* Any person notified of a suspension of the wastewater treatment service and/or the wastewater contribution permit shall immediately stop or eliminate the contribution. In the event of a failure of the person to comply voluntarily with the suspension order, the city shall take such steps as deemed necessary, including immediate severance of the sewer connection, to prevent or minimize damage to the POTW system or endangerment to any individuals.

(c) *Reinstatement of permit; submission of statement by user.* The city shall reinstate the wastewater contribution permit and/or the wastewater treatment service upon proof of the elimination of the noncomplying discharge. A detailed written statement submitted by the user describing the causes of the harmful contribution and the measures taken to prevent any future occurrence shall be submitted to the city within 15 days of the date of occurrence.
(Code 1957, § 22-81; Ord. of 2-1-1983, § 29.1)

Sec. 62-336. Revocation of permit.

Any user who violates the following conditions of this article, or applicable state and federal regulations, is subject to having his permit revoked in accordance with the procedures of this section:

(1) Failure of a user to factually report the wastewater constituents and characteristics of his discharge;

(2) Failure of the user to report significant changes in operations, or wastewater constituents and characteristics;

(3) Refusal of reasonable access to the user's premises for the purpose of inspection or monitoring; or

(4) Violation of conditions of the permit.

(Code 1957, § 22-82; Ord. of 2-1-1983, § 29.2)

Sec. 62-337. Notification of violation.

Whenever the city finds that any user has violated or is violating this article, wastewater contribution permit, or any prohibition, limitation or requirements contained herein, the city may serve upon such person a written notice stating the nature of the violation. Within 30 days of the date of the notice, a plan for the satisfactory correction thereof shall be submitted to the city by the user.

(Code 1957, § 22-83; Ord. of 2-1-1983, § 29.3)

Sec. 62-338. Show cause hearing.

(a) The city may order any user who causes or allows an unauthorized discharge to enter the POTW to show cause before the city council why the proposed enforcement action should not be taken. A notice shall be served on the user specifying the time and place of a hearing to be held by the council regarding the violation, the reasons why the action is to be taken, the proposed enforcement action, and directing the user to show cause before the council why the proposed enforcement action should not be taken. The notice of the hearing shall be served personally or by registered or certified mail (return receipt requested) at least ten days before the hearing. Service may be made on any agent or officer of a corporation.

(b) The council may itself conduct the hearing and take the evidence, or may designate any of its members or any officer or employee of the utilities department to:

(1) Issue in the name of the council notices of hearings requesting the attendance and testimony of witnesses and the production of evidence relevant to any matter involved in such hearings.

(2) Take the evidence.

(3) Transmit a report of the evidence and hearing, including transcripts and other evidence, together with recommendations to the council for action thereon.

(c) At any hearing held pursuant to this article, testimony taken must be under oath and may be recorded stenographically. The transcript, so recorded, will be made available to any member of the public or any party to the hearing upon payment of the usual charges thereof.

(d) After the city council has reviewed the evidence, it may issue an order to the user responsible for the discharge directing that, following a specified time period, the sewer service be discontinued unless adequate treatment facilities, devices or other related appurtenances shall have been installed on existing treatment facilities, devices or other related appurtenances are properly operated. Further orders and directives as are necessary and appropriate may be issued.

(Code 1957, § 22-84; Ord. of 2-1-1983, § 29.4)

Sec. 62-339. Legal action.

If any person discharges sewage, industrial wastes or other wastes into the city's wastewater disposal system contrary to the provisions of this article, federal or state pretreatment requirements, or any order of the city, the city attorney may commence an action for appropriate legal and/or equitable relief in the circuit court of the county.
(Code 1957, § 22-85; Ord. of 2-1-1983, § 29.5)

Sec. 62-340. Fines and penalty costs.

(a) *Civil and criminal penalties.* Any user who is found to have violated an order of the city council or who willfully or negligently fails to comply with any provision of this article, and the orders, rules, regulations and permits issued hereunder, shall be fined not less than $100.00 nor more than $500.00 for each offense. Each day on which a violation shall occur or continue shall be deemed a separate and distinct offense. In addition to the penalties provided herein, the city may recover reasonable attorneys' fees, court costs, court reporters' fees and other expenses of litigation by appropriate suit at law against the person found to have violated this article or the orders, rules, regulations and permits issued hereunder.

(b) *Falsifying information.* Any person who knowingly makes any false statements, representation or certification in any application, record, report, plan or other document filed or required to be maintained pursuant to this article, or wastewater contribution permit, or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required under this article shall, upon conviction, be punished by a fine of not more than $500.00, or by imprisonment for not more than six months, or by both.
(Code 1957, § 22-86; Ord. of 2-1-1983, §§ 30.1, 30.2)

Secs. 62-341—62-368. Reserved.

ARTICLE IX. CROSS CONNECTION, BACKFLOW AND BACKSIPHONAGE

Sec. 62-369. Application, intent and purpose.

(a) This article shall apply to all consumers of the city's public water system within the city and without the city except as to consumers who purchase water for use in another water system, such as a supplier of water as defined in said act.

(b) It is the intent of this article to recognize that there are varying degrees of hazard to potable water within the water main and water supply systems and that the degree of protection against such hazard should be commensurate with such hazard.

(c) The purpose of this article is as follows:

(1) To protect the water main against actual or potential cross connections, backflow and backsiphonage by isolating, within the premises or private property, contamination or pollution that has occurred or may occur because of some undiscovered or unauthorized cross connection on the premises or private property.

(2) To protect the water supply systems within the premises or private property against actual or potential cross connection, backflow or backsiphonage by requiring such air gaps, vacuum breakers, backflow preventers, reduced pressure backflow preventers and special devices required by this article, the regulations of the ADEM, or the regulations issued pursuant to this article.

(3) To eliminate cross connections, backflow or backsiphonage of any other source of water or process water used for any purpose which may jeopardize the safety of the water supply or which may endanger the health and welfare of the general public.

(4) To establish, maintain and supplement a cross connection, backflow and backsiphonage control program.

(Code 1957, § 22-91; Ord. of 6-20-1989, § 101)

Sec. 62-370. Control, responsibilities and records.

(a) *Administration, implementation and enforcement.* The administration, implementation and enforcement of this article is vested in the utilities board of the city, through its general manager, the superintendent of its water department and the city plumbing inspector all by and with the assistance of the ADEM and the county health officer when needed.

(b) *Cross connection control program.* The board shall forthwith adopt, maintain and revise, from time to time as needed, a cross connection control program in written form available for public inspection, not inconsistent with the provisions of said Safe Drinking Water Act, as it may be amended, and all regulations issued pursuant thereto, as the same may be amended, and shall commence implementation and enforcement of this article upon its becoming effective. It shall have, in the administration of the article, general superintendence and control over its general manager, the superintendent of its water department and the city plumbing inspector, and their respective duly authorized deputies. It shall be the final appeal board for the hearing of all complaints and any appeals from the rulings of its general manager, the superintendent of its water department, and the city plumbing inspector. The resolution by the board of any complaint and/or appeal shall be final.

(c) *Powers of general manager.* The general manager of the board shall carry out all directions of the board relative to this article, shall have general superintendence and control over the superintendent of the water department and the city plumbing inspector in the administration of this article and their respective duly authorized deputies, and shall serve as the first appeal authority for any complaints and/or appeal from any rulings of the superintendent of the water department and/or the city plumbing inspector or their respective duly authorized deputies.

(d) *Inspections.* The superintendent of the water department, or his duly authorized deputy, shall cause inspections to be made of all properties served by the city's potable water system, subject to the provisions of this article, where cross connections, backflow and backsiphonage, actually or potentially exist, such as, but not exclusively, restaurants, bakeries, food handling, hospitals, medical clinics, swimming pools, jacuzzis, commercial/industrial business where chemicals are used, mortuaries, animal clinics, filling stations, bulk oil and gasoline storage,

and other like consumers, public, private, commercial and industrial. In any case, where an actual or potential hazard from contaminants or pollution to the public water supply or to the water system involved exists, or where noncompliance is found, he shall forthwith initiate steps to cause the consumer involved, to come into compliance with the provisions of this article by written order or determination delivered to the consumer to bring the water system into compliance. In any case of noncompliance by any consumer where, in the opinion of the superintendent concurred in by the general manager, there is an immediate hazard to health and welfare of any person or the general public, water service to such consumer shall be discontinued until the hazard is eliminated.

(e) *Plumbing system inspector.* The city plumbing inspector shall inspect and approve the plumbing system in the construction, addition, renovation and repair of any structure where water service is to be supplied by the city water system, and shall not approve the same until full compliance with the terms of this article, and the city water system shall supply no water to the structure without the certificate of approval of such inspector.

(f) *Record system.* The board shall cause to be made, and keep and maintain, a record system of each inspection, ruling, determination, and action taken pursuant to this article, such records to be kept and maintained for not less than five years from the date of any final determination or action. A copy of any rules or determination made as to any water consumer subject to the provisions of this article shall be dated and delivered to the consumer, owner or proprietor of the premises or property involved.

(g) *Contaminants and pollutants.* Each consumer shall prevent contaminants and pollutants from entering his water supply system and from entering the public water supply system, and shall protect such systems from actual or potential cross connections, backflows or backsiphonage, for any knowing or intentional violation of which the consumer may be punished criminally as provided in this article; or, in the case of an unintentional or unknown violation, then the consumer shall, upon legal order of the superintendent of the water department and/or the plumbing inspector, correct the same, for the violation of which the consumer may be punished criminally as provided in this article. In the event of continuous knowing violations of this article, the superintendent of the water system and/or the plumbing inspection, with the concurrence of the general manager, may discontinue water services to the premises involved until the hazard is eliminated; provided, not less than five days' written notice of such discontinuance be given to the consumer, owner or proprietor of the premises involved. It shall be the duty of each consumer to notify the general manager and/or the superintendent of the water department of any known or suspected contaminant or pollution, actual or potential, entering the water systems or the water main to the end that such can be corrected.

(Code 1957, § 22-92; Ord. of 6-20-1989, § 102)

Sec. 62-371. Regulations, standards and definitions.

(a) *Adoption of regulations, standards and definitions.* The regulations, standards and definitions to be observed and complied with by all consumers and relating to cross connections, backflows and backsiphonage, shall be as follows:

(1) The Safe Drinking Water Act and the regulations of the ADEM pursuant thereto, all as the same may be hereafter amended and/or revised;

(2) The Standard Plumbing Code, 1988 Edition, published by Southern Building Code Congress International, Inc., the same having been adopted by reference by the city council by ordinance, dated December 6, 1988, entitled "An Ordinance Regulating the Construction, Repair, Renovation, etc. in Buildings in the City of Sheffield," as the same may hereafter be amended and/or revised; and

(3) The cross connection control program adopted by the board, all of which are specifically adopted herein by reference.

(b) *Inconsistencies.* In the event of any inconsistencies in the act and its regulations, and the plumbing code, and said control program, the act and its regulations shall prevail followed by said plumbing code, followed by the control program in that order.

(c) *Inspection.* The general manager, the superintendent of the water department, and the plumbing inspector and their respective duly authorized deputies, shall have the right at any reasonable time and after reasonable notice to the owner, consumer and/or proprietor, to enter into and upon any premises and property and any structure or buildings thereon for the purpose of inspection only to determine compliance or noncompliance with the provisions of this article, and, on request, the owner, consumer and/or proprietor shall furnish to such official any information regarding the water supply system.

(d) *Protection from contamination or pollution required.* No water service connections to any premises shall be installed or maintained unless the potable water supply is protected against actual or potential contamination or pollution in the manner required by this article.

(e) *Connection prohibited.* Notwithstanding any provision in this article to the contrary, it is expressly prohibited for any consumer, the subject of this article, to connect, by piping or otherwise, to his water system, served by the city's water main, any other source of water whatsoever.

(Code 1957, § 22-93; Ord. of 6-20-1989, § 103)

Sec. 62-372. Appeals.

In addition to the other duties set forth herein the general manager of the board, and the board, is hereby vested with authority, to hear any complaints as to the administration and enforcement of this article and to decide appeals from any decision, ruling, or determinations of the superintendent of the water department and/or the plumbing inspector, or their duly authorized deputies, in the following manner:

(1) In all cases where the general manager himself has not made or participated in the resolution of any complaint or decision, ruling or determination of the superintendent

or inspector, or their authorized deputies, the person making such complaint or aggrieved by any decision, ruling, or determination, shall within ten days after receiving written notice of the matter in complaint, decision, ruling or determination, file in writing an appeal to the general manager. The general manager shall, after notice to such person of the time and place at which he may appear, hear and determine the complaint or appeal. The general manager's decision shall be made in writing and delivered to such person. The decision shall be made within ten days from the date of hearing. The decision of the general manager shall be final unless there is further appeal as hereafter set out.

(2) In all other cases, and in all cases where the appeal has first been made to the general manager, the person making the complaint or aggrieved by the decision, ruling or determination, shall in writing appeal such complaint or decision, ruling or determination to the board within ten days from the date of receiving the resolution of such complaint, decision, ruling or determination, such appeal to be filed with the general manager. Thereupon, the board shall hear such appeal at its next regular or special meeting to be held not less than 20 days from the date of filing such appeal, of which date the person appealing shall have notice and may appear. The board shall decide or resolve such complaint or decision, ruling or determination within 30 days from the date the appeal is heard, and shall give its decision in writing to the person involved.

(3) All times herein set out may be extended for good cause shown by the general manager or the chairman of the board, and, in the case of an emergency hazard, the same may be shortened by the general manager or the chairman of the board.

(4) All decisions made by the board shall be final.

(Code 1957, § 22-94; Ord. of 6-20-1989, § 104)

Sec. 62-373. Repeal of all ordinances in conflict.

All ordinances heretofore adopted and in conflict herewith are, from the effective date of the ordinance from which this article is derived, repealed.

(Code 1957, § 22-95; Ord. of 6-20-1989, § 105)

Sec. 62-374. Enforcement.

(a) Any consumer violating any provision of this article shall pay all costs of the city in enforcing compliance by civil action, including but not limited to a reasonable attorney's fee.

(b) Any person knowingly or intentionally violating any provision of this article shall be fined not less than $1.00 nor more than $500.00 for each offense. Each day on which a violation shall occur or continue shall be deemed a separate and distinct offense.

(Code 1957, § 22-96; Ord. of 6-20-1989, § 106)

Sec. 62-375. Administrative liability.

No officer, agent or employee of the city, and no member of the utility board, its general manager, superintendent of the water department, city plumbing inspector, or any agent or

employee of the board shall render himself personally liable for any damage to persons or property as a result of any act required or permitted in the discharge of duties under this article. Any suit brought against any of the persons enumerated above in connection therewith shall be defended by the city through its utility board until final determination.
(Code 1957, § 22-98; Ord. of 6-20-1989, § 108)

Pace Analytical
www.pacelabs.com

2020 Toxicity

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

October 29, 2020

RECEIVED
MAY 19 2021
MUNICIPAL SECTION

Joey Lindsey
Sheffield Utilities Department
P.O. Box 580
Sheffield, AL 35660

RE: Project: October Acute Toxicity NPDES A
Pace Project No.: 20175284

Dear Joey Lindsey:
Enclosed are the analytical results for sample(s) received by the laboratory on October 13, 2020. 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.

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: Mr. Tommy Barnes, Sheffield Utilities Department - WW

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: October Acute Toxicity NPDES A
Pace Project No.: 20175284

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
3516 Greensboro Avenue
Tuscaloosa, AL 35401
(205)614-6630

SAMPLE ANALYTE COUNT

Project: October Acute Toxicity NPDES A
Pace Project No.: 20175284

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
20175284001	**WWTP Effluent Acute Toxicity**	EPA 821/R-02/012	EMP	1	PASI-SEKS

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

ANALYTICAL RESULTS

Project: October Acute Toxicity NPDES A
Pace Project No.: 20175284

Sample: WWTP Effluent Acute Toxicity **Lab ID: 20175284001** Collected: 10/13/20 07:00

Parameters	Results	Units	Report Limit	DF	Qualifiers
Toxicity, Acute	**Complete**		1.0	1	

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: October Acute Toxicity NPDES A
Pace Project No.: 20175284

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.

LABORATORIES

PASI-SEK Pace Analytical Services - SE Kansas

REPORT OF LABORATORY ANALYSIS

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:	Sheffield Utilities Department - WW	Report To:	Joey Lindsey	Attention:	
Address:	P.O. Box 580	Copy To:		Company Name:	
	Sheffield, AL 35660			Address:	
Email:	jlindsey@sheffieldutilities.org	Purchase Order #:		Pace Quote:	
Phone:	(256)710-0280 Fax:	Project Name:	October Acute Toxicity NPDES AL0050121	Pace Project Manager:	cindy.simpson@pacelabs.com,
Requested Due Date:		Order #:	549803	Pace Profile #:	14006

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: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipes WP, Air AR, Other OT, Tissue TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (C=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	Acute Toxicity	Residual Chlorine (Y/N)
1	Effluent Composite 24 100%	WT	C24	10-12	0700	10-13	0700		1	1								X	
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

WO#: 20175284

20175284

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Joshua Flippo	10-13-20	07:20	Joey Lindsey	10-13-20	07:20	
	Joey Lindsey	10-13-20	11:55	Hayden Clardy	10/13/20	11:55	
	Hayden Clardy	10/13/20	14:30	B. Gray	10.13.2	H3	
							3.8 / 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: Joshua Flippo

SIGNATURE of SAMPLER: Joshua Flippo DATE Signed: 10-13-20

WO#:20175284

PM: CRS Due Date: 10/27/20

CLIENT: TU-Sheffield

Sample Condition Upon Receipt

ace Analytical

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

Project #: 20

☐ Pace Courier ☐ Hired Courier ☐ FedX ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐

Seal on Cooler/Box Present: [see COC] Custody Seals intact: ☐Yes ☐ ... ther

...eter 18178346 Type of Ice: Wet Blue None Samples on ice: [see COC]

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

Date and Initials of person examining contents: BOT 10.13.20

...ust be measured from Temperature Blank when present

			Comments:
...ature Blank Present"?	☐Yes ☐No ☐N/A	1	
...of Custody Present	☐Yes ☐No ☐N/A	2	
...of Custody Complete	☐Yes ☐No ☐N/A	3	
...of Custody Relinquished	☐Yes ☐No ☐N/A	4	
...r Name & Signature on COC	☐Yes ☐No ☐N/A	5	
...les Arrived within Hold Time	☐Yes ☐No ☐N/A	6	
...ent Volume	☐Yes ☐No ☐N/A	7	
...t Containers Used	☐Yes ☐No ☐N/A	8	
...d vol. Rec. for Diss. tests	☐Yes ☐No ☐N/A	9	
...le Labels match COC	☐Yes ☐No ☐N/A	10	
...tainers received within manufacture's ...tory and/or expiration dates.	☐Yes ☐No ☐N/A	11	
...tainers needing chemical preservation have ...checked (except VOA, coliform, & O&G).	☐Yes ☐No ☐N/A	12	
...tainers preservation checked found to be in ...ance with EPA recommendation.	☐Yes ☐No ☐N/A	13	If No, was preservative added? ☐Yes ☐No If added record lot no.: HNO3 ______ H2SO4 ______
...pace in VOA Vials (>6mm):	☐Yes ☐No ☐N/A	14	
...ank Present	☐Yes ☐No ☐N/A	15	
	☐Yes ☐No		

Notification/ Resolution:

...Contacted:

...ents/ Resolution:

Date/Time:

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

October 27, 2020

Cindy Simpson
Pace NOLA

RE: Project: 20175284 - SHEFFIELD UTILITIES
Pace Project No.: 60351251

Dear Cindy Simpson:
Enclosed are the analytical results for sample(s) received by the laboratory on October 14, 2020. 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.

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: 20175284 - SHEFFIELD UTILITIES
Pace Project No.: 60351251

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 ANALYTE COUNT

Project: 20175284 - SHEFFIELD UTILITIES
Pace Project No.: 60351251

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
20175284001	**WWTP Effluent Acute Toxicity**	EPA 821/R-02/012	EMP	1	PASI-SE

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: 20175284 - SHEFFIELD UTILITIES
Pace Project No.: 60351251

Sample: WWTP Effluent Acute Toxicity **Lab ID: 20175284001** Collected: 10/14/20 07:00

Parameters	Results	Units	Report Limit	DF	Qualifiers
Toxicity, Acute	**Complete**		1.0	1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: 20175284 - SHEFFIELD UTILITIES
Pace Project No.: 60351251

DEFINITIONS

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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.

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MS(D) - Matrix Spike (Duplicate)

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RPD - Relative Percent Difference

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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.

LABORATORIES

PASI-SE Pace Analytical Services - SE Kansas

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO#: 60351251

60351251

Client Name: Cindy Simpson-Shearer Utilities

Courier: FedEx X UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

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-111 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): As-read 3.6 Corr. Factor -1.2 Corrected 2.4

Date and initials of person examining contents: EP 10/14/20 1500

Temperature should be above freezing to 6°C

Chain of Custody present:	XYes ☐No ☐N/A	
Chain of Custody relinquished:	XYes ☐No ☐N/A	
Samples arrived within holding time:	XYes ☐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 ☐x/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

Pace Analytical®
www.pacelabs.com

☐ Samples Pre-Logged into eCOC.

State Of Origin: AL
Cert. Needed: ☐ Yes ☐ No

Workorder: 20175284 Workorder Name: Sheffield Utilities October Acute Toxicity NPDES A
Owner Received Date: 10/13/2020 Results Requested By: 10/27/2020

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

Requested Analysis

LAB USE ONLY: 60357251

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	Acute Toxicity
1	WWTP Effluent Acute Toxicity	PS	10/13/2020 07:00	20175284001	Water	1	X
2							
3							
4							
5							

Transfers	Released By	Date/Time	Received By	Date/Time
1	S. Gray	10-13-20 1430	[illegible] pace	10/14/20 1120
2				
3				

Comments: IR62 IWC dilution is 100%

Cooler Temperature on Receipt 2.4 °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.*

PACE # 60351251

Pace Analytical Services, Inc.

808 West McKay, Frontenac, KS 66763

LABORATORY REPORT:

CLIENT: City of Sheffield P.O.Box 580 Sheffield, AL 35660	Date Reported: 10-19-20 Date Initiated: 10-14-20 Time Set: 13:10 Date Terminated: 10-16-20

BIOMONITORING STUDY

ACUTE TOXICITY

Permit # AL0050121

FINDING AND CONCLUSIONS:

Acute toxicity testing was performed on duplicate samples of effluent collected from the City of Sheffield effluent discharge. **Acute toxicity**, as defined by significant mortality for at least one of two aquatic test species during a 48 hour period of exposure, was not **detected in Ceriodaphnia exposed to the 100% effluent (AEC), and was not detected in fathead minnows exposed to the 100% effluent. The LC50 for the Ceriodaphnia was >100% and >100% for the Pimephales.** The test species utilized in this test were the water flea, Ceriodaphnia dubia and the fathead minnow, Pimephales promelas. Detailed results of the toxicity testing are provided in the Acute Toxicity Reports. In addition to the acute toxicity testing, water temperature, pH, dissolved oxygen, total hardness, total alkalinity, conductivity, and chlorine determinations were performed on the effluent and control samples.

SAMPLING PROCEDURES:

City of Sheffield personnel collected a sample at the City of Sheffield effluent discharge. The sample was preserved with ice and transported to Pace Analytical by commercial carrier.

INTRODUCTION:

The purpose of this test was to determine the acute toxicity of the City of Sheffield effluent on the freshwater invertebrate, Ceriodaphnia dubia and the fathead minnow, Pimephalas promelas. These tests were conducted at Pace Analytical Services, Inc., Frontenac, KS.

TEST ORGANISMS:

Ceriodaphnia dubia - The genetic stock of Ceriodaphnia dubia used in this acute toxicity Test were originally obtained from a private breeder. Ceriodaphnia are cultured in house at Pace Analytical Services, Inc. Culture methods of Ceriodaphnia were obtained from EPA821-C-02-006 November 2002.

Pimephales promelas - The fathead minnows used in this acute toxicity test were cultured in-house at Pace Analytical Services, Inc., Frontenac, KS and/or were obtained from a private breeder. Fathead minnows are maintained at Pace Analytical Services until use for acute toxicity between the ages of 1 and 14 days. Information for culturing fathead minnows was taken from EPA821-C-02-006 November 2002.

MATERIALS AND METHODS:

Procedures used in the acute toxicity tests are described in Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (USEPA, 2002).

City of Sheffield collected the effluent tested from the City of Sheffield discharge. Testing was performed using a 100% effluent, and a synthetic control. **The toxicity test was initiated within 36 hours of sample collection.** Effluent and synthetic control test solutions were not aerated during the testing period.

Ceriodaphnia *ACUTE METHODS:*

This static test was ran using 40 ml glass vials containing 25 ml of test solution. Food was administered before the test. Five Ceriodaphnia neonates (<24 hr old) were randomly selected and placed in each of 4 replicates of test solution. A total of 20 organisms per concentration were tested. Observations of mortality were made at 24 and 48 hours of exposure.

Pimephales *ACUTE METHODS:*

This static toxicity test was conducted using 500 ml polypropylene container as test chambers containing 250 ml of test solution. Food was administered prior to test initiation, but not during the testing period. Ten Pimephales, 1 – 14 days old, from a single spawn, were randomly selected and placed in each of 4 test chambers. A total of 40 organisms were exposed to each test concentration. Observations of mortality were made at 24 and 48 hours of exposure.

WATER QUALITY METHODS:

Prior to test initiation, temperature, dissolved oxygen, pH, total alkalinity, total hardness, and total residual chlorine were measured in the effluent and in the controls. At 24 and 48 hours of exposure, temperature, dissolved oxygen, pH, and conductance were measured in the effluent sample and the controls.

DATA ANALYSIS:

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 (LC50) are calculated using effluent concentrations and their corresponding percent mortality data. The LC50's and the 95% confidence intervals are calculated where appropriate by the Spearman-Karber method. Statistical analysis is accomplished by following steps in EPA/600/4-90/027F, August 1993 and by use of Toxstat version 3.4.

RESULTS:

THE Ceriodaphnia MORTALITY RESULTS - There was no significant mortality observed of the freshwater invertebrate, Ceriodaphnia dubia, during the 48 hour exposure period to the 100% effluent concentrations. There was no significant mortality in the synthetic control. The LC50 value of the sample to Ceriodaphnia is approximately >100%.

Ceriodaphnia MORTALITY DATA

 # ALIVE

CONC.	REP #	O HOURS	24 HOURS	48 HOURS	% MORT.
SYNTHETIC	1	5	5	5	0
"	2	5	5	5	0
"	3	5	5	5	0
"	4	5	5	5	0
100%	1	5	5	5	0
"	2	5	5	5	0
"	3	5	5	5	0
"	4	5	5	5	0

AVG. MORTALITY @ AEC (100% EFFLUENT) =0.0%

THE Pimephales RESULTS - Minnows exposed to effluent collected at the City of Sheffield effluent discharge exhibited no significant mortality in the 100% effluent concentration during the 48 hr exposure period. The synthetic control showed no significant mortality during the testing period. The LC50 value of the effluent to fathead minnows is estimated to be >100%.

CONC.	REP #	0 HOURS	24 HOURS	48 HOURS	% MORTALITY
SYNTHETIC	1	10	10	10	0
"	2	10	9	9	10
"	3	10	10	10	0
"	4	10	10	10	0
100%	1	10	10	10	0
"	2	10	10	10	0
"	3	10	10	10	0
"	4	10	10	10	0

AVG. MORTALITY @ AEC (100% EFFLUENT) =0.0%

INITIAL WATER QUALITY:

Initial Measurements Synthetic Water

pH	D.O. (mg/l)	Cond. (umhos)	Cl2 (mg/l)	Temp (C)	Hard (mg/l)	Alk (mg/l)
7.37	8.40	355	<0.1	25.0	80	58

Initial Measurements of 100% Effluent

PH	D.O. (mg/l)	Cond. (umhos)	Cl2 (mg/l)	Temp (C)	Hard (mg/l)	Alk (mg/l)
7.58	8.80	449	<0.1	25.0	92	88

TEST WATER QUALITY:

24-hour Water Quality Measurements

EFFLUENT CONC (%)	PH	D.O. (mg/l)	TEMP (C)	COND. (umhos)
Synthetic	7.41	7.30	24.7	406
100%	7.87	7.60	24.7	489

48-hour Water Quality Measurements

EFFLUENT CONC (%)	PH	D.O. (mg/l)	TEMP (C)	COND. (umhos)
Synthetic	7.72	7.00	24.6	421
100%	7.90	7.20	24.6	502

QUALITY ASSURANCE:

The absence of control mortality during this test indicated the health of the organisms and indicated that any significant mortality in the test concentrations is not due to contaminants or variations in test conditions. Reference toxicity tests are routinely performed by staff members of our Toxicology Department.

REFERENCE TOXICANT (NaCl)
Ceriodaphnia
 # OF LIVE ORGANISMS

CONC OF TOXICANT	TEST INITIATION	24 HOUR EXPOSURE	48 HOUR EXPOSURE
3.0 g/l	20	0	0
2.5 g/l	20	6	5
2.0 g/l	20	19	17
1.5 g/l	20	20	20
1.0 g/l	20	20	20

LC50 = 2.28g/l NaCl

REFERENCE TOXICANT (NaCl)
Pimephales
 # OF LIVE ORGANISMS

CONC OF TOXICANT	TEST INITIATION	24 HOUR EXPOSURE	48 HOUR EXPOSURE
10.0 g/l	40	4	0
8.0 g/l	40	34	25
6.0 g/l	40	39	38
4.0 g/l	40	40	40
2.0 g/l	40	40	39

LC50 = 8.27g/l NaCl

Submitted By: Tim Harrell
Timothy Harrell
Technical Director

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
TOXICITY TEST REPORT SUMMARY

1. GENERAL:

NPDES PERMIT NO.: AL0050121 DSN: 001 COUNTY: Colbert County
Permitee: City of Sheffield
Facility Name: Sheffield Utilities WWTP
Agent submitting Report: Mr. Joey Lindsey P.O. Box 580, Sheffield, Alabama 35660
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: X -Hr Acute Definitive: ____
Short-term Chronic Screening: ____ 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	10/14/20 13:10	10/16/20 13:20	Yes	10/14/20 13:10	10/16/20 13:20	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.	100%	Pass											
P.p.	100%	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	Fe mg/L	Mn mg/L	BOD mg/L	Chloride mg/L	
1	7.58	88	92	449					

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
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 significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF RESPONSIBLE OFFICIAL ____ DATE: ____

Facility Name: Sheffield Utilities WWTP NPDES #: AL0050121 DSN: 001 Date: 10/19/20

4. SAMPLE COLLECTION:

Split Samples: N/A X Yes ____ (explain) ____

Samples Collected as Specified in the NPDES Permit: Yes X No (explain) ____

Receiving Water: Tennessee River Design Flow: ____ (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	10/13/20 7:00	2.4	10/14/20-10/16/20

5. CONTROL / DILUTION WATER:

Type	Prepared MM/DD/YY	Begin Use MM/DD/YY	Initial Water Chemistries				
			Hard.	Alk.	pH	Cond	@ °C
MHSW	10/11/20	10/14/20	80	58	7.37	355	25.0

6. TOXICITY TEST INFORMATION

Test Species	Organism Age	Organism Source	Test Solution Concentrations (%)					
Pp	8 Days	AquaTox	00	100				
Cd	<24 hrs	In-house Culture	00	100				

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	5	4

Test Species	Temp Range (C)	D O Range (mg/L)	pH Range (s u)	Light Intensity Avg (ft-c)
Pp	24.6-25.0	7.20-8.80	7.58-7.90	71.3
Cd	24.6-25.0	7.20-8.80	7.58-7.90	71.3

7. FEEDING:

Not Fed: X* Fed Daily: ____ Fed Irregular: ____ (Explain in comments below)

Brine Shrimp: Fed ____ mL Suspension of Newly Hatched Larvae ____ Times Daily.

YCT: Fed ____ mL Suspension Containing ____ mg/L TSS Daily

Algae: Fed ____ mL Suspension Containing ____ Algal Cells/mL Daily

COMMENTS: *Pimephales promelas were fed twice daily until test start. They were not fed during test period

Facility Name: Sheffield Utilities WWTP NPDES #: AL0050121 DSN: 001 Date: 10/19/20

8. REFERENCE TOXICANT TESTS

Toxicant: Sodium Chloride, NaCL Source: Fisher Lot 176877 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	9/22/20-9/24/20	MHSW	00	2	4	6	8	10	
Cd	9/22/20-9/24/20	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	8.27	7.629802-8.25458	8.10-8.40	40
Cd	2.28	2.154132-2.456388	2.23-2.51	20

9 TEST CONDITION VARIABILITY:

9.A. Deviations From Standard Test Conditions:
None

9.B. Test Solution Manipulations or Test Modifications
Effluent IWC of 100 % is specified in the NPDES permit.

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: Sheffield Utilities WWTP NPDES #: AL0050121 DSN: 001 Date: 10/19/20

11.A. ACUTE SCREENING TOXICITY TESTS RESULTS (Freshwater):

TEST ORGANISM: *Pimephale promelas*
ACUTE TOXICITY INDICATED: YES _____ NO X
NO ACUTE STATISTICAL ANALYSIS NECESSARY: X

SOLUTION CONC.(%)	00	100	-
MORTALITY (%)	2.5	00	-

PERMITTED MORTALITY RATE (%): _____
Normally Distributed YES --------- NO X
Test Statistic: ------- Critical Value: ------ (Parametric)
Equal variance: ---------- Unequal variance: ----------
F Statistic: ---------- Critical F: ----------
t - Test Statistic: ---------- t - Test Critical Value: ----------
Sample Rank Sum: ------- # Reps.: ------- Critical Rank Sum: --------- (Non - Parametric)
COMMENTS: No statistical analysis was necessary since effluent mortality equaled control mortality.

TEST ORGANISM: *Ceriodaphnia dubia*
ACUTE TOXICITY INDICATED: YES _____ NO X
NO ACUTE STATISTICAL ANALYSIS NECESSARY: X

SOLUTION CONC.(%)	00	100	-
MORTALITY (%)	00	00	-

PERMITTED MORTALITY RATE (%): _____
Normally Distributed: YES ------- NO ---------
Test Statistic: ---------- Critical Value: ---------- (Parametric)
Equal variance: ---------- Unequal variance: ----------
F Statistic: ---------- Critical F: ----------
t - Test Statistic: ---------- t - Test Critical Value: ----------
Sample Rank Sum: ---------- # Reps : ---------- Critical Rank Sum: ---------- (Non - Parametric)
COMMENTS: No statistical analysis was necessary since effluent mortality equaled control mortality.

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

☐ Samples Pre-Logged into eCOC.

State Of Origin: AL
Cert. Needed: ☐ Yes ☐ No

Sheffield Utilities

Workorder: 20175284 **Workorder Name:** October Acute Toxicity NPDES A

Owner Received Date: 10/13/2020 **Results Requested By:** 10/27/2020

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	Acute Toxicity	Requested Analysis	LAB USE ONLY
1	WWTP Effluent Acute Toxicity	PS	10/13/2020 07:00	20175284001	Water	1	X		603512571
2									
3									
4									
5									

Transfers	Released By	Date/Time	Received By	Date/Time
1	B. Gray	10.13.20 1450	Eimy Rodriguez-pace	10/14/20 1120
2				
3 sample				

Comments: IR62 IWC dilution is 100%

Cooler Temperature on Receipt 2.4 °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.

Sheffield utilities

Acute Toxicity

Pace Analy
www.pacelabs

Project Number: 60351251 / 20175284

Date and Time Arrived 10/14/20 1120

Date and Time Used 10/14/20 1310

Age of Fish 8 days

Age of Water Fleas <24 hours old

Analyst MB TH

Synthetic Number F-10-7

Dilution water used: Synthetic X Upstream ____

		SYN	100						
pH (S.U.)		7.37	7.58						
D.O. (mg/L)		8.40	8.80						
Temperature (°C)		25.0	25.0						
Alkalinity[1]	mL titrant	2.9	4.4						
	mg $CaCO_3$/L	58	88						
Hardness[2]	mL titrant	4.0	4.6						
	mg $CaCO_3$/L	80	92						
Conductance (µmhos/cm)		355	449						
Chlorine (mg/L)		<0.1	<0.1						

Comments: L.I. 9/3

[1] Section 17, ENV-SOP-0097, *Bioassay Chemical Tests.*
[2] Section 18, ENV-SOP-0097, *Bioassay Chemical Tests*

Acute Toxicity

Pace Analytical
www.pacelabs.com

Project Number: 60351251

Ceriodaphnia dubia or Daphnia pulex Survival

	0 Hours	24 hours	48 hours	
Synthetic	5	5	5	
2				
3				
4				
100	5	5	5	
2				
3				
4				
2				
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Acute Toxicity

Project Number: 60351251

Fathead Minnows Survival

	0 Hours	24 hours	48 hours	
Synthetic	10	10	10	
2		9	9	
3		10	10	
4		10	10	
100	10	10	10	
2				
3				
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Acute Toxicity

Pace Analytical
www.pacelabs.com

Project Number: 60351251

Wet Chemistry at 24 hours

MB 1314

	pH (S.U)	D.O. (mg/L)	Temp (°C)	Conductivity (µmhos/cm)	
Synthetic	7.41	7.30	24.7	406	
~~Upstream~~ 100	7.87	7.60	24.7	489	

Wet Chemistry at 48 hours (End Time: 1320)

MB

	pH (S.U)	D.O. (mg/L)	Temp (°C)	Conductivity (µmhos/cm)	
Synthetic	7.72	7.00	24.6	421	
Upstream	7.90	7.20	24.6	502	

	pH (S.U)	D.O. (mg/L)	Temp (°C)	Conductivity (µmhos/cm)	
Synthetic					
Upstream					

	pH (S.U)	D.O. (mg/L)	Temp (°C)	Conductivity (µmhos/cm)	
Synthetic					
Upstream					

Brine Shrimp Feeding Log

Pace Analytical Services, Inc.
808 West McKay
Frontenac, KS 66763
Phone: 620.235.0003
Fax: 620.235.0106

Month: October
Year: 2020

Fish observation	
Tanks	# Dead or sick

Monitor when using fish for reproduction.

Date	Glass Chamber	8:00AM Feed	4:00PM Feed	Initials	
1	B	✓	✓	TH	
2		✓	✓	MP	
3	A	✓	✓	MP	
4		✓	✓	MB	
5	B	✓	✓	MB	
6		✓	✓	MTP	
7	A	✓	✓	MTP	
8		✓	✓	TH	
9	B	✓	✓	TH	
10		✓	✓	MTP	
11	A	✓	✓	MB	
12		✓	✓	MB	
13	B	✓	✓	MTP	
14		✓	✓	TH	
15	A	✓	✓	TS	
16		✓	✓	TH	
17	B	✓	✓	TS	
18		✓	✓	MB	
19	A	✓	✓	MB	
20		✓	✓	MB	
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					

Acute Toxicity

Pace Analytical

Project Number: RTO

Date and Time Arrived N/A

Date and Time Used 9/22/20 0800

Age of Fish < 24hr.

Age of Water Fleas <24 hours old

Analyst MB / LF

Synthetic Number F-5-4 9/21/22

Dilution water used: Synthetic X Upstream

NaCl F-1082
KTC F-1302
Algae F-1301

		SYN	100%
pH (S.U.)		7.58	7.66
D.O. (mg/L)		8.50	8.60
Temperature (°C)		25.0	25.0
Alkalinity	ml titrant	2.9	3.5
	mg $CaCO_3$/L	58	70
Hardness[2]	ml titrant	4.5	6.7
	mg $CaCO_3$/L	90	134
Conductance (µmhos/cm)		336	14,800
Chlorine (mg/L)		<0.1	<0.1

Comments: L.I. 66.4

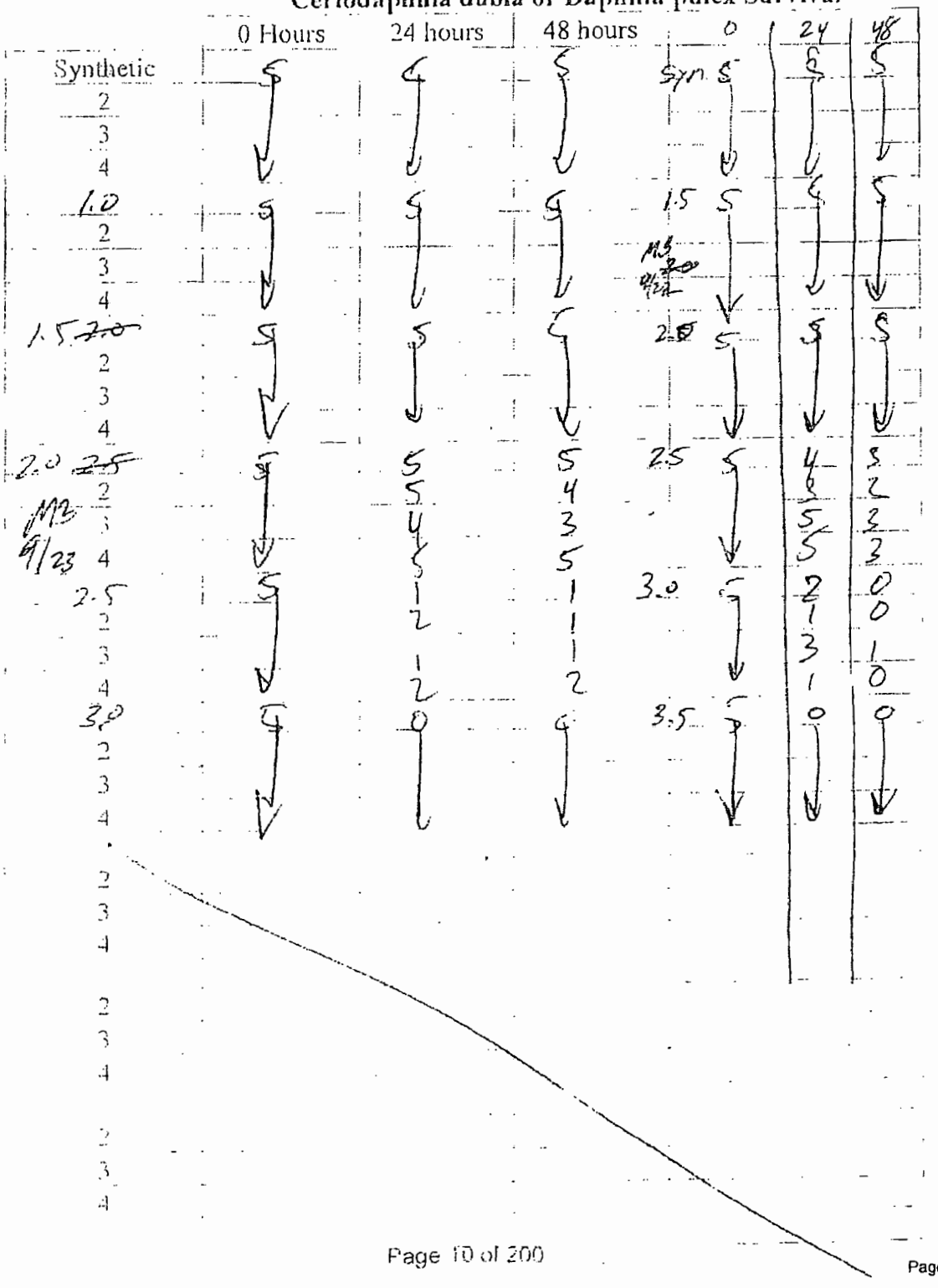
[1] Section 17, ENV-SOP-0097, *Bioassay Chemical Tests*
[2] Section 18, ENV-SOP-0097, *Bioassay Chemical Tests*

Acute Toxicity

Pace Analytical
www.pacelabs.com

Project Number: RT

Ceriodaphnia dubia or Daphnia pulex Survival



Acute Toxicity

Pace Analytical

Project Number: RT

Fathead Minnows Survival

	0 Hours	24 hours	48 hours
Synthetic	10	10	10
	10	10	9
	10	10	10
2.0	10	10	10
	10	10	10
	10	10	10
4.0	10	10	9
	10	10	9
	10	10	10
6.0	10	10	10
	10	9	9
	10	7	6
8.0	10	8	5
	10	9	7
	10	9	7
12.0	10	2	0
	10	0	
	10	2	

Acute Toxicity

Pace Analytical
www.pacelabs.com

Project Number: RT

Wet Chemistry at 24 hours

8:40
MB 9/22

	pH (S.U)	D.O. (mg/L)	Temp (°C)	Conductivity (µmhos/cm)
Synthetic	7.59	7.60	25.0	405
~~Upstream~~ 10%	7.86	7.70	25.0	15,200

Wet Chemistry at 48 hours (End Time: 835)

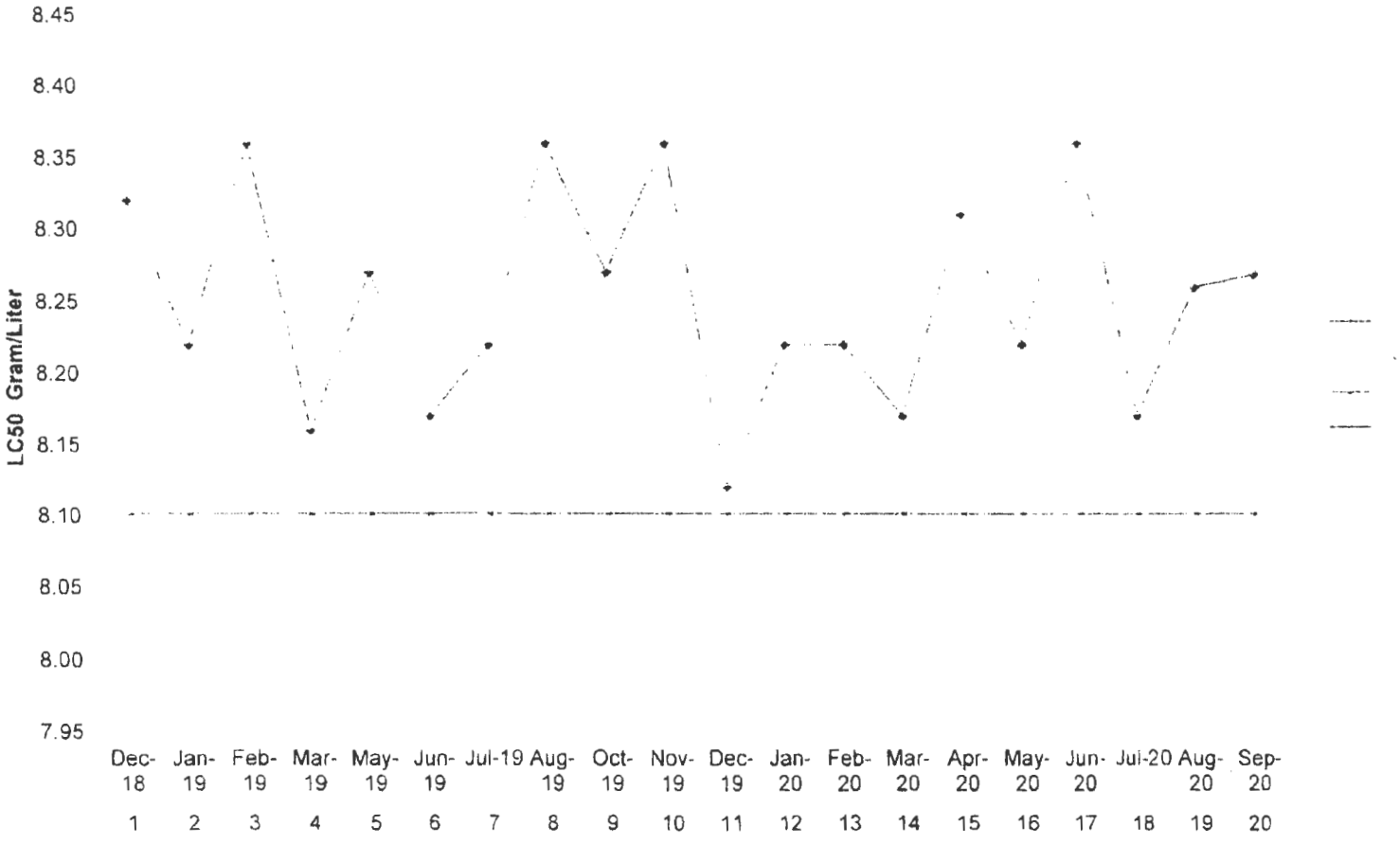
MB 835

	pH (S.U)	D.O. (mg/L)	Temp (°C)	Conductivity (µmhos/cm)
Synthetic	7.56	7.40	24.9	368
~~Upstream~~ 10%	7.95	7.60	24.9	15,900

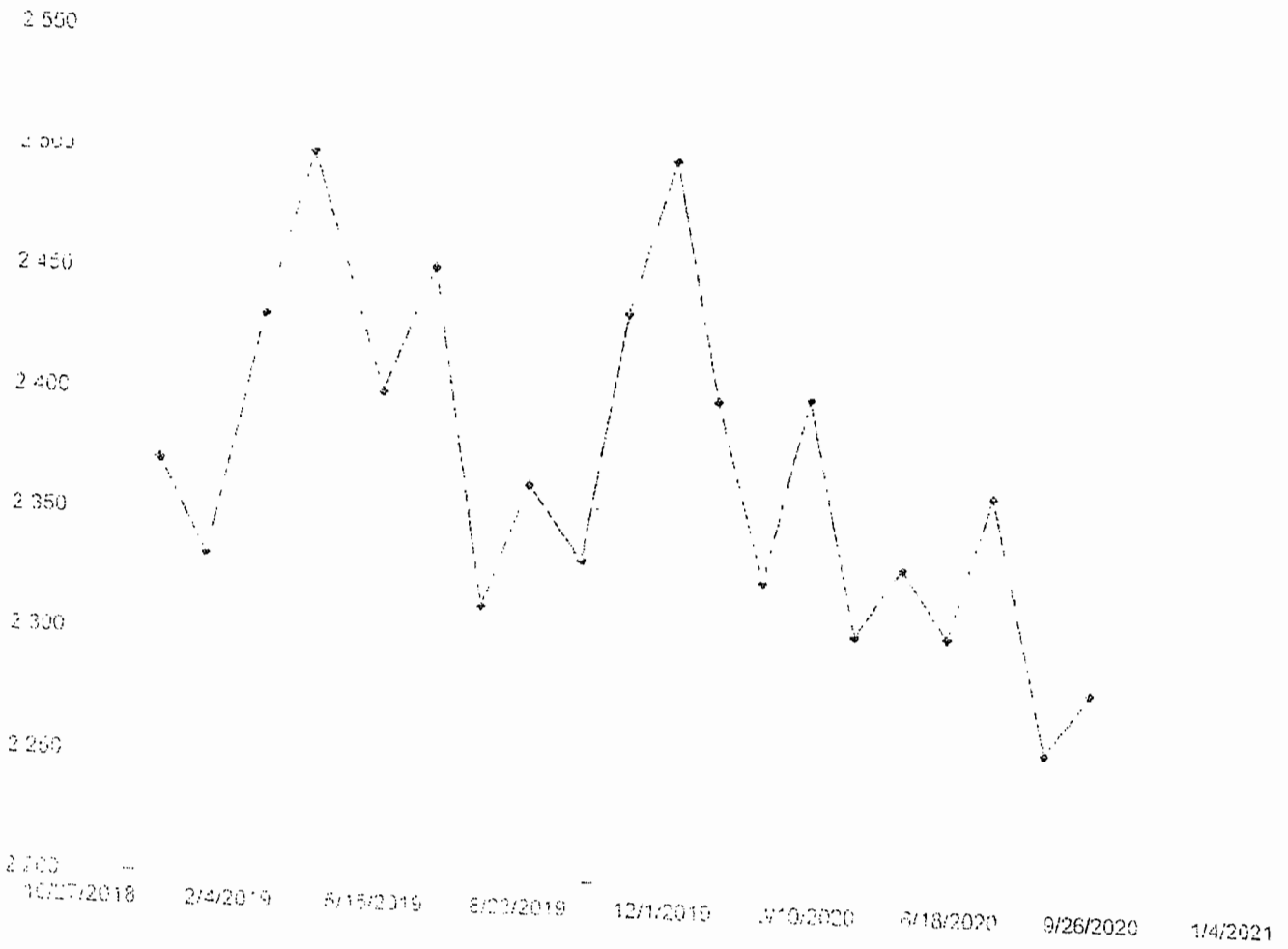
	pH (S.U)	D.O (mg/L)	Temp (°C)	Conductivity (µmhos/cm)
Synthetic				
Upstream				

	pH (S.U)	D.O (mg/L)	Temp (°C)	Conductivity (µmhos/cm)
Synthetic				
Upstream				

Sodium Chloride Reference Toxicity for Fathead Minnows
Pace Analytical Frontenac, KS



Ceriodaphnia dubia Reference Toxicant Test (NaCl, 48-hour)



SHEFFIELD UTILITIES
P.O. BOX 580 • SHEFFIELD, AL 35660 • (256) 389-2000

Mr. Nicholas Lowe
ADEM, Municipal Section
Water Division
P.O. Box 301463
Montgomery, AL 36110-2400

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- ☐ Adult Signature Restricted Delivery $

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Sent To: Mr. Nicholas Lowe
Street and Apt. No., or PO Box No.: ADEM, Municipal Section
City, State, ZIP+4®: Water Division
P.O. Box 301463
Montgomery, AL 36110-2400

PS Form 3800, Apr

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- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Nicholas Lowe
ADEM, Municipal Section
Water Division
P.O. Box 301463
Montgomery, AL 36110-2400

9590 9402 5449 9189 3434 94

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by (Printed Name) | C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
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- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
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- ☐ Registered Mail™
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- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

SHEFFIELD UTILITIES
P.O. BOX 580 • SHEFFIELD, AL 35660 • (256) 389-2000

November 20, 2019

Mr. Nicholas Lowe
Alabama Department of Environmental Management
Municipal Section – Water Division
1400 Coliseum Boulevard
Montgomery, Alabama 36130-1463

RE: Annual 48 Hour Acute Toxicity Test

Dear Mr. Lowe:

Please find enclosed two (2) copies of the Annual 48 Hour Acute Toxicity Test for Sheffield Utilities.

You may contact Joey Lindsey at (256) 710-0280 if you need additional information.

Sincerely,

Tommy Barnes
Civil Operations Manager

Enclosures 2
By certified mail
cc/enc: Joey Lindsey, Chief Operator

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

November 05, 2019

Joey Lindsey
Sheffield Utilities Department
P.O. Box 580
Sheffield, AL 35660

RE: Project: October Acute Toxicity NPDES A
Pace Project No.: 20126039

Dear Joey Lindsey:
Enclosed are the analytical results for sample(s) received by the laboratory on October 15, 2019. 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.

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: Mr. Tommy Barnes, Sheffield Utilities Department - WW

REPORT OF LABORATORY ANALYSIS

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:	Sheffield Utilities Department - WW	Report To:	Joey Lindsey	Attention:	
Address:	P.O. Box 580	Copy To:		Company Name:	
Sheffield, AL 35660				Address:	
Email:	jlindsey@sheffieldutilities.org	Purchase Order #:		Pace Quote:	
Phone:	(256)710-0280 Fax	Project Name:	Acute Biotox	Pace Project Manager:	cindy.simpson@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	X

Regulatory Agency

State / Location: AL

Requested Analysis Filtered (Y/N)

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

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

ITEM #	SAMPLE ID	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	Acute Biotox	Residual Chlorine (Y/N)
1	WWTP Effluent	WT		10/15/19	11:30				1	X									X	
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

WO#: 20126039

20126039

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Joey Lindsey	10/15/19	10:50	Michael A Rose	10/15/19	10:58	
	Michael A Rose	10/15/19	22:40		10/15/19	16:20	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed:

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

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

October 28, 2019

Cindy Simpson
Pace NOLA

RE: Project: 20126039 OCTOBER ACUTE TOX
Pace Project No.: 60318308

Dear Cindy Simpson:
Enclosed are the analytical results for sample(s) received by the laboratory on October 16, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Nolie Wood

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: 20126039 OCTOBER ACUTE TOX
Pace Project No.: 60318308

Southeast Kansas Certification IDs
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: 20126039 OCTOBER ACUTE TOX
Pace Project No.: 60318308

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60318308001	WWTP EFFLUENT ACUTE TOXICITY	Water	10/15/19 11:00	10/16/19 11:20

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9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE ANALYTE COUNT

Project: 20126039 OCTOBER ACUTE TOX
Pace Project No.: 60318308

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60318308001	**WWTP EFFLUENT ACUTE TOXICITY**	EPA 821/R-02/012	TDH	1	PASI-SE

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

PROJECT NARRATIVE

Project: 20126039 OCTOBER ACUTE TOX
Pace Project No.: 60318308

Method: **EPA 821/R-02/012**
Description: Acute Toxicity
Client: PASI New Orleans
Date: October 28, 2019

General Information:
1 sample was analyzed for EPA 821/R-02/012. 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: 20126039 OCTOBER ACUTE TOX
Pace Project No.: 60318308

Sample: WWTP EFFLUENT ACUTE TOXICITY **Lab ID: 60318308001** Collected: 10/15/19 11:00 Received: 10/16/19 11:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Acute Toxicity	Analytical Method: EPA 821/R-02/012							
Toxicity, Acute	**Complete**		1.0	1		10/16/19 11:35		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: 20126039 OCTOBER ACUTE TOX
Pace Project No.: 60318308

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.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-SE Pace Analytical Services - SE Kansas

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 20126039 OCTOBER ACUTE TOX
Pace Project No.: 60318308

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60318308001	**WWTP EFFLUENT ACUTE TOXICITY**	EPA 821/R-02/012	617936		

REPORT OF LABORATORY ANALYSIS

Pace Analytical www.pacelabs.com

Sample Condition Upon Receipt

Sheffield

WO#: 60318308

60318308

Client Name: Posi AL

Courier: FedEx [X] UPS [ ] VIA [ ] Clay [ ] PEX [ ] [illegible] Pace [ ] Xroads [ ] Client [ ] Other [ ]

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 2.9 Corr Factor -.8 Corrected 2.1

Date and initials of person examining contents: 10/16/19 EO 11:20

Temperature should be above freezing to 6°C

Chain of Custody present	[X]Yes [ ]No [ ]N/A	
Chain of Custody relinquished	[X]Yes [ ]No [ ]N/A	
Samples arrived within holding time	[X]Yes [ ]No [ ]N/A	
Short Hold Time analyses (<72hr)	[X]Yes [ ]No	
Rush Turn Around Time requested:	[X]No [ ]N/A	
Sufficient volume	[X]Yes [ ]No [ ]N/A	
Correct containers used	[X]Yes [ ]No [ ]N/A	
Pace containers used	[X]Yes [ ]No [ ]N/A	
Containers intact	[X]Yes [ ]No [ ]N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	[ ]Yes [ ]No [X]N/A	
Filtered volume received for dissolved tests?	[ ]Yes [ ]No [X]N/A	
Sample labels match COC Date / time / ID / analyses	[X]Yes [ ]No [ ]N/A	
Samples contain multiple phases? Matrix	[ ]Yes [X]No [ ]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 [X]N/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)		
Potassium iodide test strip turns blue/purple? (Preserve)		
Trip Blank present	[ ]Yes [ ]No [X]N/A	
Headspace in VOA vials (>6mm)	[ ]Yes [ ]No [X]N/A	
Samples from USDA Regulated Area State	[ ]Yes [ ]No [X]	
Additional labels attached to 5035A / TX1005 vials in the field?	[ ]Yes [ ]No [X]N/A	

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: Date/Time

Comments/ Resolution

Project Manager Review: JEFFREY SHOPPER Date

Chain of Custody

Pace Analytical®
www.pacelabs.com

☐ Samples were sent directly to the Subcontracting Laboratory.

State Of Origin: AL
Cert. Needed: ☐ Yes ☐ No

Workorder: 20126039 **Workorder Name:** October Acute Toxicity NPDES A **Owner Received Date:** 10/15/2019 **Results Requested By:** 11/5/2019

Report To	Subcontract To
Cindy Simpson Pace Analytical Tuscaloosa 3516 Greensboro Avenue Tuscaloosa, AL 35401 Phone (205)614-6630	Pace Analytical Kansas 9608 Loiret Blvd Kansas, KS 66219 Phone (913)599-5665

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Other	Requested Analysis: Acute Toxicity	LAB USE ONLY
1	WWTP Effluent Acute Toxicity	PS	10/15/2019 11:00	20126039001	Water	1	X	Sab-001
2								
3								
4								
5								

600318308

Transfers	Released By	Date/Time	Received By	Date/Time
1	Sierra Savage	10/15/19	Ethan Castagna Pace	10/16/19 11:20
2		3:24pm		
3				

Comments

Cooler Temperature on Receipt 2.1 °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.*

October 21, 2019

City of Sheffield
P.O. Box 580
Sheffield, AL 35660

Re: Lab Project Number: 60318308
Client Project ID: Wet Test

Dear:

Enclosed are the analytical results for sample(s) received by the laboratory. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Tim Harrell

Tim Harrell
Tim.Harrell@pacelabs.com
Technical Director

Pace Analytical Services, Inc.

808 West McKay, Frontenac, KS 66763

LABORATORY REPORT:

CLIENT: City of Sheffield P.O.Box 580 Sheffield, AL 35660	Date Reported 10-21-19 Date Initiated: 10-16-19 Time Set: 11:35 Date Terminated: 10-18-19

BIOMONITORING STUDY

ACUTE TOXICITY

Permit # AL0050121

FINDING AND CONCLUSIONS:

Acute toxicity testing was performed on duplicate samples of effluent collected from the City of Sheffield effluent discharge. **Acute toxicity**, as defined by significant mortality for at least one of two aquatic test species during a 48 hour period of exposure, was not **detected in Ceriodaphnia exposed to the 100% effluent (AEC), and was not detected in fathead minnows exposed to the 100% effluent. The LC50 for the Ceriodaphnia was >100% and >100% for the Pimephales.** The test species utilized in this test were the water flea, Ceriodaphnia dubia and the fathead minnow, Pimephales promelas. Detailed results of the toxicity testing are provided in the Acute Toxicity Reports. In addition to the acute toxicity testing, water temperature, pH, dissolved oxygen, total hardness, total alkalinity, conductivity, and chlorine determinations were performed on the effluent and control samples.

SAMPLING PROCEDURES:

City of Sheffield personnel collected a sample at the City of Sheffield effluent discharge. The sample was preserved with ice and transported to Pace Analytical by commercial carrier.

INTRODUCTION:

The purpose of this test was to determine the acute toxicity of the City of Sheffield effluent on the freshwater invertebrate, Ceriodaphnia dubia and the fathead minnow, Pimephalas promelas. These tests were conducted at Pace Analytical Services, Inc., Frontenac, KS.

TEST ORGANISMS:

Ceriodaphnia dubia - The genetic stock of Ceriodaphnia dubia used in this acute toxicity Test were originally obtained from a private breeder. Ceriodaphnia are cultured in house at Pace Analytical Services, Inc. Culture methods of Ceriodaphnia were obtained from EPA821-C-02-006 November 2002.

Pimephales promelas - The fathead minnows used in this acute toxicity test were cultured in-house at Pace Analytical Services, Inc., Frontenac, KS and/or were obtained from a private breeder. Fathead minnows are maintained at Pace Analytical Services until use for acute toxicity between the ages of 1 and 14 days. Information for culturing fathead minnows was taken from EPA821-C-02-006 November 2002.

MATERIALS AND METHODS:

Procedures used in the acute toxicity tests are described in Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (USEPA, 2002).

City of Sheffield collected the effluent tested from the City of Sheffield discharge. Testing was performed using a 100% effluent, and a synthetic control. **The toxicity test was initiated within 36 hours of sample collection.**

Effluent and synthetic control test solutions were not aerated during the testing period.

Ceriodaphnia *ACUTE METHODS:*

This static test was ran using 40 ml glass vials containing 25 ml of test solution. Food was administered before the test. Five Ceriodaphnia neonates (<24 hr old) were randomly selected and placed in each of 4 replicates of test solution. A total of 20 organisms per concentration were tested. Observations of mortality were made at 24 and 48 hours of exposure.

Pimephales *ACUTE METHODS:*

This static toxicity test was conducted using 500 ml polypropylene container as test chambers containing 250 ml of test solution. Food was administered prior to test initiation, but not during the testing period. Ten Pimephales, 1 – 14 days old, from a single spawn, were randomly selected and placed in each of 4 test chambers. A total of 40 organisms were exposed to each test concentration. Observations of mortality were made at 24 and 48 hours of exposure.

WATER QUALITY METHODS:

Prior to test initiation, temperature, dissolved oxygen, pH, total alkalinity, total hardness, and total residual chlorine were measured in the effluent and in the controls. At 24 and 48 hours of exposure, temperature, dissolved oxygen, pH, and conductance were measured in the effluent sample and the controls.

DATA ANALYSIS:

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 (LC50) are calculated using effluent concentrations and their corresponding percent mortality data. The LC50's and the 95% confidence intervals are calculated where appropriate by the Spearman-Karber method. Statistical analysis is accomplished by following steps in EPA/600/4-90/027F, August 1993 and by use of Toxstat version 3.4.

RESULTS:

THE Ceriodaphnia MORTALITY RESULTS - There was no significant mortality observed of the freshwater invertebrate, Ceriodaphnia dubia, during the 48 hour exposure period to the 100% effluent concentrations. There was no significant mortality in the synthetic control. The LC50 value of the sample to Ceriodaphnia is approximately >100%.

Ceriodaphnia MORTALITY DATA

 # ALIVE

CONC.	REP #	O HOURS	24 HOURS	48 HOURS	% MORT.
SYNTHETIC	1	5	5	5	0
"	2	5	5	5	0
"	3	5	5	5	0
"	4	5	5	5	0
100%	1	5	5	5	0
"	2	5	5	5	0
"	3	5	5	5	0
"	4	5	5	5	0

AVG. MORTALITY @ AEC (100% EFFLUENT) =0.0%

THE **Pimephales** RESULTS - Minnows exposed to effluent collected at the City of Sheffield effluent discharge exhibited no significant mortality in the 100% effluent concentration during the 48 hr exposure period. The synthetic control showed no significant mortality during the testing period. The LC50 value of the effluent to fathead minnows is estimated to be >100%.

CONC.	REP #	0 HOURS	24 HOURS	48 HOURS	% MORTALITY
SYNTHETIC	1	10	10	10	0
"	2	10	10	10	0
"	3	10	10	10	0
"	4	10	10	10	0
100%	1	10	10	10	0
"	2	10	10	10	0
"	3	10	10	10	0
"	4	10	10	10	0

AVG. MORTALITY @ AEC (100% EFFLUENT) =0.0%

WATER CHEMISTRY RESULTS:

Total residual chlorine (Cl2) - The effluent sample from the City of Sheffield discharge had <0.1 mg/l detectable level of total residual chlorine upon receipt in the laboratory.

Dissolved Oxygen (D.O.) - Dissolved oxygen reading of the 100% effluent sample was 8.70 mg/l after being raised to the test temperature of 25° C. At termination D.O. was 7.00 mg/l in the 100% effluent, which falls into acceptable limits. Aeration was not required in this test.

pH - The pH of the 100% effluent was 7.79 upon receipt in the laboratory and the synthetic control had a 7.49. At termination the pH measurement in the 100% effluent sample was 8.11.

Conductance - The conductance of the effluent sample was 684 umhos and the synthetic control was 330 umhos.

INITIAL WATER QUALITY:

Initial Measurements Synthetic Water

pH	D.O. (mg/l)	Cond. (umhos)	Cl2 (mg/l)	Temp (C)	Hard (mg/l)	Alk (mg/l)
7.49	8.00	330	<0.1	25.0	88	60

Initial Measurements of 100% Effluent

PH	D.O. (mg/l)	Cond. (umhos)	Cl2 (mg/l)	Temp (C)	Hard (mg/l)	Alk (mg/l)
7.79	8.70	684	<0.1	25.0	124	70

TEST WATER QUALITY:

24-hour Water Quality Measurements

EFFLUENT CONC (%)	PH	D.O. (mg/l)	TEMP (C)	COND. (umhos)
Synthetic	7.90	7.60	25.1	426
100%	8.02	7.20	25.1	749

48-hour Water Quality Measurements

EFFLUENT CONC (%)	PH	D.O. (mg/l)	TEMP (C)	COND. (umhos)
Synthetic	7.95	7.40	25.0	433
100%	8.11	7.00	25.0	787

QUALITY ASSURANCE:

The absence of control mortality during this test indicated the health of the organisms and indicated that any significant mortality in the test concentrations is not due to contaminants or variations in test conditions. Reference toxicity tests are routinely performed by staff members of our Toxicology Department.

REFERENCE TOXICANT (NaCl)
Ceriodaphnia

 # OF LIVE ORGANISMS

CONC OF TOXICANT	TEST INITIATION	24 HOUR EXPOSURE	48 HOUR EXPOSURE
3.0 g/l	20	2	0
2.5 g/l	20	15	8
2.0 g/l	20	19	18
1.5 g/l	20	20	20
1.0 g/l	20	20	20

LC50 = 2.33 g/l NaCl

REFERENCE TOXICANT (NaCl)
Pimephales
 # OF LIVE ORGANISMS

CONC OF TOXICANT	TEST INITIATION	24 HOUR EXPOSURE	48 HOUR EXPOSURE
10.0 g/l	40	6	0
8.0 g/l	40	34	24
6.0 g/l	40	38	38
4.0 g/l	40	40	40
2.0 g/l	40	40	40

LC50 = 8.22g/l NaCl

Submitted By: Tim Harrell

Timothy Harrell
Technical Director

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
TOXICITY TEST REPORT SUMMARY

1. GENERAL:

NPDES PERMIT NO.: AL0050121 DSN: 001 COUNTY: Colbert County
Permitee: City of Sheffield
Facility Name: Sheffield Utilities WWTP
Agent submitting Report: Mr. Joey Lindsey P.O. Box 580, Sheffield, Alabama 35660
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: X -Hr Acute Definitive: ____
Short-term Chronic Screening: ____ 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	10/16/19 11:35	10/18/19 10:30	Yes	10/16/19 11:35	10/18/19 10:30	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.	100%	Pass											
P.p.	100%	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	Fe mg/L	Mn mg/L	BOD mg/L	Chloride mg/L	
1	7.79	8.70	124	684					

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
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 significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF RESPONSIBLE OFFICIAL: ____ DATE: ____

Facility Name: Sheffield Utilities WWTP NPDES #: AL0050121 DSN: 001 Date: 10/21/19

4. SAMPLE COLLECTION:

Split Samples: N/A X Yes _____ (explain) _____

Samples Collected as Specified in the NPDES Permit: Yes X No (explain) _____

Receiving Water: Tennessee River Design Flow: _____ (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	10/15/19 11:00	2.1	10/16/19-10/18/19

5. CONTROL / DILUTION WATER:

Type	Prepared MM/DD/YY	Begin Use MM/DD/YY	Initial Water Chemistries				
			Hard.	Alk.	pH	Cond.	@ °C
MHSW	10/12/19	10/16/19	88	60	7.49	330	25.0

6. TOXICITY TEST INFORMATION:

Test Species	Organism Age	Organism Source	Test Solution Concentrations (%)					
Pp	9 Days	AquaTox	00	100				
Cd	<24 hrs	In-house Culture	00	100				

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	5	4

Test Species	Temp. Range (C)	D.O. Range (mg/L)	pH Range (s.u.)	Light Intensity Avg. (ft-c)
Pp	25.0-25.1	7.00-8.70	7.79-8.11	71.7
Cd	25.0-25.1	7.00-8.70	7.79-8.11	71.7

7. FEEDING:

Not Fed: X* Fed Daily: _____ Fed Irregular: _____ (Explain in comments below)

Brine Shrimp: Fed _____ mL Suspension of Newly Hatched Larvae _____ Times Daily.

YCT: Fed _____ mL Suspension Containing _____ mg/L TSS Daily.

Algae: Fed _____ mL Suspension Containing _____ Algal Cells/mL Daily.

COMMENTS: *Pimephales promelas were fed twice daily until test start. They were not fed during test period.

Facility Name: Sheffield Utilities WWTP NPDES #: AL0050121 DSN: 001 Date: 10/21/19

8. REFERENCE TOXICANT TESTS:

Toxicant: Sodium Chloride, NaCL Source: Fisher Lot 176877 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	10/2/19-10/4/19	MHSW	00	2	4	6	8	10	
Cd	10/2/19-10/4/19	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	8.27	7.639067-8.362712	8.39-8.09	40
Cd	2.33	2.199984-2.456998	2.53-2.28	20

9. TEST CONDITION VARIABILITY:

9.A. Deviations From Standard Test Conditions:
None.

9.B. Test Solution Manipulations or Test Modifications:
Effluent IWC of 100% is specified in the NPDES permit.

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: Sheffield Utilities WWTP NPDES #: AL0050121 DSN: 001 Date: 10/21/19

11.A. ACUTE SCREENING TOXICITY TESTS RESULTS (Freshwater):

TEST ORGANISM: *Pimephale promelas*
ACUTE TOXICITY INDICATED: **YES** _____ **NO** X
NO ACUTE STATISTICAL ANALYSIS NECESSARY: X

SOLUTION CONC.(%)	00	100	-
MORTALITY (%)	00	00	-

PERMITTED MORTALITY RATE (%): 10%
Normally Distributed: YES ---------- NO X
Test Statistic: ------- Critical Value: ----- (Parametric)
Equal variance: ---------- Unequal variance: ----------
F Statistic: ---------- Critical F: ----------
t - Test Statistic: ---------- t - Test Critical Value: ----------
Sample Rank Sum: ---------- # Reps.: ---------- Critical Rank Sum: ---------- (Non - Parametric)
COMMENTS: No statistical analysis was necessary since effluent mortality equaled control mortality.

TEST ORGANISM: *Ceriodaphnia dubia*
ACUTE TOXICITY INDICATED: **YES** _____ **NO** X
NO ACUTE STATISTICAL ANALYSIS NECESSARY: X

SOLUTION CONC.(%)	00	100	-
MORTALITY (%)	00	00	-

PERMITTED MORTALITY RATE (%): 10%
Normally Distributed: YES ---------- NO ----------
Test Statistic: ---------- Critical Value: ---------- (Parametric)
Equal variance: ---------- Unequal variance: ----------
F Statistic: ---------- Critical F: ----------
t - Test Statistic: ---------- t - Test Critical Value: ----------
Sample Rank Sum: ---------- # Reps.: ---------- Critical Rank Sum: ---------- (Non - Parametric)
COMMENTS: No statistical analysis was necessary since effluent mortality equaled control mortality.

Chain of Custody

☐ Samples were sent directly to the Subcontracting Laboratory.

State Of Origin: AL
Cert. Needed: ☐ Yes ☐ No

Pace Analytical
www.pacelabs.com

Workorder: 20126039 **Workorder Name:** October Acute Toxicity NPDES A **Owner Received Date:** 10/15/2019 **Results Requested By:** 11/5/2019

Report To	Subcontract To
Cindy Simpson Pace Analytical Tuscaloosa 3516 Greensboro Avenue Tuscaloosa, AL 35401 Phone (205)614-6630	Pace Analytical Kansas 9608 Loiret Blvd Kansas, KS 66219 Phone (913)599-5665

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Other	Requested Analysis: Acute Toxicity	LAB USE ONLY
1	WWTP Effluent Acute Toxicity	PS	10/15/2019 11:00	20126039001	Water	1	X	Sub-001
2								
3								
4								
5								

10031830 8

Transfers	Released By	Date/Time	Received By	Date/Time
1	[illegible]	10/17/19	Ethan Costepan FedEx	10/16/19 11:20
2		3:24pm		
3				

Comments

Sample Cooler Temperature on Receipt 2.1 °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.*

Pos; AL Sheffield

Acute Toxicity

Pace Analytic
www.pacelabs.c

Project Number: 60318308 / 20126039

Date and Time Arrived 10/16/19 11:20

Date and Time Used 10/16/19 11:35

Age of Fish 9 Days

Age of Water Fleas <24 hours old

Analyst EB, MB, TH

Synthetic Number F-7-277

Dilution water used: Synthetic X Upstream ____

		SYN	100						
pH (S.U.)		7.49	7.79						
D.O. (mg/L)		8.00	8.70						
Temperature (°C)		25.0	25.0						
Alkalinity[1]	mL titrant	3.0	3.5						
	mg $CaCO_3$/L	60	70						
Hardness[2]	mL titrant	4.4	6.2						
	mg $CaCO_3$/L	88	124						
Conductance (µmhos/cm)		330	684						
Chlorine (mg/L)		<.1	<.1						

Comments: Light 71.7

[1] Section 17, ENV-SOP-0097, *Bioassay Chemical Tests.*
[2] Section 18, ENV-SOP-0097, *Bioassay Chemical Tests.*

Acute Toxicity

Project Number: 60318308

Ceriodaphnia dubia or Daphnia pulex Survival

	0 Hours	24 hours	48 hours	
Synthetic	5	5	5	
2	↓	↓	↓	
3	↓	↓	↓	
4	↓	↓	↓	
100	5	5	5	
2	↓	↓	↓	
3	↓	↓	↓	
4	↓	↓	↓	
2				
3				
4				
2				
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2				
3				
4				
2				
3				
4				

Acute Toxicity

Project Number: 60318308

Fathead Minnows Survival

	0 Hours	24 hours	48 hours	
Synthetic	10	10	10	
2	↓	↓	↓	
3				
4				
100	10	10	10	
2	↓	↓	↓	
3				
4				
2				
3				
4				
2				
3				
4				
2				
3				
4				
2				
3				
4				
2				
3				
4				
2				
3				
4				
2				
3				
4				

Posi, AL
Sheffield

Acute Toxicity

Pace Analytic
www.pacelabs.com

Project Number: 60318308

Wet Chemistry at 24 hours

	pH (S.U)	D.O. (mg/L)	Temp (°C)	Conductivity (µmhos/cm)	
Synthetic	7.90	7.60	25-1	426	
~~Upstream~~ 100	8.02	7.20	25-1	749	

Wet Chemistry at 48 hours (End Time: 1030)

	pH (S.U)	D.O. (mg/L)	Temp (°C)	Conductivity (µmhos/cm)	
Synthetic	7.95	7.46	25.0	433	
~~Upstream~~ 100	8.11	7.00	25.0	787	

	pH (S.U)	D.O. (mg/L)	Temp (°C)	Conductivity (µmhos/cm)	
Synthetic					
Upstream					

	pH (S.U)	D.O. (mg/L)	Temp (°C)	Conductivity (µmhos/cm)	
Synthetic					
Upstream					

Acute Toxicity

Pace Analy
www.pacelabs

Project Number: R.T.

Date and Time Arrived NA

Date and Time Used 10/2/19 1030

Age of Fish 4 days

Age of Water Fleas <24 hours old

Analyst MB, HH, EC

Synthetic Number F-7-270

Dilution water used: Synthetic____ Upstream____

NaCl F-1082
YTC F-1201
Algae F-1205

		SYN	10/9 mL						
pH (S.U.)		7.49	7.56						
D.O. (mg/L)		8.10	8.30						
Temperature (°C)		25.0	25.0						
Alkalinity[1]	mL titrant	3.2	4.0						
	mg $CaCO_3$/L	64	80						
Hardness[2]	mL titrant	4.5	5.9						
	mg $CaCO_3$/L	90	118						
Conductance (µmhos/cm)		326	14,644						
Chlorine (mg/L)		<.1	<.1						

Comments:

[1] Section 17, ENV-SOP-0097, *Bioassay Chemical Tests.*
[2] Section 18, ENV-SOP-0097, *Bioassay Chemical Tests.*

Acute Toxicity

Pace Analytic
www.pacelabs.com

Project Number: [illegible]

Ceriodaphnia dubia or Daphnia pulex Survival

	0 Hours	24 hours	48 hours		0	24	48
Synthetic	5	5	5	Syn	5	5	5
2	↓	↓	↓		↓	↓	↓
3	↓	↓	↓		↓	↓	↓
4	↓	↓	↓		↓	↓	↓
1.0	5	5	5	1.5	5	5	5
2	↓	↓	↓		↓	↓	↓
3	↓	↓	↓		↓	↓	↓
4	↓	↓	↓		↓	↓	↓
1.5	5	5	5	2.0	5	5	5
2	↓	↓	↓		↓	↓	↓
3	↓	↓	↓		↓	↓	↓
4	↓	↓	↓		↓	↓	↓
2.0	5	4	4	2.5	5	5	4
2	↓	5	5		↓	↓	3
3	↓	5	4		↓	↓	4
4	↓	5	5		↓	↓	3
2.5	5	3	2	3.0	5	2	0
2	↓	4	2		↓	2	↓
3	↓	4	2		↓	1	↓
4	↓	4	2		↓	0	↓
3.0	5	1	0	3.5	5	0	0
2	↓	0	↓		↓	↓	↓
3	↓	0	↓		↓	↓	↓
4	↓	1	↓		↓	↓	↓
2							
3							
4							
2							
3							
4							
2							
3							
4							

Acute Toxicity

Pace Analytical
www.pacelabs.com

Project Number: RT

Fathead Minnows Survival

	0 Hours	24 hours	48 hours	
Synthetic	10	10	10	
2				
3				
4				
2.0	10	10	10	
2				
3				
4				
4.0	10	10	10	
2				
3				
4				
6.0	10	10	9	
2		9	9	
3		10	10	
4		10	10	
8.0	10	10	6	
2		10	7	
3		9	5	
4		9	7	
10.0	10	2	0	
2		1		
3		1		
4		2		
2				
3				
4				
2				
3				
4				
2				
3				
4				

Acute Toxicity

Project Number: RT

Wet Chemistry at 24 hours

MB 1120	pH (S.U)	D.O. (mg/L)	Temp (°C)	Conductivity (µmhos/cm)	
Synthetic	7.71	7.40	25.0	367	
~~Upstream~~ 100%	7.93	7.40	25.0	14,782	

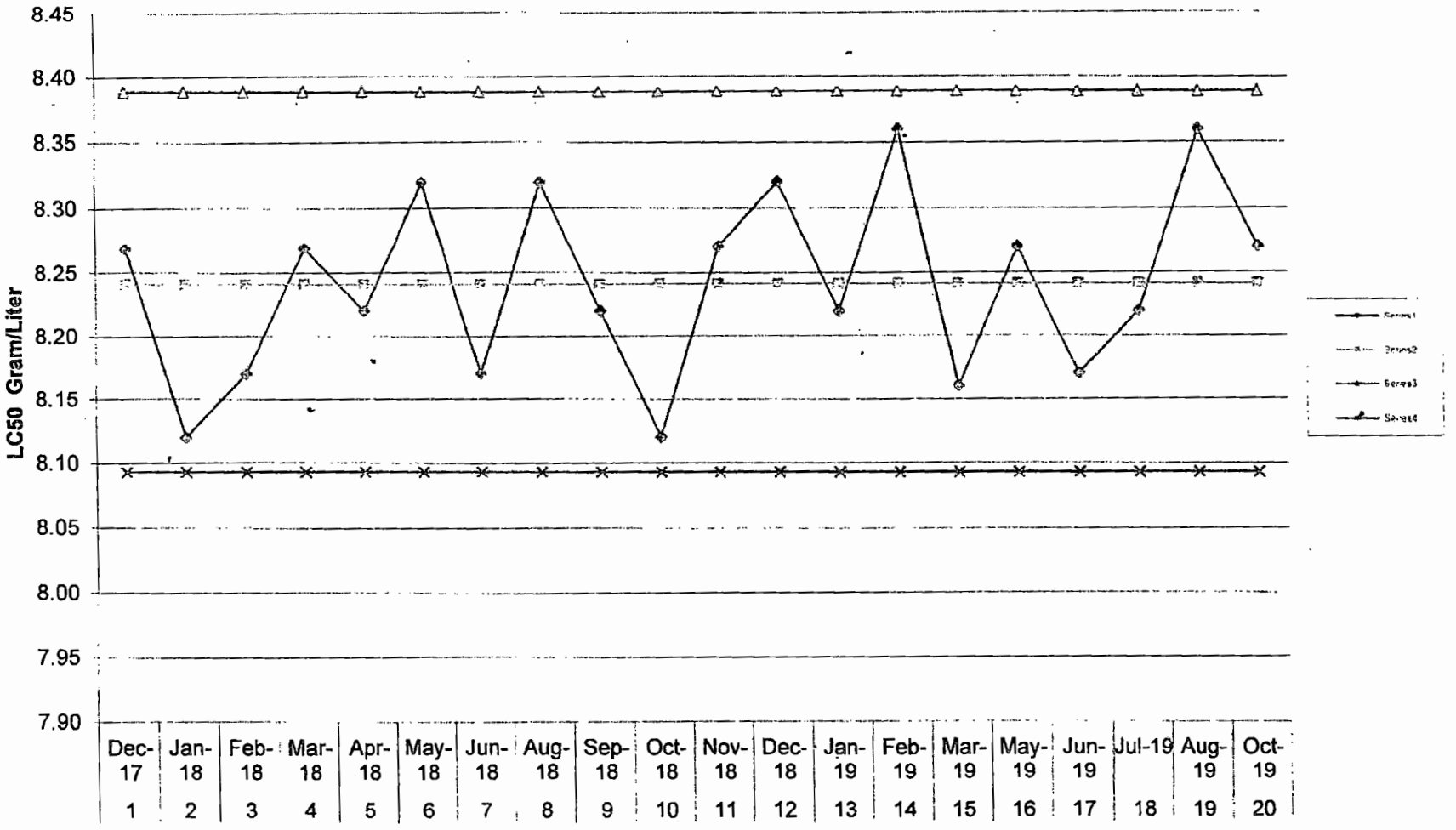
Wet Chemistry at 48 hours (End Time: 1100)

MB 1110	pH (S.U)	D.O. (mg/L)	Temp (°C)	Conductivity (µmhos/cm) MB 10/4/19	
Synthetic	7.76	7.20	25.1	4371	
~~Upstream~~ 100%	7.98	7.00	25.1	14,890	

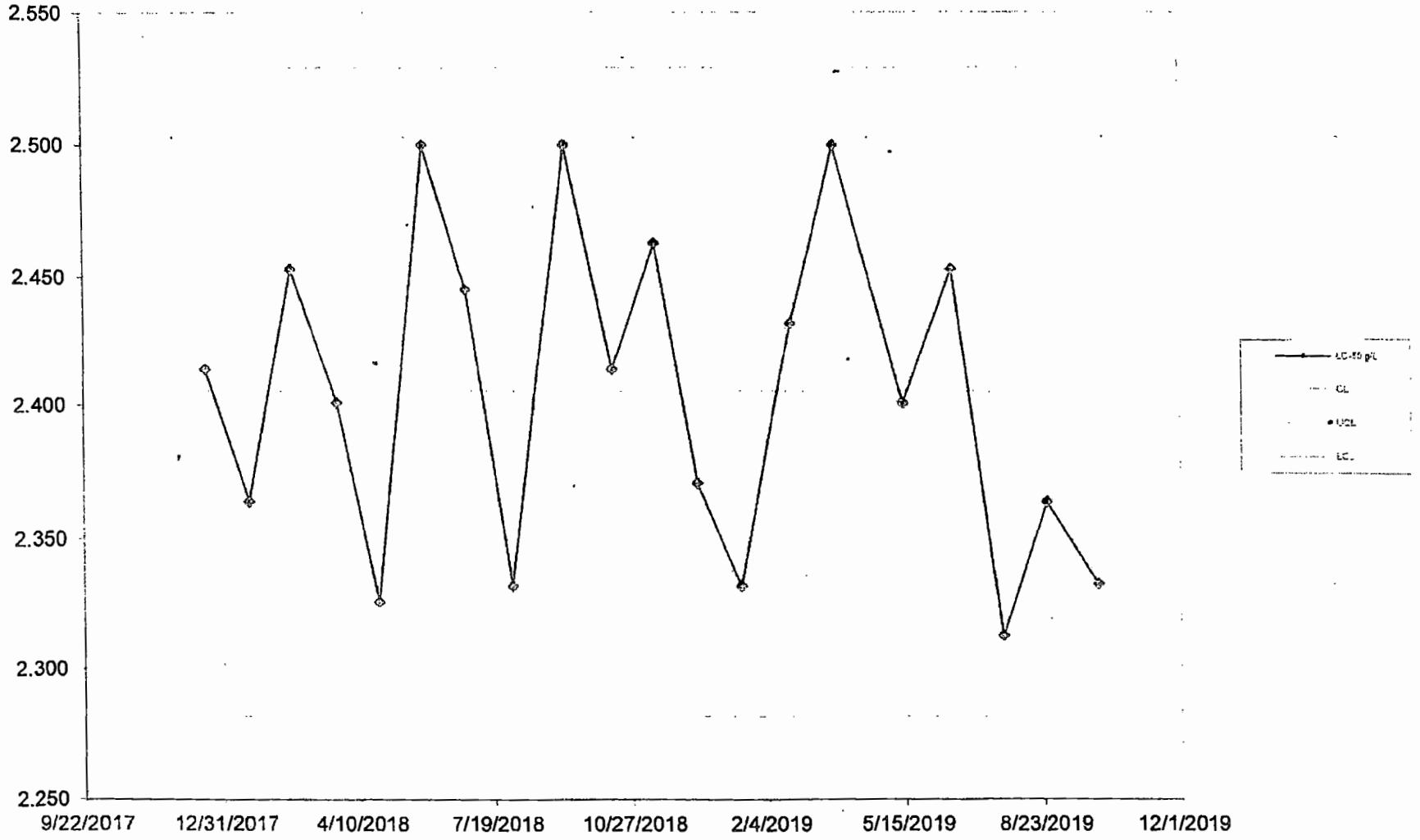
	pH (S.U)	D.O. (mg/L)	Temp (°C)	Conductivity (µmhos/cm)	
Synthetic					
Upstream					

	pH (S.U)	D.O. (mg/L)	Temp (°C)	Conductivity (µmhos/cm)	
Synthetic					
Upstream					

Sodium Chloride Reference Toxicity for Fathead Minnows
Pace Analytical Frontenac, KS



Ceriodaphnia dubia Reference Toxicant Test (NaCl, 48-hour)



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Street and Apt.: ADEM
City, State, ZIP: Municipal Section - Water Division
1400 Coliseum Blvd.
Montgomery, AL 36130-1463

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Mr. Nicholas Lowe
ADEM
Municipal Section - Water Division
1400 Coliseum Blvd.
Montgomery, AL 36130-1463

9590 9402 2845 7069 4449 71

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B. Received by *(Printed Name)* | C. Date of Delivery

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P.O. BOX 580 • SHEFFIELD, AL 35660 • (256) 389-2000

Mr. Nicholas Lowe
ADEM
Municipal Section - Water Division
1400 Coliseum Blvd.
Montgomery, AL 36130-1463

SHEFFIELD UTILITIES
P.O. BOX 580 • SHEFFIELD, AL 35660 • (256) 389-2000

November 14, 2018

Mr. Nicholas Lowe
Alabama Department of Environmental Management
Municipal Section – Water Division
1400 Coliseum Boulevard
Montgomery, Alabama 36130-1463

RE: Annual 48 Hour Acute Toxicity Test

Dear Mr. Lowe:

Please find enclosed two (2) copies of the Annual 48 Hour Acute Toxicity Test for Sheffield Utilities.

You may contact me at (256) 710-0280 if you need additional information.

Sincerely,

Joey Lindsey
Chief Operator

Enclosures 2
By certified mail
cc/enc: Tommy Barnes, Civil Operations Manager

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
TOXICITY TEST REPORT SUMMARY

1. GENERAL:

NPDES PERMIT NO.: AL0050121 DSN: 001 COUNTY: Colbert County
Permitee: City of Sheffield
Facility Name: Sheffield Utilities WWTP
Agent submitting Report: Mr. Joey Lindsey P.O. Box 580, Sheffield, Alabama 35660
Lab Conducting Toxicity Test(s): TTL, Inc., 3516 Greensboro Ave., Tuscaloosa, AL 35403
Months To Test: Annual
This Report for Toxicity Test(s) Required for the Month of: October
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: X -Hr Acute Definitive: ____
Short-term Chronic Screening: ____ 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	10/03/18, 16:50	10/05/18, 14:50	Yes	10/03/18, 16:50	10/05/18, 15:15	Yes

2A. SUMMARY OF RESULTS FOR SCREENING TEST:

Test Org.	Eff. Conc.	Test Number (1) Sur	Rep	Gro	(2) Sur	Rep	Gro	(3) Sur	Rep	Gro	(4) Sur	Rep	Gro
C.d.	100%	Pass											
P.p.	100%	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	Hardness mg/L	Alkalinity mg/L	Spec Cond umhos/cm	PH s.u.	TSS Mg/l	BOD5 Mg/l	NH3-N Mg/l		
1	79.2	74.9	413	7.87	1	<2.0	0.19		

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): TTL

Instantaneous Flow: (1) ____ GPM ____ ____
Total 24-Hour Flow: (1) ____ MGD (2) ____ MGD (3) ____ MGD

Comments:

I ceritify 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 rewponsible 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: Sheffield Utilities WWTP NPDES #: AL0050121 DSN: 001 Date: 11/12/18

4. SAMPLE COLLECTION:

Split Samples: N/A X Yes _____ (explain) _____

Samples Collected as Specified in the NPDES Permit: Yes X No (explain) _____

Receiving Water: Tennessee River Design Flow: _____ (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	10/01/18, 08:00 – 10/02/18, 07:00	0.0	10/03/18 – 10/05/18

5. CONTROL / DILUTION WATER:

Type	Prepared MM/DD/YY	Begin Use MM/DD/YY	Initial Water Chemistries				
			Hard.	Alk.	pH	Cond.	@ °C
20%DMW	10/02/18	10/03/18	80	60	8.2	200	25.0

6. TOXICITY TEST INFORMATION:

Test Species	Organism Age	Organism Source	Test Solution Concentrations (%)					
Pp	<48 hrs	Aquatic Biosystems, Inc	00	100				
Cd	<24 hrs	In-house Culture	00	100				

Test Species	Test Vessel Type	Vessel Vol. (mL)	Solution Vol. (mL)	Org. / Test Vessel	Replicates per Conc.
Pp	Plastic Beakers	500	400	10	4
Cd	Plastic Beakers	30	15	5	4

Test Species	Temp. Range (C)	D.O. Range (mg/L)	pH Range (s.u.)	Light Intensity Avg. (ft-c)
Pp	24.3 – 25.0	7.4 – 8.3	7.5 – 8.1	89
Cd	24.7 – 25.0	7.4 – 8.3	7.5 – 8.1	89

7. FEEDING:

Not Fed: X* Fed Daily: _____ Fed Irregular: _____ (Explain in comments below)

Brine Shrimp: Fed _____ mL Suspension of Newly Hatched Larvae _____ Times Daily.

YCT: Fed _____ mL Suspension Containing _____ mg/L TSS Daily.

Algae: Fed _____ mL Suspension Containing _____ Algal Cells/mL Daily.

COMMENTS: *Pimephales promelas were fed twice daily until test start. They were not fed during test period.

Facility Name: Sheffield Utilities WWTP NPDES #: AL0050121 DSN: 001 Date: 11/12/18

11.A. ACUTE SCREENING TOXICITY TESTS RESULTS (Freshwater):

SAMPLE ID: Test 1 – DSN001 diluted with TTL 20% DMW
TEST ORGANISM: *Pimephale promelas*
ACUTE TOXICITY INDICATED: YES _____ NO X
NO ACUTE STATISTICAL ANALYSIS NECESSARY: X

SOLUTION CONC.(%)	00	100	-
MORTALITY (%)	0.0	0.0	-

PERMITTED MORTALITY RATE (%): 10%
Normally Distributed: YES ------- NO -------
Test Statistic: ------- Critical Value: ------- (Parametric)
Equal variance: ---------- Unequal variance: ----------
F Statistic: ---------- Critical F: ----------
t - Test Statistic: ---------- t - Test Critical Value: ----------
Sample Rank Sum: ------- # Reps.: ------- Critical Rank Sum: ------- (Non – Parametric)
COMMENTS: No statistical analysis was necessary since effluent mortality equaled control mortality.

TEST ORGANISM: *Ceriodaphnia dubia*
ACUTE TOXICITY INDICATED: YES _____ NO X
NO ACUTE STATISTICAL ANALYSIS NECESSARY: X

SOLUTION CONC.(%)	00	100	-
MORTALITY (%)	00	00	-

PERMITTED MORTALITY RATE (%): 10%
Normally Distributed: YES ------- NO --------
Test Statistic: -------- Critical Value: ------- (Parametric)
Equal variance: ---------- Unequal variance: ----------
F Statistic: ---------- Critical F: ----------
t - Test Statistic: ---------- t - Test Critical Value: ----------
Sample Rank Sum: -------- # Reps.: -------- Critical Rank Sum: -------- (Non - Parametric)
COMMENTS: No statistical analysis was necessary since effluent mortality equaled control mortality.

Summary Data for Fathead Minnow Acute Toxicity Tests

Discharger:	Sheffield Utilities	Test Dates:	10/03/18-10/05/18
Location:	WWTP - Effluent	Analyst:	TRT, MMC, AEB

Sample	No. Live Larvae at Start	No. Live Larvae at End	Survival %
Final Effluent	40	40	100
Control	40	40	100

Physical/Chemical Data		Control	Effluent
Temperature °C	Avg	25.0	24.8
	Min	25.0	24.3
	Max	25.0	25.0
D.O. mg/L	Avg	8.0	7.8
	Min	7.8	7.4
	Max	8.3	8.3
pH s.u.	Avg	8.2	7.8
	Min	8.1	7.5
	Max	8.2	8.1
Alkalinity mg/L	Mean	60	75
Hardness mg/L	Mean	80	80
Conductivity umhos/cm	Mean	200	433
Light Intens. ft-c	Mean	89	89

Summary Data for Ceriodaphnia Acute Toxicity Tests

Discharger:	Sheffield Utilities	Test Dates:	10/03/18-10/05/18
Location:	WWTP - Effluent	Analyst:	TRT, MMC, AEB

Sample	No. Live Neonates at Start	No. Live Neonates at End	Survival %
Final Effluent	20	20	100
Control	20	20	100

Physical/Chemical Data		Control	Effluent
Temperature °C	Avg	24.9	24.9
	Min	24.8	24.7
	Max	25.0	25.0
D.O. mg/L	Avg	8.0	7.9
	Min	7.8	7.4
	Max	8.3	8.3
pH s.u.	Avg	8.2	7.8
	Min	8.2	7.5
	Max	8.2	8.1
Alkalinity mg/L	Mean	60	75
Hardness mg/L	Mean	80	80
Conductivity umhos/cm	Mean	200	434
Light Intens. ft-c	Mean	89	89

ATTACHMENT 2

RAW BENCH DATA

ACUTE BIOTOXICITY DATA

Client/Toxicant: Sheffield Util. Location/Outfall: WWTP

TTL Lab No.: 181002018-001 Analyst: MMC, TRT, AEB

NPDES Permit #: AL0050121 Dilution Water used:

Sample Collector: Client x 20%DMW ___Up ___Down

Grab Sample: Collected Composite: Collected

(1) ___:___ Time ___/___/___ Date (1) From: ___:___ Time ___/___/___ Date

(2) ___:___ Time ___/___/___ Date To: ___:___ Time ___/___/___ Date

(3) ___:___ Time ___/___/___ Date Initial Sample Eff

(4) ___:___ Time ___/___/___ Date Undiluted pH

Test Period:

Start: 1650 Time 10/03/18 Date

End: 1515 Time 10/05/18 Date

Test Organism:

Species: Ceriodaphnia dubia

Age: <24 hrs Source: TTL, Inc.

Data Approved by:

Daily electronically entered TRT Sr. Biologist

Conc. or %	Test Container Number	Number of Live Organisms 0	24	48	DO (mg/L) 0	24	48	pH (Units) 0	24	48	Total Alkalinity (mg/L - $CaCO_3$) 0	24	48	Total Hardness (mg/L - $CaCO_3$) 0	24	48	Specific Conductance (umhos/cm) 0	24	48	Light Intensity ft-C 0	24	48	Temperature (Degrees Celcius) 0	24	48
100.0%	Effluent 1	5	5	5	8.3	7.4	7.9	7.8	7.5	8.1	75			80			407	428	466	81	92	95	25.0	25.0	24.7
	2	5	5	5																					
	3	5	5	5																					
	4	5	5	5																					
	Control 1	5	5	5	8.3	7.8	8.0	8.2	8.2	8.2	60			80			183	200	218	81	92	95	25.0	25.0	24.8
	2	5	5	5																					
	3	5	5	5																					
	4	5	5	5																					
Analyst Initials		TRT, AEB	MMC	MMC	TRT, AEB	MMC	MMC	TRT, AEB	MMC	MMC	TRT			TRT			TRT, AEB	MMC	MMC	TRT, AEB	MMC	MMC	TRT, AEB	MMC	MMC
Time		1650	1505	1515	1630	1500	1505	1630	1500	1505	1630			1630			1630	1500	1505	1425	1530	1520	1630	1500	1505

TTL LIMS Chain of Custody Form

S77

Sheet 1 of 1

Client: Sheffield Utilities Department
Contact: Mr. Joey Lindsey
Mailing Address: P.O. Box 580
City, State, Zip: Sheffield, AL 35660
Phone No.: (256) 389-2482
Sampled By: CHARLIE Cummings - CWM
Project ID: BIO-Sheffield
Project Name: WWTP Acute Biotox

TTL WORK ORDER NUMBER **181002018**

Composite Sample Info

Sample EFF
Start 0800 10-1-18 (DATE/TIME)
End 0700 10-2-18 (DATE/TIME)

Sample
Start (DATE/TIME)
End (DATE/TIME)

Sample Security Requirements

1. Condition of Contents:
2. Sealed for Shipping By:
3. Initial Contents Temp.: °C Seal Applied Yes No
4. Custody Seal Intact Upon Receipt by Laboratory: Yes No
5. Condition of Contents: Good - Ice
6. Comments: 0 °C at Tuscaloosa Lab
7. Reporting Status: Routine; ; Rush By* (* SURCHARGES MAY APPLY)
8. Client P.O. #

Date	Time	Sample ID/Description	Sample Type	Sample Method	Sample Containers	Analysis Parameters
10-2-18	11:20	WWTP Effluent	Aqueous	COMP24	1 DW1/2 GALMETALS	200.7PR, HARD_W
10-2-18		WWTP Effluent	Aqueous	COMP24	1 DW1/2 GAL NP	ALK_W, BOD5, BOD5_PREP, COND, PH_LAB, TSS_RESIDUE
		WWTP Effluent	Aqueous	COMP24	1 BIOTOX-1GAL NP	BIOTOX_A
		WWTP Effluent	Aqueous	COMP24	1 QT PL H2SO4	NH3-N

Relinquished by: (signed) Date/Time
1 10-2-18 11:25
2 10/2/18 2:30
3
4

Received by (signed) Date/Time
1 10/2/18 11:25
2
3
4

SHIPPING DETAILS
Air Bill #:
Method of Shipment: Hand
Received By Lab:
Date/Time 10-2-18 2:30

ATTACHMENT 4

STATISTICAL DATA

SHEFFIELD UTILITIES
P.O. BOX 580 • SHEFFIELD, AL 35660 • (256) 389-2000

October 30, 2017

Mr. Nicholas Lowe
Alabama Department of Environmental Management
Municipal Section – Water Division
1400 Coliseum Boulevard
Montgomery, Alabama 36130-1463

RE: Annual 48 Hour Acute Toxicity Test

Dear Mr. Lowe:

Please find enclosed two (2) copies of the Annual 48 Hour Acute Toxicity Test for Sheffield Utilities.

You may contact me at (256) 710-0280 if you need additional information.

Sincerely,

Joey Lindsey
Chief Operator

Enclosures 2
By certified mail
cc/enc: Tommy Barnes, Civil Operations Manager

ENERSOLV
a Solutions Company

OCTOBER
2017
48 HR ACUTE
TOXICITY TEST

Ceriodaphnia dubia
Pimephales promelas

SHEFFIELD

PREPARED BY: Leslie Williams **DATE:** 10/25/17

REVIEWED BY: William A. Williams **DATE:** 10/26/17

2220 Beltline Road SW • Decatur, Alabama 35601
P.O. Box 1646 • Decatur, Alabama 35602 • (256) 350-0846 • Fax: (256) 350-0686

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
TOXICITY TEST REPORT SUMMARY

1. GENERAL:

NPDES PERMIT NO.: AL0050121 DSN: 001 COUNTY: Colbert
Permitee: Sheffield Utilities
Facility Name: Sheffield WWTP
Agent submitting Report: Sheffield Utilities
Lab Conducting Toxicity Test(s): ENERSOLV Inc.
Months To Test: October
This Report for Toxicity Test(s) Required for the Month of: October 2017
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: X -Hr Acute Definitive: ____
Short-term Chronic Screening: ____ 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
	10/18/17	13:20	10/20/17	14:25	Yes	10/18/17	13:15	10/20/17	14:00	Yes

2A. SUMMARY OF RESULTS FOR SCREENING TEST:

Test Org.	Eff. Conc.	Test Number (1) Sur	Rep	Gro	(2) Sur	Rep	Gro	(3) Sur	Rep	Gro	(4) Sur	Rep	Gro
C.d.	100	Pass											
P.p.	100	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	MBAS mg/L	TDS mg/L	NH3 mg/L	pH mg/L	Alk mg/L	Hard mg/L	TRC mg/L	Cond umhos	
1714660-01				7.6	106	94.1	0.08	410	

Municipal Facilities Only Dissolved Metals

Sample ID	Arsenic (mg/L)	Cadium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Lead (mg/L)	Hexavalent Chromium (mg/L)
Sample ID	Mercury (mg/L)	Nickel (mg/L)	Silver (mg/L)	Zinc (mg/L)	Total Cyanide (mg/L)	Other(s) (mg/L)

Chemical Analysis Performed By (LAB): ENERSOLV Inc.

Instantaneous Flow: (1) ____ GPM
Total 24-Hour Flow: (1) 0.817 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 significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF RESPONSIBLE OFFICIAL: _____ DATE: _____.

Facility Name: Sheffield WWTP NPDES #: AL0050121 DSN: 001 Date: 10/18/17

4. SAMPLE COLLECTION:

Split Samples: N/A X Yes _____ (explain) _____

Samples Collected as Specified in the NPDES Permit: Yes X No (explain) _____

Receiving Water: Tennessee River Design Flow: 3.9 (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
1714600-01	10/17/17 0715 - 10/18/17 0615	2.7	10/18/17 – 10/20/17

5. CONTROL / DILUTION WATER:

Type	Prepared MM/DD/YY	Begin Use MM/DD/YY	Initial Water Chemistries				
			Hard.	Alk.	pH	Cond.	@ °C
MHSFW	10/11/17	10/17/17	95.1	64.7	7.40	402	25.0

6. TOXICITY TEST INFORMATION:

Test Species	Organism Age	Organism Source	Test Solution Concentrations (%)					
C.d.	<24h	In-house cultures	0	100				
P.p.	<48h	EC & T	0	100				

Test Species	Test Vessel Type	Vessel Vol. (mL)	Solution Vol. (mL)	Org. / Test Vessel	Replicates per Conc.
C.d.	Plastic	30	15	5	4
P.p.	Glass	400	250	10	2

Test Species	Temp. Range (C)	D.O. Range (mg/L)	pH Range (mg/L)	Light Intensity Avg. (ft-c)
C.d.	24.2 – 25.0	8.0 – 8.0	7.40 – 7.58	96
P.p.	24.4 – 25.0	8.0 – 8.0	7.40 – 7.64	96

7. FEEDING:

Not Fed: X Fed Daily: _____ Fed Irregular: _____ (Explain in comments below)

Brine Shrimp: Fed _____ mL Suspension of Newly Hatched Larvae _____ Times Daily.
YCT: Fed _____ mL Suspension Containing _____ mg/L TSS Daily.
Algae: Fed _____ mL Suspension Containing _____ Algal Cells/mL Daily.

COMMENTS: _____

Facility Name: Sheffield WWTP NPDES #: AL0050121 DSN: 001 Date: 10/19/16

8. REFERENCE TOXICANT TESTS:

Toxicant: Potassium chloride Source: Fisher Scientific CAS#: 7447-40-7

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.)						
P.p.	09/26 – 09/28	MHSFW	0	0.06	0.12	0.25	0.50	1.0	
C.d.	09/26 – 09/28	MHSFW	0	0.03	0.06	0.12	0.25	0.5	

Test Org.	Results	95% Confidence Interval	Upper and Lower CUSUM Chart Control Limit (This Test)	Number (N)
P.p.	0.73	0.64 - 0.83	0.607 - 0.814	20
C.d.	0.31	0.19 - 0.51	0.285 - 0.379	20

9. TEST CONDITION VARIABILITY:

9.A. Deviations From Standard Test Conditions:
Monthly SRT dilutions have been modified.

9.B. Test Solution Manipulations or Test Modifications:

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:
Test endpoints determined using TOXSTAT and ICPIN programs.

Facility Name: Sheffield WWTP NPDES #: AL0050121 DSN: 001 Date: 10/19/16

11.A. ACUTE SCREENING TOXICITY TESTS RESULTS (Freshwater):

TEST ORGANISM: *Ceriodaphnia dubia*
ACUTE TOXICITY INDICATED: YES ____ NO X
NO ACUTE STATISTICAL ANALYSIS NECESSARY: X

SOLUTION CONC.(%)	0	100	
MORTALITY (%)	0	0	

PERMITTED MORTALITY RATE (%): 50
Normally Distributed: YES ____ NO ____
Test Statistic: ____ Critical Value: ____ (Parametric)
Equal variance: ____ Unequal variance: ____
F Statistic: ____ Critical F: ____
t - Test Statistic: ____ t - Test Critical Value: ____
Sample Rank Sum: ____ # Reps.: ____ Critical Rank Sum: ____ (Non - Parametric)
COMMENTS: ____

TEST ORGANISM: *Pimephale promelas*
ACUTE TOXICITY INDICATED: YES ____ NO X
NO ACUTE STATISTICAL ANALYSIS NECESSARY: X

SOLUTION CONC.(%)	0	100	
MORTALITY (%)	0	0	

PERMITTED MORTALITY RATE (%): 50
Normally Distributed: YES ____ NO ____
Test Statistic: ____ Critical Value: ____ (Parametric)
Equal variance: ____ Unequal variance: ____
F Statistic: ____ Critical F: ____
t - Test Statistic: ____ t - Test Critical Value: ____
Sample Rank Sum: ____ # Reps.: ____ Critical Rank Sum: ____ (Non - Parametric)
COMMENTS: ____

ENERSOLV Acute Toxicity Screening Test TOX-005-SOP A & TOX-006-SOP A rev. 2

Client Sheffield IWC % 100 % Sample ID 1714600-01

Date/Time Initiated 10/18/17 (1315) LW MHSFW Batch used 10111713

Date/Time Ended 10/20/17 (1400) LW

Chemistry: Conductance 410.0 Alkalinity 106 Hardness 174.1

Organism-Pimephales promelas Organism age- < 48 hrs Rosc 0.08

Control	Rep#	#of Live Organisms			D.O. (mg/L)			pH (su)			Temp deg. C (25.0 +/- 1)		
		0 hours	24 hours	48 hours	0 hours	24 hours	48 hours	0 hours	24 hours	48 hours	0 hours	24 hours	48 hours
	1	10	10	10	8.0	8.0	8.0	7.58	7.64	7.58	25.0	25.0	25.0
	2	10	10	10									
IWC%	5	10	10	10	8.0	8.0	8.0	7.40	7.57	7.56	25.0	25.0	24.4
	6	10	10	10									
	Date	10/18	10/19	10/20			Undiluted pH (su)*	7.6					
	Time	1320	1335	1415									
	Analyst	LW	LW	LW			*as needed						

Organism-Ceriodaphnia dubia Organism age- < 24 hrs

Control	Rep#	#of Live Organisms			D.O. (mg/L)			pH (su)			Temp deg C (25.0 +/-1)		
		0 hours	24 hours	48 hours	0 hours	24 hours	48 hours	0 hours	24 hours	48 hours	0 hours	24 hours	48 hours
	1	5	5	5	8.0	8.0	8.0	7.58	7.41	7.40	25.0	24.2	24.3
	2	5	5	5									
	3	5	5	5									
	4	5	5	5									
IWC%	9	5	5	5	8.0	8.0	8.0	7.40	7.56	7.48	25.0	24.4	24.2
	10	5	5	5									
	11	5	5	5									
	12	5	5	5									
	Date	10/18	10/19	10/20			Undiluted pH (su)*	7.6					
	Time	1315	1320	1400									
	Analyst	LW	LW	LW			*as needed						

P. promelas: Source EC & T Lot # E-12581 Date received 10-17-17 Date hatched 10-16-17

C. dubia: Source In House Cultures Brood board A Date/Time 10-17-17 1000 & 1635

Comments:

Dilution Water QA/QC Log
Toxicity Testing Laboratory

Date	ID#	Dil. Water Type	T.H. mg/L CaCO3	T.A. mg/L CaCO3	pH su	Conductance uS	Temperature Celsius	Cond. Coeff.
3/8/17	030617B	MHSFW	95.1	62.7	7.44	474	25.0	0.110
3/16/17	031517A	MHSFW	92.9	60.3	7.44	316	25.0	0.109
3/23/17	032117B	MHSFW	93.7	65.4	7.44	302	25.0	0.109
4/4/17	040317A	MHSFW	97.3	67.4	7.59	401	25.0	0.109
4/7/17	041317B	MHSFW	96.1	65.2	7.40	314	25.0	0.111
4/25/17	042017A	MHSFW	94.1	61.7	7.79	269 (269)	25.0	0.111
4/28/17	042617A	MHSFW	95.9	64.6	7.48	324	25.0	0.111
5/8/17	050317A	MHSFW	93.7	65.1	7.72	384	25.0	0.108
5/12/17	051117B	MHSFW	94.6	60.2	7.47	393	24.8	0.108
5/22/17	051817A	MHSFW	89.9	65.4	7.41	315	25.0	0.108
5/25/17	052417B	MHSFW	92.2	63.8	7.44	305	25.0	0.108
6/5/17	053017A	MHSFW	92.9	64.7	7.44	289	25.0	0.108
6/9/17	060717B	MHSFW	96.3	65.2	7.46	456	25.0	0.109
6/19/17	061617A	MHSFW	93.8	67.0	7.48	273	25.0	0.111
6/26/17	062217B	MHSFW	94.7	62.9	7.43	379	24.9	0.111
7/5/17	063017A	MHSFW	96.2	65.4	7.48	393	25.0	0.109
7/12/17	071017B	MHSFW	94.4	63.7	7.78	324	25.0	0.109
7/19/17	071717A	MHSFW	93.5	62.9	7.43	461	25.0	0.109
7/25/17	072417B	MHSFW	92.9	64.7	7.52	307	24.9	0.109
7/31/17	072817A	MHSFW	96.7	66.3	7.78	431	25.0	0.109
8/8/17	080717B	MHSFW	90.7	62.1	7.64	410	25.0	0.109
8/16/17	081417A	MHSFW	91.2	63.4	7.68	415	25.0	0.109
8/21/17	081817B	MHSFW	94.4	65.0	7.70	340	25.0	0.109
8/28/17	082517A	MHSFW	93.7	64.2	7.49	465	25.0	0.109
9/1/17	083017B	MHSFW	94.7	65.6	7.63	421	25.0	0.110
9/11/17	090617A	MHSFW	88.1	65.9	7.53	376	25.0	0.110
9/15/17	091317B	MHSFW	91.6	65.2	7.62	297	25.0	0.110
9/20/17	091917A	MHSFW	94.2	60.9	7.77	451	25.0	0.110
9/26/17	092217B	MHSFW	93.4	65.8	7.65	390	25.0	0.110
10/4/17	100217A	MHSFW	96.3	67.2	7.78	387	25.0	0.110
10/13/17	101117B	MHSFW	95.1	64.7	7.40	402	25.0	0.108
		MHSFW						
		MHSFW						
		MHSFW						
		MHSFW						
		MHSFW						
		MHSFW						

MHSFW-moderately hard synthetic fresh water
VH-very hard VS-very soft DI-deionized water P-Perrier

ENERSOLV
A Solutions Company

SEPTEMBER 2017

48 HR ACUTE TOXICITY TEST

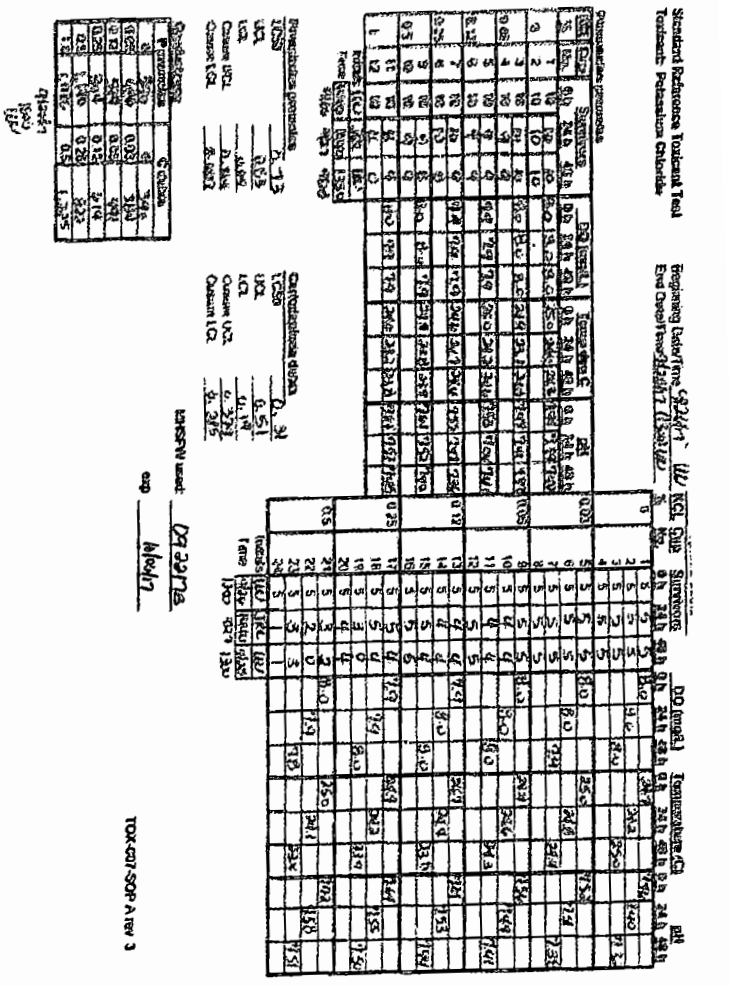
Ceriodaphnia dubia
Pimephales promelas

ACUTE SRT

PREPARED BY: Leslie Willhoite DATE: 10/10/17

REVIEWED BY: _____ DATE: _____

2220 Beltline Road SW • Decatur, Alabama 35601
P.O. Box 1646 • Decatur, Alabama 35602 • (256) 350-0846 • Fax: (256) 350-0686



SEPTEMBER 2017 ACUTE SRT

DURATION: 48 hrs

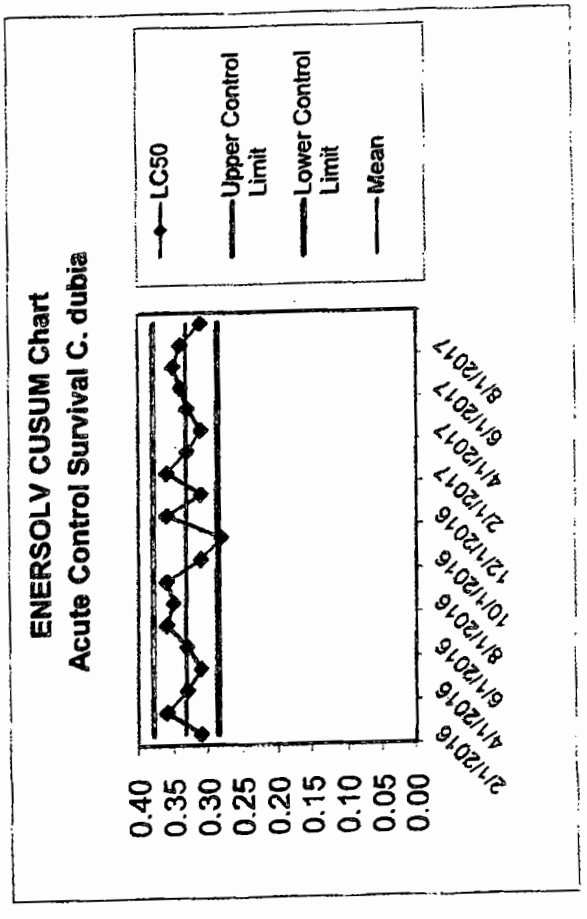
TOXICANT : KCL

SPECIES: *C. dubia*

Concentration (g)	Number Exposed	Mortalities
00	20	0
.03	20	0
.06	20	2
.12	20	3
.25	20	8
.50	20	14

SPEARMAN-KARBER TRIM. 30.00%

SPEARMAN-KARBER ESTIMATES: LC50: 0.31
95% LOWER CONFIDENCE: 0 19
95% UPPER CONFIDENCE: 0 51



ENERSOLV
a Solutions Company

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601
(256)-350-0846

www.enersolv.com

COC NUMBER	116947		
PAGE	1	of	1

COMPANY/CLIENT NAME	ACCOUNT NUMBER	CLIENT P.O. NUMBER	ENERSOLV PROJECT NUMBER
Sheffield WWTP		700-1294	

CLIENT POINT OF CONTACT	CLIENT PHYSICAL ADDRESS	CITY/STATE/ZIP
Kenny Nunley - Joey Lindsey	300 Nashville Ave	Sheffield AL 35660

CLIENT EMAIL	PHONE NUMBER	OTHER INFORMATION
jlindsey@sheffieldutilities.com kennynunley@comcast.net	256-389-2000	Cell 412-9252 (256) 710-0280

SAMPLE COLLECTED BY

EXPEDITED REPORT DELIVERY (SURCHARGE)

DATE DUE (REQUIRED)

ENERSOLV LAB NO	SAMPLE (USE ONE LINE PER CONTAINER) LOCATION CODE	DESCRIPTION	DATE	TIME	GRAB	COMP	REQUESTED ANALYSES: ACUTE SCRN 2 ORG 48	HARD TOX	CL-Residual-tox
1714600.01	Sheffield-DSN001	Toxicity	10-18-17	06:15		X	x	x	x

Comments: Flow: 0.817 MGD Cl2 - .06 mg/L

Collector to complete shaded areas, as applicable

SAMPLE TEMPERATURE RECEIVED @ 2.7c

Field Information

Sampler		pH su	N/A	TRC mg/l	N/A	DO mg/l	N/A	Temp deg C	N/A
Start Date	10-17-17	Date	N/A	Date	N/A	Date	N/A	Date	N/A
Start Time	07:15	Time	N/A	Time	N/A	Time	N/A	Time	N/A
Stop Date	10-18-17	Analyst	N/A	Analyst	N/A	Analyst	N/A	Analyst	N/A
Stop Time	06:15	SM 4500H+		SM 4500-Cl D		SM 4500-O G		SM 2550B	

Qty	Type	Vol.	Preserv.	Parameter
1	Plastic	1/2 Gallon	Plain	A Toxicity
1	Plastic	Pint	HNO3	C hardness
1	Glass	125ml Amber	Plain	B Res. Chlorine

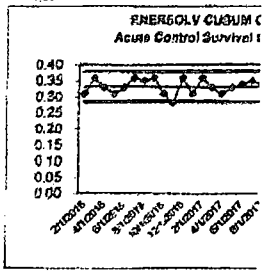
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY (SIGNATURE)	DATE	TIME
Joey Lindsey	10-18-17	09:25	Phillip McDaniel	10/18/17	1220			
RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
Phillip McDaniel	10/18-17	9:25						

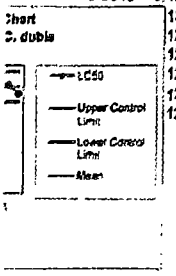
RECEIVED FOR LABORATORY USE BY (SIGNATURE)	DATE	TIME	SAMPLE STATUS
Thanh	10/18/17	1220	☑ Accepted ☐ Rejected ☐ Accepted with Exception

Enersolv Form FLD-020-SOP A rev. 5

ENERSOLV, Inc
STANDARD REFERENCE TOXICANT CONTROL CHART
ORGANISM: CERIODAPHNIA DUBIA Duration: 48 hours
REFERENCE TOXICANT: Potassium chloride SOURCE: Fisher

No.	DATE	LC50	LOWER CONTROL LIMIT	UPPER CONTROL LIMIT	Mean	MEAN	LOWER WARNING LIMIT	UPPER WARNING LIMIT	LAB RESULT SQUARE
1	02/16/16	0.31	0.285	0.379	0.33	0.2812	0.1296	0.5734	0.0784
2	03/29/16	0.39	0.285	0.379	0.33	0.3515	0.1296	0.5734	0.1225
3	04/27/16	0.33	0.285	0.379	0.33	0.3515	0.1296	0.5734	0.1521
4	05/31/16	0.31	0.285	0.379	0.33	0.3515	0.1296	0.5734	0.1225
5	06/15/16	0.33	0.285	0.379	0.33	0.3515	0.1296	0.5734	0.1369
6	07/27/16	0.36	0.285	0.379	0.33	0.3515	0.1296	0.5734	0.1024
7	08/31/16	0.35	0.285	0.379	0.33	0.3515	0.1296	0.5734	0.16
8	09/28/16	0.36	0.285	0.379	0.33	0.3515	0.1296	0.5734	0.1156
9	10/26/16	0.31	0.285	0.379	0.33	0.3515	0.1296	0.5734	0.09
10	11/29/16	0.26	0.285	0.379	0.33	0.3515	0.1296	0.5734	0.1369
11	12/14/16	0.36	0.285	0.379	0.33	0.3515	0.1296	0.5734	0.1024
12	01/24/17	0.31	0.285	0.379	0.33	0.3515	0.1296	0.5734	0.09
13	02/22/17	0.36	0.285	0.379	0.33	0.3515	0.1296	0.5734	0.1369
14	03/15/17	0.33	0.285	0.379	0.33	0.3515	0.1296	0.5734	0.1225
15	04/28/17	0.31	0.285	0.379	0.33	0.3515	0.1296	0.5734	0.1444
16	05/24/17	0.33	0.285	0.379	0.33	0.3515	0.1296	0.5734	0.1024
17	06/21/17	0.34	0.285	0.379	0.33	0.3515	0.1296	0.5734	0.1444
18	07/26/17	0.35	0.285	0.379	0.33	0.3515	0.1296	0.5734	0.1521
19	08/30/17	0.34	0.285	0.379	0.33	0.3515	0.1296	0.5734	0.1936
20	09/26/17	0.31	0.285	0.379	0.33	0.3515	0.1296	0.5734	0.0961
SUM =		6.64							
MEAN =		0.33							
STD DEV			0.023						
UPPER CONTROL LIMIT =			0.379						
LOWER CONTROL LIMIT =			0.285						
N =	20								
								SUM SQUARES =	2.5021
								VARIANCE =	0.0219
COEFFICIENT OF VARIATION (CV)			0.070						
								UPPER WARNING LIMIT =	0.5734
								LOWER WARNING LIMIT	0.1296





SEPTEMBER 2017 ACUTE SRT

DATE: 09/26/17

DURATION: 48 hrs

TOXICANT : KCL

SPECIES: *P. promelas*

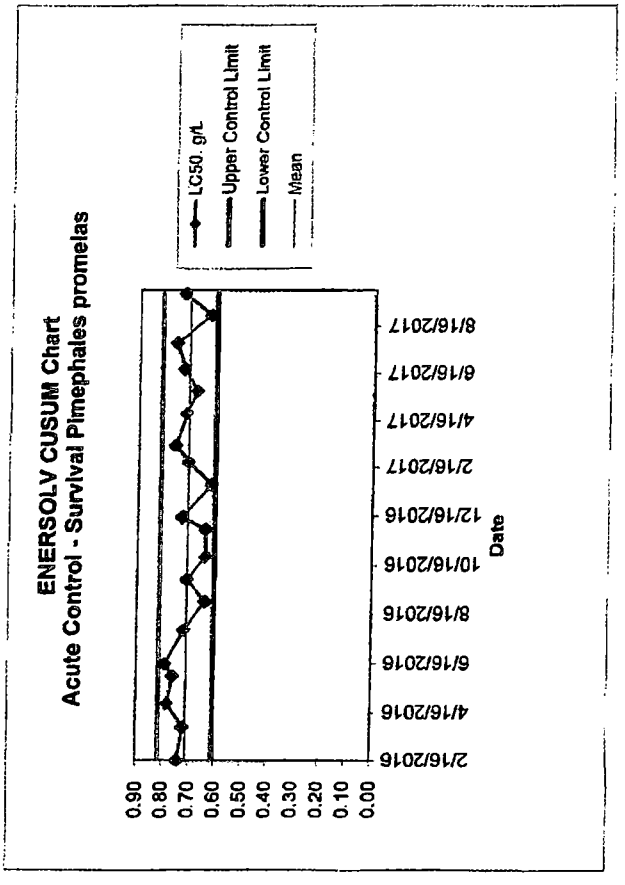
Concentration (%)	Number Exposed	Mortalities
.00	20	0
.06	20	1
.12	20	2
.25	20	3
.50	20	3
1.00	20	16

SPEARMAN-KARBER TRIM: 20.00%

SPEARMAN-KARBER ESTIMATES: LC50: 0.73

95% LOWER CONFIDENCE: 0.64

95% UPPER CONFIDENCE: 0.83



ORGANISM: Pimephales promelas
REFERENCE TOXIC/Potassium chloride SOURCE:

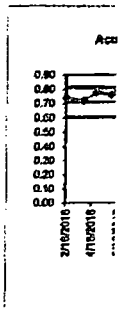
No	DATE	LC50	MEAN	LOWER CONTRC LIMIT	UPPER CONTRC LIMIT	LAB RESULT SQUARED
1	02/16/16	0.74	0.7105	0.607	0.814	0.8649
2	03/29/16	0.72	0.7105	0.607	0.814	0.7744
3	04/27/16	0.78	0.7105	0.607	0.814	0.64
4	05/31/16	0.76	0.7105	0.607	0.814	0.8649
5	06/15/16	0.79	0.7105	0.607	0.814	0.8281
6	07/27/16	0.72	0.7105	0.607	0.814	0.8649
7	08/31/16	0.64	0.7105	0.607	0.814	0.8649
8	09/28/16	0.71	0.7105	0.607	0.814	0.8281
9	10/26/16	0.64	0.7105	0.607	0.814	0.8649
10	11/28/16	0.64	0.7105	0.607	0.814	0.8281
11	12/14/16	0.73	0.7105	0.607	0.814	0.7569
12	01/24/17	0.62	0.7105	0.607	0.814	0.64
13	02/22/17	0.71	0.7105	0.607	0.814	0.3136
14	03/15/17	0.76	0.7105	0.607	0.814	0.1296
15	04/26/17	0.72	0.7105	0.607	0.814	1.2996
16	05/24/17	0.68	0.7105	0.607	0.814	0.3025
17	06/21/17	0.73	0.7105	0.607	0.814	1.0404
18	07/25/17	0.76	0.7105	0.607	0.814	1.0404
19	08/30/17	0.83	0.7105	0.607	0.814	1.0404
20	09/26/17	0.73	0.7105	0.607	0.814	1.0404

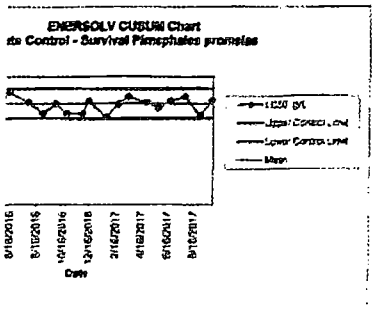
MEAN = 0.7105

STD DEV 0.052

UPPER CONTROL LIMIT = 0.81442
LOWER CONTROL LIMIT = 0.60658
N = 20

COEFFICIENT OF VARIATION (C 0.073





SHEFFIELD UTILITIES
P.O. BOX 580 • SHEFFIELD, AL 35660 • (256) 389-2000

November 8, 2016

Mr. Nicholas Lowe
Alabama Department of Environmental Management
Municipal Section – Water Division
1400 Coliseum Boulevard
Montgomery, Alabama 36130-1463

RE: Annual 48 Hour Acute Toxicity Test

Dear Mr. Lowe:

Please find enclosed two (2) copies of the Annual 48 Hour Acute Toxicity Test for Sheffield Utilities.

You may contact me at (256) 412-9252 if you need additional information.

Sincerely,

Kenny Nunley
Chief Operator

Enclosures 2
By certified mail
cc/enc: Tommy Barnes, Civil Operations Manager

ENERSOLV
a Solutions Company

OCTOBER
2016
48 HR ACUTE
TOXICITY TEST

Ceriodaphnia dubia
Pimephales promelas

SHEFFIELD

PREPARED BY: _____ **DATE:** 11/02/16

REVIEWED BY: _____ **DATE:** 11/04/16

2220 Beltline Road SW • Decatur, Alabama 35601
P.O. Box 1646 • Decatur, Alabama 35602 • (256) 350-0846 • Fax: (256) 350-0686

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
TOXICITY TEST REPORT SUMMARY

1. GENERAL:

NPDES PERMIT NO.: AL0050121 DSN: 001 COUNTY: Colbert

Permitee: Sheffield Utilities

Facility Name: Sheffield WWTP

Agent submitting Report: Sheffield Utilities

Lab Conducting Toxicity Test(s): ENERSOLV Inc.

Months To Test: October

This Report for Toxicity Test(s) Required for the Month of: October 2016

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: X -Hr Acute Definitive: ____

Short-term Chronic Screening: ____ 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
	10/19/16	14:45	10/21/16	14:30	Yes	10/19/16	14:35	10/21/16	14:20	Yes

2A. SUMMARY OF RESULTS FOR SCREENING TEST:

Test Org.	Eff. Conc.	Test Number (1) Sur	Rep	Gro	(2) Sur	Rep	Gro	(3) Sur	Rep	Gro	(4) Sur	Rep	Gro
C.d.	100	Pass											
P.p.	100	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	MBAS mg/L	TDS mg/L	NH3 mg/L	pH mg/L	Alk mg/L	Hard mg/L	TRC mg/L	Cond umhos	
1613301-01				7.9	106	96.2	0.05	484	

Municipal Facilities Only Dissolved Metals

Sample ID	Arsenic (mg/L)	Cadium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Lead (mg/L)	Hexavalent Chromium (mg/L)
Sample ID	Mercury (mg/L)	Nickel (mg/L)	Silver (mg/L)	Zinc (mg/L)	Total Cyanide (mg/L)	Other(s) (mg/L)

Chemical Analysis Performed By (LAB): ENERSOLV Inc.

Instantaneous Flow: (1) ____ GPM

Total 24-Hour Flow: (1) 0.820 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 significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF RESPONSIBLE OFFICIAL: ____ DATE: ____

Facility Name: Sheffield WWTP NPDES #: AL0050121 DSN: 001 Date: 10/19/16

4. SAMPLE COLLECTION:

Split Samples: N/A X Yes _____ (explain) _____

Samples Collected as Specified in the NPDES Permit: Yes X No (explain) _____

Receiving Water: Tennessee River Design Flow: 3.9 (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
1613301-01	10/18/16 0715 - 10/19/16 0615	1.7	10/19/16 – 10/21/16

5. CONTROL / DILUTION WATER:

Type	Prepared MM/DD/YY	Begin Use MM/DD/YY	Initial Water Chemistries				
			Hard.	Alk.	pH	Cond.	@ °C
MHSFW	10/18/16	10/19/16	93.7	62.2	7.58	442	25.0

6. TOXICITY TEST INFORMATION:

Test Species	Organism Age	Organism Source	Test Solution Concentrations (%)					
C.d.	<24h	In-house cultures	0	100				
P.p.	<48h	EC & T	0	100				

Test Species	Test Vessel Type	Vessel Vol. (mL)	Solution Vol. (mL)	Org. / Test Vessel	Replicates per Conc.
C.d.	Plastic	30	15	5	4
P.p.	Glass	400	250	10	2

Test Species	Temp. Range (C)	D.O. Range (mg/L)	pH Range (mg/L)	Light Intensity Avg. (ft-c)
C.d.	23.7 – 24.5	7.8 – 8.0	7.77 – 8.24	95
P.p.	24.4 – 25.0	7.9 – 8.0	7.64 – 8.26	95

7. FEEDING:

Not Fed: X Fed Daily: _____ Fed Irregular: _____ (Explain in comments below)

Brine Shrimp: Fed _____ mL Suspension of Newly Hatched Larvae _____ Times Daily.
YCT: Fed _____ mL Suspension Containing _____ mg/L TSS Daily.
Algae: Fed _____ mL Suspension Containing _____ Algal Cells/mL Daily.

COMMENTS: _____

Facility Name: Sheffield WWTP NPDES #: AL0050121 DSN: 001 Date: 10/19/16

8. REFERENCE TOXICANT TESTS:

Toxicant: Potassium chloride Source: Fisher Scientific CAS#: 7447-40-7

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.)						
P.p.	09/28 – 09/30	MHSFW	0	0.06	0.12	0.25	0.50	1.0	
C.d.	09/28 – 09/30	MHSFW	0	0.03	0.06	0.12	0.25	0.5	

Test Org.	Results	95% Confidence Interval	Upper and Lower CUSUM Chart Control Limit (This Test)	Number (N)
P.p.	0.71	0.65 - 0.77	0.622 - 0.821	20
C.d.	0.36	0.34 - 0.39	0.285 - 0.374	20

9. TEST CONDITION VARIABILITY:

9.A. Deviations From Standard Test Conditions:
Monthly SRT dilutions have been modified.

9.B. Test Solution Manipulations or Test Modifications:

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:
Test endpoints determined using TOXSTAT and ICPIN programs.

Facility Name: Sheffield WWTP NPDES #: AL0050121 DSN: 001 Date: 10/19/16

11.A. ACUTE SCREENING TOXICITY TESTS RESULTS (Freshwater):

TEST ORGANISM: *Ceriodaphnia dubia*
ACUTE TOXICITY INDICATED: YES ____ NO X
NO ACUTE STATISTICAL ANALYSIS NECESSARY: X

SOLUTION CONC.(%)	0	100	
MORTALITY (%)	0	0	

PERMITTED MORTALITY RATE (%): 50
Normally Distributed: YES ____ NO ____
Test Statistic: ____ Critical Value: ____ (Parametric)
Equal variance: ____ Unequal variance: ____
F Statistic: ____ Critical F: ____
t - Test Statistic: ____ t - Test Critical Value: ____
Sample Rank Sum: ____ # Reps.: ____ Critical Rank Sum: ____ (Non - Parametric)
COMMENTS: ____

TEST ORGANISM: *Pimephale promelas*
ACUTE TOXICITY INDICATED: YES ____ NO X
NO ACUTE STATISTICAL ANALYSIS NECESSARY: X

SOLUTION CONC.(%)	0	100	
MORTALITY (%)	0	0	

PERMITTED MORTALITY RATE (%): 50
Normally Distributed: YES ____ NO ____
Test Statistic: ____ Critical Value: ____ (Parametric)
Equal variance: ____ Unequal variance: ____
F Statistic: ____ Critical F: ____
t - Test Statistic: ____ t - Test Critical Value: ____
Sample Rank Sum: ____ # Reps.: ____ Critical Rank Sum: ____ (Non - Parametric)
COMMENTS: ____

ENERSOLV Acute Toxicity Screening Test TOX-005-SOP A & TOX-006-SOP A rev. 2

Client Sheffield IWC % 100% Sample ID 1613301-01

Date/Time Initiated 10/19/16 (1455) LW MHSFW Batch used 101816-B

Date/Time Ended 10/21/16 (1435) LW

Chemistry: Conductance 484 Alkalinity 106 Hardness 916.2

Organism-Pimephales promelas Organism age- < 48hrs

Control	Rep#	#of Live Organisms			D.O. (mg/L)			pH (su)			Temp deg. C (25.0 +/- 1)		
		0 hours	24 hours	48 hours	0 hours	24 hours	48 hours	0 hours	24 hours	48 hours	0 hours	24 hours	48 hours
	1	10	10	10	8.0	7.9	7.9	7.83	7.64	8.26	24.4	25.0	25.0
	2	10	10	10									
IWC%	5	10	10	10	8.0	8.0	7.9	8.02	7.87	8.14	24.5	24.8	24.9
	6	10	10	10									
	Date	10/19/16	10/20/16	10/21/16			Undiluted pH (su)*	7.9					
	Time	1445	1455	1430									
	Analyst	LW	LW	LW									

*as needed

Organism-Ceriodaphnia dubia Organism age- < 24hrs

Control	Rep#	#of Live Organisms			D.O. (mg/L)			pH (su)			Temp deg C (25.0 +/-1)		
		0 hours	24 hours	48 hours	0 hours	24 hours	48 hours	0 hours	24 hours	48 hours	0 hours	24 hours	48 hours
	1	5	5	5	8.0	8.0	7.8	7.93	7.77	8.12	24.4	24.2	24.2
	2	5	5	5									
	3	5	5	5									
	4	5	5	5									
IWC%	9	5	5	5	8.0	7.9	7.9	8.02	7.87	8.24	24.5	24.1	23.7
	10	5	5	5									
	11	5	5	5									
	12	5	5	5									
	Date	10/19/16	10/20/16	10/21/16			Undiluted pH (su)*	7.9					
	Time	1435	1445	1420									
	Analyst	LW	LW	LW									

*as needed

P. promelas: Source EC & T Lot # E11745 Date received 10/18/16 Date hatched 10/17/16

C. dubia: Source In House Culture Brood board D Date/Time read @ 0945 & 1615 10/18/16

Comments: Resol = 0.05 Element ID : BK602Cd

ENERSOLV
a Solutions Company

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD
2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601
(256)-350-0846

www.enersolv.com

COC NUMBER	88313
PAGE	1 of 1

COMPANY/CLIENT NAME	ACCOUNT NUMBER	CLIENT P.O. NUMBER	ENERSOLV PROJECT NUMBER
Sheffield WWTP		700 0102	

CLIENT POINT OF CONTACT	CLIENT PHYSICAL ADDRESS	CITY/STATE/ZIP
Kenny Nunley	300 Nashville Ave	Sheffield AL 35660

CLIENT EMAIL	PHONE NUMBER	OTHER INFORMATION
kennynunley@~~comcast.net~~ sheffieldutilities.org	256-389-2000	Cell 412-9252

SAMPLE COLLECTED BY	EXPEDITED REPORT DELIVERY (SURCHARGE)
	DATE DUE (REQUIRED)

ENERSOLV LAB NO.	SAMPLE (USE ONE LINE PER CONTAINER) LOCATION CODE	DESCRIPTION	DATE	TIME	GRAB	COMP	REQUESTED ANALYSES #48H-Acute 2 org.	Hardness	CL-Residual-tox
163301-01	Sheffield-DSN001	Toxicity	10-19-16	0615		X	x	x	x

Comments: Flow: 0.820 mgd Cl_2 0.08 mg/L

Collector to complete shaded areas, as applicable

SAMPLE TEMPERATURE RECEIVED @ 1.7

Field Information

Sampler		pH su	N/A	TRC mg/l	N/A	DO mg/l	N/A	Temp deg C	N/A
Start Date	10-18-16	Date	N/A	Date	N/A	Date	N/A	Date	N/A
Start Time	0715	Time	N/A	Time	N/A	Time	N/A	Time	N/A
Stop Date	10-19-16	Analyst	N/A	Analyst	N/A	Analyst	N/A	Analyst	N/A
Stop Time	0615	SM 4500H+		SM 4500-Cl D		SM 4500-O G		SM 2550B	

Qty	Type	Vol.	Preserv.	Parameter
1	Plastic	1/2 Gallon	Plain	Toxicity A
1	Plastic	Pint	HNO3	hardness B
1	Glass	125ml Amber	Plain	Res. Chlorine C

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY (SIGNATURE)	DATE	TIME
Kenny Nunley	10-19-16	1028	Barry Patterson	10/19/16	1240			
RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
Barry Patterson	10/19/16	1028						

RECEIVED FOR LABORATORY USE BY (SIGNATURE)	DATE	TIME	SAMPLE STATUS
[signature]	10-19-16	1240	☑ Accepted ☐ Rejected ☐ Accepted with Exception

Enersolv Form FLD-020-SOP A rev. 5

ENERSOLV
A Solutions Company

SEPTEMBER 2016

48 HR ACUTE TOXICITY TEST

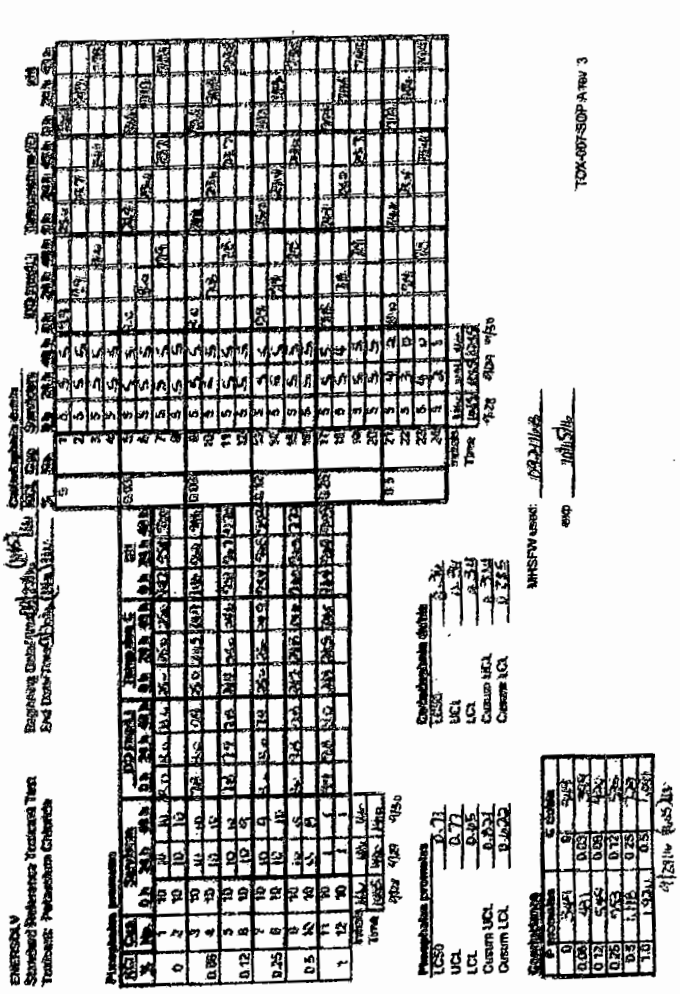
Ceriodaphnia dubia
Pimephales promelas

ACUTE SRT

PREPARED BY: _____ DATE: 10/17/16

REVIEWED BY: _____ DATE: _____

2220 Beltline Road SW • Decatur, Alabama 35601
P.O. Box 1646 • Decatur, Alabama 35602 • (256) 350-0846 • Fax: (256) 350-0686



SEPTEMBER 2016 ACUTE SRT

DATE: 09/28 /16

DURATION: 48 hrs

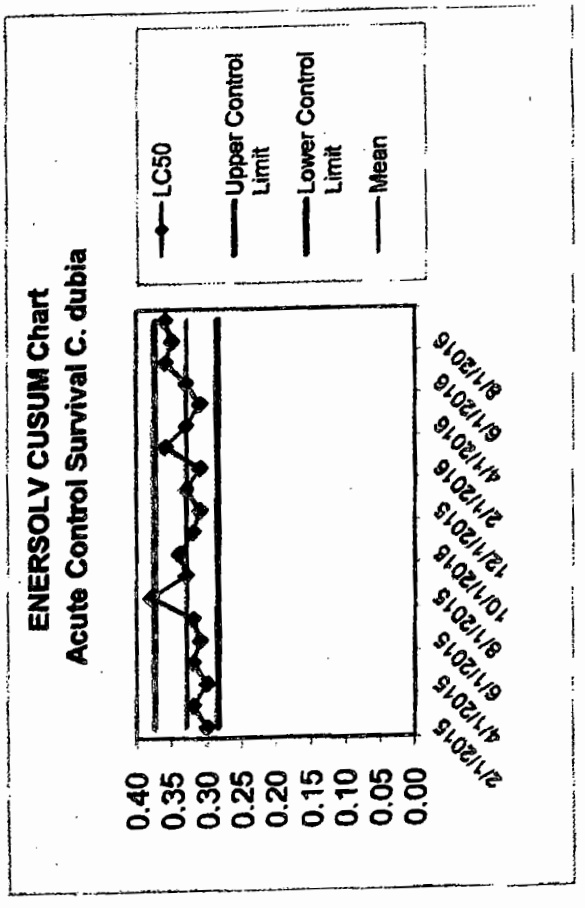
TOXICANT : KCL

SPECIES: *C. dubia*

Concentration (%)	Number Exposed	Mortalities
00	20	0
03	20	0
06	20	0
12	20	0
25	20	1
50	20	18

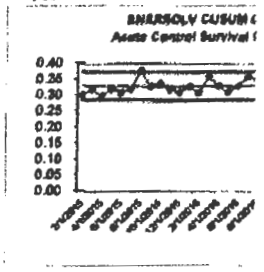
SPEARMAN-KARBER TRIM: 10.00%

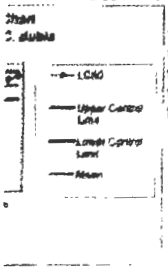
SPEARMAN-KARBER ESTIMATES: LC50: 0.36
95% LOWER CONFIDENCE: 0.34
95% UPPER CONFIDENCE: 0.39



ENERSOLV, Inc.
STANDARD REFERENCE TOXICANT CONTROL CHART
ORGANISM: CERIODAPHNIA DUBIA Duration: 48 hours
REFERENCE TOXICANT: Potassium chloride SOURCE: Fisher

No.	DATE	LC50	LOWER CONTROL LIMIT	UPPER CONTROL LIMIT	Mean	MEAN	LOWER WARNING LIMIT	UPPER WARNING LIMIT	LAB RESULT SQUARE
1	02/18/15	0 30	0 285	0 374	0 33	0 2812	0.1296	0 5734	0 0784
2	03/24/15	0 32	0 285	0 374	0 33	0 3515	0 1296	0 5734	0 1225
3	04/14/15	0 30	0 285	0 374	0 33	0 3515	0 1296	0.5734	0.1521
4	05/13/15	0.32	0.285	0 374	0 33	0.3515	0.1296	0 5734	0.1225
5	06/23/15	0 31	0 285	0.374	0 33	0 3515	0 1296	0 5734	0 1369
6	07/22/15	0 32	0 285	0 374	0 33	0 3515	0 1296	0.5734	0 1024
7	08/25/15	0.38	0.285	0 374	0 33	0 3515	0 1296	0 5734	0 18
8	09/29/15	0 33	0 285	0.374	0 33	0.3515	0 1296	0 5734	0.1156
9	10/20/15	0 34	0 285	0 374	0 33	0 3515	0.1296	0 5734	0.09
10	11/10/15	0.32	0 285	0 374	0 33	0.3515	0.1296	0 5734	0 1369
11	12/15/15	0.31	0 285	0 374	0 33	0.3515	0.1296	0 5734	0 1024
12	01/20/16	0 33	0 285	0 374	0 33	0 3515	0 1296	0 5734	0 09
13	02/16/16	0 31	0 285	0.374	0 33	0 3515	0 1296	0.5734	0 1369
14	03/29/16	0 36	0 285	0 374	0 33	0 3515	0.1296	0 5734	0.1225
15	04/27/16	0.33	0 285	0.374			1296	0 5734	0 1444
16	05/31/16	0.31	0.285	0 374			1296	0.5734	0 1024
17	06/15/16	0.33	0 285	0 374			1296	0 5734	0 1444
18	07/27/16	0 36	0 285	0.374			1296	0 5734	0.1521
19	08/31/16	0 35	0 285	0 374			1296	0.5734	0 1936
20	09/28/16	0.36	0.285	0 374			1296	0 5734	0 0961





SUM = 6 59
MEAN = 0 33
STD DEV 0.022
UPPER CONTROL LIMIT = 0 374
LOWER CONTROL LIMIT = 0 285
N = 20

COEFFICIENT OF VARIATION (CV) 0 068

SUM SQUARES = 2 5021
VARIANCE = 0.0219

UPPER WARNING LIMIT = 0 5734
LOWER WARNING LIMIT 0 1296

SEPTEMBER 2016 ACUTE SRT

DATE: 09/28/16

DURATION: 48 hrs

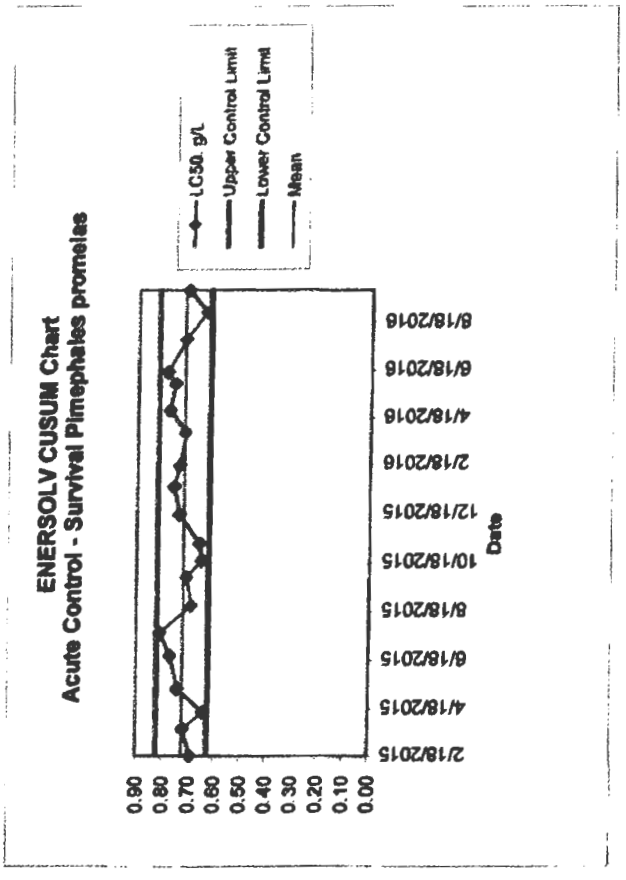
TOXICANT : KCl

SPECIES: *P. promelas*

Concentration (%)	Number Exposed	Mortalities
.00	20	0
.06	20	0
.12	20	1
.25	20	1
.50	20	2
1.00	20	18

SPEARMAN-KARBER TRIM: SD 00%

SPEARMAN-KARBER ESTIMATES: LC50: 0.71
95% LOWER CONFIDENCE: 0 65
95% UPPER CONFIDENCE: 0 77



ORGANISM: Pimephales promelas
REFERENCE TOXIC/ Potassium chloride SOURCE:

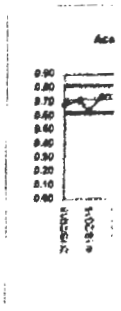
No	DATE	LC50	MEAN	LOWER CONTRC LIMIT	UPPER CONTRC LIMIT	LAB RESULT SQUARED
1	02/18/15	0 69	0 722	0 623	0 821	0 8649
2	03/24/15	0 72	0 722	0 623	0 821	0 7744
3	04/14/15	0 64	0 722	0 623	0 821	0 64
4	05/13/15	0 74	0 722	0 623	0 821	0 8649
5	06/23/15	0 77	0 722	0 623	0 821	0 8281
6	07/22/15	0 81	0 722	0 623	0 821	0 8649
7	08/25/15	0 69	0 722	0 623	0 821	0 8649
8	09/28/15	0 71	0.722	0 623	0.821	0 8281
9	10/20/15	0.85	0 722	0 623	0 821	0 8649
10	11/10/15	0 66	0 722	0 623	0 821	0.8281
11	12/16/15	0 74	0.722	0 623	0 821	0 7569
12	01/20/16	0 76	0.722	0 623	0 821	0 84
13	02/16/16	0 74	0.722	0 623	0 821	0 3136
14	03/29/16	0 72	0.722	0 623	0 821	0.1296
15	04/27/16	0 78	0 722	0 623	0 821	1 2996
16	05/31/16	0 76	0 722	0 623	0 821	0 3025
17	06/15/16	0 79	0 722	0 623	0 821	1 0404
18	07/27/16	0 72	0 722	0 623	0 821	1 0404
19	08/31/16	0 64	0 722	0 623	0 821	1.0404
20	09/28/16	0 71	0 722	0 623	0 821	1 0404

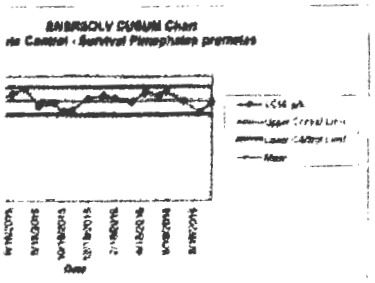
MEAN = 0 722

STD DEV 0 0496

UPPER CONTROL LIMIT = 0.82118
LOWER CONTROL LIMIT = 0 62282
N = 20

COEFFICIENT OF VARIATION (C 0 069





Dilution Water QA/QC Log
Toxicity Testing Laboratory

Date	Time	Dil. Water Type	T.H. mg/L CaCO3	T.A. mg/L CaCO3	pH su	Conductance µS	Temperature Celsius	Const. Coeff.
[illegible]	[illegible]	MHSFW	98.8	105.7	7.81	442	25.0	0.119
[illegible]	[illegible]	MHSFW	94.7	102.6	7.84	429	26.0	0.112
[illegible]	[illegible]	MHSFW	89.4	99.1	7.84	415	25.0	0.114
[illegible]	[illegible]	MHSFW	94.1	103.2	7.89	317	25.0	0.109
[illegible]	[illegible]	MHSFW	93.9	101.3	7.84	324	25.0	0.111
[illegible]	[illegible]	MHSFW	93.4	101.9	7.83	331	25.0	0.114
[illegible]	[illegible]	MHSFW	90.1	100.7	7.85	312	25.0	0.113
[illegible]	[illegible]	MHSFW	92.2	100.4	7.82	312	25.0	0.111
[illegible]	[illegible]	MHSFW	94.2	102.7	7.84	N/A	25.0	0.112
[illegible]	[illegible]	MHSFW	95.1	102.7	7.87	305	25.0	0.113
[illegible]	[illegible]	MHSFW	90.4	100.2	7.82	309	25.0	0.111
[illegible]	[illegible]	MHSFW	96.3	102.2	7.85	314	25.0	0.110
[illegible]	[illegible]	MHSFW	93.1	101.9	7.84	320	25.0	0.110
[illegible]	[illegible]	MHSFW	90.8	100.0	7.84	314	25.0	0.112
[illegible]	[illegible]	MHSFW	94.9	102.4	7.87	431	25.0	0.113
[illegible]	[illegible]	MHSFW	97.0	105.3	7.92	301	25.0	0.111
[illegible]	[illegible]	MHSFW	93.8	102.4	7.85	448	25.0	0.111
[illegible]	[illegible]	MHSFW	96.1	102.0	7.89	440	25.0	0.111
[illegible]	[illegible]	MHSFW	94.9	101.7	7.83	351	25.0	0.112
[illegible]	[illegible]	MHSFW	96.3	105.2	7.88	450	25.0	0.109
		MHSFW						
		MHSFW						
		MHSFW						
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		MHSFW						

MHSFW-moderately hard synthetic fresh water
VH-very hard VS-very soft DI-deionized water P-Perrier

Dilution Water QA/QC Log
Toxicity Testing Laboratory

Date	ID#	Dil. Water Type	T.H. mg/L CaCO3	T.A. mg/L CaCO3	pH su	Conductance uS	Temperature Celsius	Cond. Coeff.
5/13/16	051216A	MHSFW	95.8	65.7	7.81	442	25.0	0.119
5/20/16	051916B	MHSFW	94.7	62.8	7.56	429	25.0	0.112
5/27/16	052616A	MHSFW	89.4	69.1	7.54	365	25.0	0.114
6/6/16	060316B	MHSFW	96.1	62.2	7.49	317	25.0	0.109
6/14/16	061316A	MHSFW	93.9	67.3	7.84	324	25.0	0.111
6/21/16	061716B	MHSFW	94.4	66.9	7.83	338	25.0	0.114
7/11/16	062716A	MHSFW	90.1	108.7	7.50	392	25.0	0.113
7/12/16	071116B	MHSFW	92.2	66.4	7.42	312	25.0	0.111
7/22/16	072116A	MHSFW	96.8	65.7	7.74	448	25.0	0.112
7/29/16	072716B	MHSFW	95.1	63.7	7.57	305	25.0	0.113
8/8/16	080316A	MHSFW	90.4	68.2	7.78	329	25.0	0.111
8/16/16	081516B	MHSFW	95.3	66.2	7.65	368	25.0	0.110
8/24/16	082316A	MHSFW	93.6	61.9	7.80	320	25.0	0.110
8/29/16	082616B	MHSFW	90.8	64.6	7.49	369	25.0	0.112
9/6/16	090116A	MHSFW	94.9	66.4	7.52	421	25.0	0.112
9/12/16	091916B	MHSFW	97.0	65.3	7.42	361	25.0	0.111
9/19/16	091616A	MHSFW	93.8	62.4	7.75	448	25.0	0.111
9/23/16	092116B	MHSFW	95.1	67.0	7.79	406	25.0	0.111
9/28/16	092716A	MHSFW	94.9	64.7	7.62	351	25.0	0.112
10/3/16	093016B	MHSFW	96.3	65.2	7.78	502	25.0	0.109
10/12/16	101016A	MHSFW	96.8	63.4	7.78	340	25.0	0.111
10/19/16	101816B	MHSFW	93.7	62.2	7.58	442	25.0	0.112
10/26/16	102516A	MHSFW	95.6	68.4	7.76	318	25.0	0.112
		MHSFW						
		MHSFW						
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		MHSFW						
		MHSFW						
		MHSFW						

MHSFW-moderately hard synthetic fresh water
VH-very hard VS-very soft DI-deionized water P-Perrier

ENERSOLV
a Solutions Company

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601
(256)-350-0846

www.enersolv.com

COC NUMBER	116947		
PAGE	1	of	1

COMPANY/CLIENT NAME	ACCOUNT NUMBER	CLIENT P.O. NUMBER	ENERSOLV PROJECT NUMBER
Sheffield WWTP			

CLIENT POINT OF CONTACT	CLIENT PHYSICAL ADDRESS	CITY/STATE/ZIP
Kenny Nunley	300 Nashville Ave	Sheffield AL 35660

CLIENT EMAIL	PHONE NUMBER	OTHER INFORMATION
kennynunley@comcast.net	256-389-2000	Cell 412-9252

SAMPLE COLLECTED BY:

EXPEDITED REPORT DELIVERY (SURCHARGE)

DATE DUE (REQUIRED)

ENERSOLV LAB NO.	SAMPLE (USE ONE LINE PER CONTAINER) LOCATION CODE	DESCRIPTION	DATE	TIME	GRAB	COMP	REQUESTED ANALYSES: ACUTE SCRN 2 ORG 48	HARD TOX	CL-Residual-tox
	Sheffield-DSN001	Toxicity				X	x	x	x

Comments: **Flow:**

Collector to complete shaded areas, as applicable

SAMPLE TEMPERATURE RECEIVED @

Field Information

Sampler		pH su	N/A	TRC mg/l	N/A	DO mg/l	N/A	Temp deg C	N/A
Start Date		Date	N/A	Date	N/A	Date	N/A	Date	N/A
Start Time		Time	N/A	Time	N/A	Time	N/A	Time	N/A
Stop Date		Analyst	N/A	Analyst	N/A	Analyst	N/A	Analyst	N/A
Stop Time		SM 4500H+		SM 4500-Cl D		SM 4500-O G		SM 2550B	

Qty	Type	Vol.	Preserv.	Parameter
1	Plastic	1/2 Gallon	Plain	Toxicity
1	Plastic	Pint	HNO3	hardness
1	Glass	125ml Amber	Plain	Res. Chlorine

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

RECEIVED FOR LABORATORY USE BY: (SIGNATURE)	DATE	TIME	SAMPLE STATUS:
			☐ Accepted ☐ Rejected ☐ Accepted with Exception

ENERSOLV
a Solutions Company

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601
(256)-350-0846

www.enersolv.com

SOC NUMBER			
PAGE	1	of	1

COMPANY/CLIENT NAME	ACCOUNT NUMBER	CLIENT P.O. NUMBER	ENERSOLV PROJECT NUMBER
Sheffield WWTP		700 0102	

CLIENT POINT OF CONTACT	CLIENT PHYSICAL ADDRESS	CITY/STATE/ZIP
Kenny Nunley	300 Nashville Ave	Sheffield AL 35660

CLIENT EMAIL	PHONE NUMBER	OTHER INFORMATION
kennynunley@~~comcast.net~~ sheffieldutilities.org	256-389-2000	Cell 412-9252

SAMPLE COLLECTED BY	EXPEDITED REPORT DELIVERY (SURCHARGE)
	DATE DUE (REQUIRED)

ENERSOLV LAB NO.	SAMPLE (USE ONE LINE PER CONTAINER) LOCATION CODE	DESCRIPTION	DATE	TIME	GRAB	COMP	#48H-Acute 2 org.	Hardness	CL-Residual-tox
	Sheffield-DSN001	Toxicity	10-19-16	0615		X	x	x	x

Comments: Flow: 0.820 mgd Cl_2 0.08 mg/l

Collector to complete shaded areas, as applicable

SAMPLE TEMPERATURE RECEIVED @ _____

Field Information

Sampler		pH su	N/A	TRC mg/l	N/A	DO mg/l	N/A	Temp deg C	N/A
Start Date	10-18-16	Date	N/A	Date	N/A	Date	N/A	Date	N/A
Start Time	0715	Time	N/A	Time	N/A	Time	N/A	Time	N/A
Stop Date	10-19-16	Analyst	N/A	Analyst	N/A	Analyst	N/A	Analyst	N/A
Stop Time	0615	SM 4500H+		SM 4500-Cl D		SM 4500-O G		SM 2550B	

Qty	Type	Vol.	Preserv.	Parameter
1	Plastic	1/2 Gallon	Plain	Toxicity
1	Plastic	Pint	HNO3	hardness
1	Glass	125ml Amber	Plain	Res. Chlorine

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
Kenny Nunley	10-19-16	1028						
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY (SIGNATURE)**	**DATE**	**TIME**
Larry Patterson	10/19/16	1028						

RECEIVED FOR LABORATORY USE BY: (SIGNATURE)	DATE	TIME	SAMPLE STATUS
			☐ Accepted ☐ Rejected ☐ Accepted with Exception

Enersolv Form FLD-020-SOP A rev. 5

SHEFFIELD WWTP
SIMPLIFIED TREATMENT PROCESS LAYOUT

CITY OF SHEFFIELD
SHEFFIELD UTILITIES
POWER, WATER & GAS
P.O. BOX 1000 or 300 N. MONTROSE AVE.
SHEFFIELD, ALABAMA 35660

WASTEWATER PLANT FLOWS

DWG.#	FILENAME	SCALE	SHEET
	Wwtp3	1-20	1 OF 1
APPV'D	ENG.	DRAWN	DATE
		DVH	2/14/14

SHEFFIELD UTILITIES
SHEFFIELD, ALABAMA

TENNESSEE RIVER
(PICKWICK LAKE)

TENNESSEE RIVER
(PICKWICK LAKE)

INFLUENT PUMPING STATION

GENERATOR

ELECTRICAL BUILDING

ELECTRIAL BUILDING

APPROX. 400' BETWEEN BREAKS

18" DI CL 250 GRAVITY

16" GRAVITY

18" DI

RAW TO INFLUENT

NEW CHLORINE CONTACT CHAMBER

CHLORINE

EFFLUENT WHEN CHLORINATING

SEWAGE PUMPING STATION

6" GRAVITY

CHLORINATOR

CHLORINE CYLINDER PAD

LIME SYSTEM

BELT PRESS

THICKEN SLUDGE TRANSFER PUMP

S.P. 1&2 DRAIN PUMP

6" LIME SILOS

SCUM P.S.

4"SCUM

SLUDGE THICKENER

SLUDGE/SCUM HOLDING TANK

10" SUPER

4"SCUM

ELECTRICAL BUILDING

ADMINISTRATION BLDG AND LAB 2997 SQ. FT.

EXISTING ADMINISTRATION BUILDING 2226 SQ. FT.

SLUDGE PUMPING & DEWATERING BUILDING

30" D.I. EFFLUENT

AERATION BASIN #1

AERATION BASIN #2

AERATION BASIN #3

10" DRAIN

AERATION BASIN BLOWER

MLSS SPLITTER BOX

FUTURE CLARIFIEF #3

CLARIFIER SPLITTER BOX

CLARIFIER #2

CLARIFIER #1

CLARIFIER SCUM PUMPING STATION

30" D.I. EFFLUENT

OUTSIDE R=62.5'

FORCE MAIN RAW SEWAGE FROM INFLUENT P.S.

MAINT. BLDG 4320 SQ. FT.

SEWER / RAS MIXING CHANBER

FLOW METERS

FORCE MAIN RAW SEWAGE FROM INFLUENT P.S.

6" SLUDGE TO SCREEN

18" D.I. RAS

SCREENING & GRITT REMOVAL EQUIMENT & INFULENT FLOWMETER

12" GRAVITY SEWER

COVERED BIOSOLIDS STORAGE

RAS/WAS PUMPING STATION

LEGEND

- RAW SEWAGE FORCEMAIN
- MLSS (MIXED LIQUOR SUSPENDED SOLIDS)
- RAS (RETURN ACTIVATED SLUDGE)
- WAS (WASTE ACTIVATED SLUDGE)
- MIXED LIQUOR (SEWAGE/RAS MIX)
- 4" SCUM
- 30" EFFLUENT
- TO RIVER
- AIR
- LIQUID PROCESS FACILITIES
- SLUDGE/SCUM FACILITIES
- GRAVITY / DRAIN SEWER MAINS
- WATER MAINS POTABLE
- CL2 SOLN (CHEMICAL FEED)