



# NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

PERMITTEE: WATER AND WASTEWATER BOARD OF THE CITY OF MADISON  
101 RAY SANDERSON DRIVE  
MADISON, ALABAMA 35758

FACILITY LOCATION: MADISON WWTP (8.25 MGD)  
701 LANDESS CIRCLE  
MADISON, ALABAMA  
MADISON COUNTY

PERMIT NUMBER: AL0071897

RECEIVING WATERS: TENNESSEE RIVER (WHEELER 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**

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Alabama Department of Environmental Management

**MUNICIPAL SECTION  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
PERMIT**

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**PART I DISCHARGE LIMITATIONS, CONDITIONS, AND REQUIREMENTS**

**A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS**

1. Outfall 0012 Discharge Limits - Effluent

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 0012, which is described more fully in the Permittee’s application. Such discharge shall be limited and monitored by the Permittee as specified below:

Parameter	Discharge Limitations*							Monitoring Requirements**			
	Monthly Average	Weekly Average	Monthly Average	Weekly Average	Daily Minimum	Daily Maximum	Percent Removal	(1) Sample Location	(2) Sample Type	(3) Measurement Frequency	(4) Seasonal
Oxygen, Dissolved (DO) 00300 1 0 0	*****	*****	*****	*****	REPORT mg/l	*****	*****	E	GRAB	C	*****
pH 00400 1 0 0	*****	*****	*****	*****	6.0 S.U.	9.0 S.U.	*****	E	GRAB	C	*****
Solids, Total Suspended 00530 1 0 0	2064 lbs/day	3096 lbs/day	30.0 mg/l	45.0 mg/l	*****	*****	*****	E	COMP24	C	*****
Solids, Total Suspended 00530 G 0 0	REPORT lbs/day	REPORT lbs/day	REPORT mg/l	REPORT mg/l	*****	*****	*****	I	COMP24	C	*****
Nitrogen, Ammonia Total (As N) 00610 1 0 0	1376 lbs/day	2064 lbs/day	20.0 mg/l	30.0 mg/l	*****	*****	*****	E	COMP24	C	*****
Nitrogen, Kjeldahl Total (As N) 00625 1 0 0	REPORT lbs/day	REPORT lbs/day	REPORT mg/l	REPORT mg/l	*****	*****	*****	E	COMP24	G See Note 6	*****
Nitrite Plus Nitrate Total 1 Det. (As N) 00630 1 0 0	REPORT lbs/day	REPORT lbs/day	REPORT mg/l	REPORT mg/l	*****	*****	*****	E	COMP24	G See Note 6	*****
Phosphorus, Total (As P) 00665 1 0 0	REPORT lbs/day	REPORT lbs/day	REPORT mg/l	REPORT mg/l	*****	*****	*****	E	COMP24	G See Note 6	*****
Flow, In Conduit or Thru Treatment Plant 50050 1 0 0	REPORT MGD	*****	*****	*****	*****	REPORT MGD	*****	E	CONTIN	A	*****
Chlorine, Total Residual See note (5) 50060 1 0 0	*****	*****	*****	*****	*****	1.0 mg/l	*****	E	GRAB	C	*****

\* See Part II.C.1. (Bypass); Part II.C.2. (Upset)

\*\* Monitoring Requirements

(1) Sample Location

- I – Influent
- E – Effluent
- X – End Chlorine Contact Chamber
- K - Percent Removal of the Monthly Avg. Influent Concentration from the Monthly Avg. Effluent Concentration.
- RS - Receiving Stream
- US – Upstream
- DS – Downstream
- MW – Monitoring Well
- SW – Storm Water

(2) Sample Type:

- CONTIN - Continuous
- INSTAN - Instantaneous
- COMP-8 - 8-Hour Composite
- COMP24 - 24-Hour Composite
- GRAB – Grab
- CALCTD - Calculated

(3) Measurement Frequency: See also Part I.B.2.

- A - 7 days per week
- B - 5 days per week
- C - 3 days per week
- D - 2 days per week
- E - 1 day per week
- F - 2 days per month
- G - 1 day per month
- H - 1 day per quarter
- J - Annual
- Q - For Effluent Toxicity Testing, see Provision IV.B.

(4) Seasonal Limits:

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

(5) 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” or “NODI=9” (if hard copy) on the monthly DMR.

(6) If only one sampling event occurs during a month, the sample result shall be reported on the DMR as both the monthly average, weekly average, and/or the daily maximum.

2. Outfall 0012 Discharge Limits - Effluent (continued)

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 0012, which is described more fully in the Permittee’s application. Such discharge shall be limited and monitored by the Permittee as specified below:

Parameter	Discharge Limitations*							Monitoring Requirements**			
	Monthly Average	Weekly Average	Monthly Average	Weekly Average	Daily Minimum	Daily Maximum	Percent Removal	(1) Sample Location	(2) Sample Type	(3) Measurement Frequency	(4) Seasonal
E. Coli 51040 1 0 0	*****	*****	126 col/100mL	*****	*****	235 col/100mL	*****	E	GRAB	C	*****
BOD, Carbonaceous 05 Day, 20C 80082 1 0 0	1720 lbs/day	2580 lbs/day	25.0 mg/l	37.5 mg/l	*****	*****	*****	E	COMP24	C	*****
BOD, Carbonaceous 05 Day, 20C 80082 G 0 0	REPORT lbs/day	REPORT lbs/day	REPORT mg/l	REPORT mg/l	*****	*****	*****	I	COMP24	C	*****
BOD, Carb-5 Day, 20 Deg C, Percent Remvl 80091 K 0 0	*****	*****	*****	*****	*****	*****	85.0%	K	CALCTD	G See Note 6	*****
Solids, Suspended Percent Removal 81011 K 0 0	*****	*****	*****	*****	*****	*****	85.0%	K	CALCTD	G See Note 6	*****
Peracetic Acid See note (5) 51674 1 0 0	*****	*****	*****	*****	*****	1.0 mg/l	*****	E	GRAB	B	*****

\* See Part II.C.1. (Bypass); Part II.C.2. (Upset)

\*\* Monitoring Requirements

(1) Sample Location

- I – Influent
- E – Effluent
- X – End Chlorine Contact Chamber
- K - Percent Removal of the Monthly Avg. Influent Concentration from the Monthly Avg. Effluent Concentration.
- RS - Receiving Stream
- US – Upstream
- DS – Downstream
- MW – Monitoring Well
- SW – Storm Water

(2) Sample Type:

- CONTIN - Continuous
- INSTAN - Instantaneous
- COMP-8 - 8-Hour Composite
- COMP24 - 24-Hour Composite
- GRAB – Grab
- CALCTD - Calculated

(3) Measurement Frequency: See also Part I.B.2.

- A - 7 days per week
- B - 5 days per week
- C - 3 days per week
- D - 2 days per week
- E - 1 day per week
- F - 2 days per month
- G - 1 day per month
- H - 1 day per quarter
- J - Annual
- Q - For Effluent Toxicity Testing, see Provision IV.B.

(4) Seasonal Limits:

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

(5) See Part IV.F. for Peracetic Acid (PAA). Monitoring for PAA is applicable if Peracetic Acid is utilized for disinfection purposes. If monitoring is not applicable during the monitoring period, enter “\*9” on the monthly DMR.

(6) If only one sampling event occurs during a month, the sample result shall be reported on the DMR as both the monthly average, weekly average, and/or the daily maximum.

3. Outfall 001T Discharge Limits - Acute Toxicity

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge from Outfall 001T, which is described more fully in the Permittee’s application. Such discharge shall be limited and monitored by the Permittee as specified below:

Parameter	Discharge Limitations*							Monitoring Requirements**			
	Monthly Average	Weekly Average	Monthly Average	Weekly Average	Daily Minimum	Daily Maximum	Percent Removal	(1) Sample Location	(2) Sample Type	(3)(5) Measurement Frequency	(4) Seasonal
Toxicity, Ceriodaphnia Acute 61425 1 0 0	*****	Pass = 0 Fail = 1	*****	*****	*****	*****	*****	E	COMP24	Q	*****
Toxicity, Pimephales Acute 61427 1 0 0	*****	Pass = 0 Fail = 1	*****	*****	*****	*****	*****	E	COMP24	Q	*****

\* See Part II.C.1. (Bypass); Part II.C.2. (Upset)

\*\* Monitoring Requirements

(1) Sample Location

- I – Influent
- E – Effluent
- X – End Chlorine Contact Chamber
- K - Percent Removal of the Monthly Avg. Influent Concentration from the Monthly Avg. Effluent Concentration.
- RS - Receiving Stream
- US – Upstream
- DS – Downstream
- MW – Monitoring Well
- SW – Storm Water

(2) Sample Type:

- CONTIN - Continuous
- INSTAN - Instantaneous
- COMP-8 - 8-Hour Composite
- COMP24 - 24-Hour Composite
- GRAB – Grab
- CALCTD - Calculated

(3) Measurement Frequency: See also Part I.B.2.

- A - 7 days per week
- B - 5 days per week
- C - 3 days per week
- D - 2 days per week
- E - 1 day per week
- F - 2 days per month
- G - 1 day per month
- H - 1 day per quarter
- J - Annual
- Q - For Effluent Toxicity Testing, see Provision IV.B.

(4) Seasonal Limits:

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

(5) See Part IV.B. Effluent Toxicity Limitations and Biomonitoring Requirements – Acute Diffuser

**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) on the forms approved by the Department and 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. by utilizing the Department's web-based Electronic Environmental (E2) Reporting System.
  - (1) If the permittee is unable to complete the electronic submittal of DMR data due to technical problems originating with the Department's E2 Reporting 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 E2 Reporting System is down on the 28<sup>th</sup> 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 E2 Reporting System resuming operation, the permittee shall enter the data into the E2 Reporting System, unless an alternate timeframe is approved by the Department. An attachment should be included with the E2 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.

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.
  - (3) 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.
  - (4) 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.
  - (5) 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  
Environmental Data Section, Permits & Services 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  
Environmental Data Section, Permits & Services 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 a web-based electronic environmental (E2) reporting system for notification and submittal of SSO reports. **If the Permittee is not already participating in the E2 Reporting System for SSO reports, the Permittee must apply for participation in the system within 30 days of coverage under this permit unless the Permittee submits in writing valid justification as to why it cannot participate and the Department approves in writing utilization of verbal notifications and hard copy SSO report submittals.** Once the Permittee is enrolled in the E2 Reporting System for SSO reports, the Permittee must utilize the system for notification and submittal of all SSO reports unless otherwise allowed by this permit. 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 E2 Reporting System for SSO reports, the Permittee Participation Package may be downloaded online at <https://e2.adem.alabama.gov/npdes>. If the E2 Reporting 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 E2 Reporting System resuming operation, the Permittee shall enter the data into the E2 Reporting 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 (BMP)**

- 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 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**

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, for 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, any significant change in the method of operation of the Permittee's treatment works or other actions that could result in the discharge of additional pollutants or increase the quantity of a discharged pollutant or could result in an additional discharge point. This condition applies to pollutants that are or that are not subject to discharge limitations in this permit. No new or increased discharge may begin until the Director has authorized it by issuance of a permit modification or a reissued permit.

3. Transfer of Permit

This permit may not be transferred or the name of the Permittee changed without notice to the Director and subsequent modification or revocation and reissuance of the permit to identify the new Permittee and to incorporate any other changes as may be required under the FWPCA or AWPCA. In the case of a change in name, ownership or control of the Permittee's premises only, a request for permit modification in a format acceptable to the Director is required at least 30 days prior to the change. In the case of a change in name, ownership or control of the Permittee's premises accompanied by a change or proposed change in effluent characteristics, a complete permit application is required to be submitted to the Director at least 180 days prior to the change. Whenever the Director is notified of a change in name, ownership or control, he may decide not to modify the existing permit and require the submission of a new permit application.

4. Permit Modification and Revocation

- a. This permit may be modified or revoked and reissued, in whole or in part, during its term for cause, including but not limited to, the following:
  - (1) If cause for termination under Provision II. E. 5. of this permit exists, the Director may choose to revoke and reissue this permit instead of terminating the permit;
  - (2) If a request to transfer this permit has been received, the Director may decide to revoke and reissue or to modify the permit; or
  - (3) If modification or revocation and reissuance is requested by the Permittee and cause exists, the Director may grant the request.
- b. This permit may be modified during its term for cause, including but not limited to, the following:
  - (1) If cause for termination under Provision II. E. 5. of this permit exists, the Director may choose to modify this permit instead of terminating this permit;

- (2) There are material and substantial alterations or additions to the facility or activity generating wastewater which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit;
- (3) The Director has received new information that was not available at the time of permit issuance and that would have justified the application of different permit conditions at the time of issuance;
- (4) A new or revised requirement(s) of any applicable standard or limitation is promulgated under Sections 301(b)(2)(C), (D), (E), and (F), and 307(a)(2) of the FWPCA;
- (5) Errors in calculation of discharge limitations or typographical or clerical errors were made;
- (6) To the extent allowed by ADEM Administrative Code, Rule 335-6-6-.17, when the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued;
- (7) To the extent allowed by ADEM Administrative Code, Rule 335-6-6-.17, permits may be modified to change compliance schedules;
- (8) To agree with a granted variance under 301(c), 301(g), 301(h), 301(k), or 316(a) of the FWPCA or for fundamentally different factors;
- (9) To incorporate an applicable 307(a) FWPCA toxic effluent standard or prohibition;
- (10) When required by the reopener conditions in this permit;
- (11) When required under 40 CFR 403.8(e) (compliance schedule for development of pretreatment program);
- (12) Upon failure of the state to notify, as required by Section 402(b)(3) of the FWPCA, another state whose waters may be affected by a discharge permitted by this permit;
- (13) When required to correct technical mistakes, such as errors in calculation, or mistaken interpretations of law made in determining permit conditions; or
- (14) When requested by the Permittee and the Director determines that the modification has cause and will not result in a violation of federal or state law, regulations or rules.

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; or
- 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; and
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. From which the discharge of pollutants did not commence 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. NH<sub>3</sub>-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:
- Reaches a surface water of the State; or
  - 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 – 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:
- 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;
  - 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; or
  - 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 DIFFUSER**

1. Acute Toxicity Test
  - a. The permittee shall perform 48-hour acute toxicity tests on the wastewater discharges required to be tested for acute toxicity by Part I of this permit.
  - b. The samples shall be diluted using an appropriate control water, to the Instream Waste Concentration (IWC) which is **5 percent** effluent. The IWC is the actual concentration of effluent, after mixing, in the receiving stream during a 1-day, 10-year flow period.
  - c. 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 **SEPTEMBER**. 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 March, June, September, and December.
- e. **Within 30 days from initial utilization of Peracetic Acid (PAA) the Permittee must perform a toxicity test and submit the report to the Department, as required by Provision IV.B. The Permittee also must perform a toxicity test and submit the report to the Department, as required by Provision IV.B when PAA is used intermittently.** Toxicity tests shall be conducted quarterly in the months of **MARCH, JUNE, SEPTEMBER, AND DECEMBER**. Should results from the Quarterly Toxicity test indicate that Outfall 001T exhibits acute toxicity, then the Permittee must conduct the follow-up testing described in Parts IV.B.4.a and b. Should results from four consecutive testing periods indicated that Outfall 001T does not exhibit acute toxicity while utilizing PAA, the Permittee may provide a written request to reduce the testing frequency. **The Permittee may also request reduced toxicity testing frequency if PAA usage is not utilized for an extended period of time. Any reduction in test frequency must be approved by the Department in writing and shall be no less frequent than annually.**
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. Two copies of 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. If the additional acute toxicity tests are performed when PAA is being utilized, then the Permittee must analyze the effluent test solution each day immediately prior to test initiation or daily test renewal for hydrogen peroxide when the appropriately diluted composite samples are added. **The concentrations of hydrogen peroxide shall be reported in the toxicity test report.**
- c. 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)
    - (a) Name of firm
    - (b) Telephone number
    - (c) 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
    - (a) Sampling point
    - (b) Sample collection dates and times (to include composite sample start and finish times)
    - (c) Sample collection method
    - (d) Physical and chemical data of undiluted effluent samples (water temperature, pH, alkalinity, hardness, specific conductance, total residual chlorine (if applicable), etc.)
    - (e) Sample temperature when received at the laboratory
    - (f) Lapsed time from sample collection to delivery
    - (g) Lapsed time from sample collection to test initiation
  - (2) Dilution Water Samples
    - (a) Source
    - (b) Collection date(s) and time(s) (where applicable)
    - (c) Pretreatment
    - (d) 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

1/ 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" or "NODI = 9" (if hard copy) 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", "NODI = B" (if hard copy), 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. PERACETIC ACID (PAA) REQUIREMENTS**

1. The Permittee shall monitor PAA daily, but not required to exceed five days per week.
2. This permit contains a maximum allowable PAA level in the effluent. The Permittee is responsible for determining the minimum PAA level needed in the contact chamber to comply with E.coli limits.
3. The sample collection point for effluent PAA shall be at a point downstream of the contact chamber and shall be representative of the discharge.
4. Within 45 days of the effective date of this reissuance, the Permittee shall investigate and submit to the Department the PAA disinfection results in regards to neutralizing infectious agents, particularly viruses, as the discharge is to a waterbody that carries a Fish and Wildlife classification for incidental water contact and whole body water-contact (ADEM Administrative Code, Rule 335-6-10-.09).

**F. POLLUTANT SCANS**

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

**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: <http://www.adem.state.al.us/alEnviroRegLaws/files/Division6Vol1.pdf> and [http://gis.adem.alabama.gov/ADEM\\_Dash/use\\_class/index.html](http://gis.adem.alabama.gov/ADEM_Dash/use_class/index.html)
- (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)
  - (a) 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.

## NPDES PERMIT RATIONALE

NPDES Permit No: **AL0071897**

Date: 8/1/2019  
Revision: 12/3/2020

Permit Applicant: Water and Wastewater Board of the City of Madison  
101 Ray Sanderson Drive  
Madison, Alabama 35758

Location: Madison WWTP  
701 Landess Circle  
Madison, Alabama 35756

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

Basis for Limitations: Water Quality Model: CBOD, NH3-N, DO (0021)  
Reissuance with no modification: **0012**- pH, TSS, NH3-N, TRC, E. coli,  
CBOD, CBOD % Removal, TSS %  
Removal  
Instream calculation at 7Q10: 0012 – 5% (ZID), 0021 – 100%  
Toxicity based: TRC  
Secondary Treatment Levels: **0012** – TSS, CBOD, NH3-N, CBOD %  
Removal, TSS % Removal  
**0021** – TSS, CBOD % Removal, TSS %  
Removal  
Other (described below): pH, E. coli, PAA, Cu (0021)

Design Flow in Million Gallons per Day: 8.25 MGD

Major: Yes

Description of Discharge: Outfall Number 001;

Effluent discharge to Tennessee River (Wheeler Lake), which is classified as Swimming and Fish & Wildlife.

Outfall Number 002;  
Effluent discharge to Blackwell Run which is classified as Fish & Wildlife.

Discussion: This is a reissuance due to expiration.

This permit includes an additional outfall to Blackwell Run.

The segment of the Tennessee River (Wheeler Lake), containing the discharge from outfall 0012, is classified as a Tier I stream and is on the most recent 303(d) list for Nutrient impairment. Since this

permit reissuance does not include an expansion, the nutrient contributions from this facility should not be significantly different from discharges during the previous permit. Therefore, nutrient monitoring is being continued for outfall 0012 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. There are no TMDLs affecting this discharge.

The segment of Blackwell Run, containing the discharge from outfall 0021, is classified as a Tier II stream. Blackwell Run is not included in the most recent 303(d) list. However, the downstream segment of the Tennessee River (Wheeler Lake) is included on the most recent 303(d) list and is addressed in the previous paragraph. Nutrient monitoring 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. There are no TMDLs affecting this discharge.

The limits for Five Day Carbonaceous Biochemical Oxygen Demand (CBOD), Total Ammonia as Nitrogen (NH<sub>3</sub>-N), and Dissolved Oxygen (DO) are based on the Waste Load Allocation (WLA) models that were completed by ADEM's Water Quality Branch on May 13, 2019 for outfall 0012 and May 23, 2018 for outfall 0021. For outfall 0012, the monthly average limit for CBOD is 25.0 mg/L, the monthly average limit for NH<sub>3</sub>-N is 20.0 mg/L, and monitoring is required for DO. For outfall 0021, the monthly average the limit for CBOD is 4.0 mg/L, the monthly average limit for NH<sub>3</sub>-N is 1.4 mg/L, and the limit for daily minimum DO is 6.0 mg/L.

The limits for Total Suspended Solids (TSS), TSS % removal, and CBOD % removal are 30.0 mg/L, 85%, and 85% respectively. These limits are based on requirements of 40 CFR part 133.102 regarding Secondary Treatment.

The imposed E. coli limits were determined based on the water-use classification of the receiving stream. Outfall 0012 discharges into the Tennessee River (Wheeler Lake), which is classified as Swimming and Fish & Wildlife. The discharge from outfall 0021 to Blackwell Run is upstream of the swimming and Fish & Wildlife segment of the Tennessee River (Wheeler Lake). The limits for the more stringent Swimming classification of 126 col/100ml (monthly average) and 235 col/100ml are imposed for both outfalls.

The pH limits were developed in accordance with the Water-Use designation of the receiving streams and to be consistent with the Department's permitting approach and procedures. The minimum pH limit of 6.0 S.U. and a maximum limit of 9.0 S.U. are imposed for outfall 0012. A minimum pH limit of 6.0 S.U. and a maximum limit of 8.5 S.U. are imposed for outfall 0021.

For outfall 0012, the Total Residual Chlorine (TRC) limit is 1.0 mg/L (maximum daily). The TRC limits of 0.011 mg/L (monthly average) and 0.019 mg/L (maximum daily) are imposed on outfall 0021. These limits are based on EPA's recommended water quality values and on the current Toxicity Rationale, which considers the available dilution and should be protective of acute and chronic criteria in the receiving stream. In accordance with a letter dated August 11, 1998 from EPA Headquarters and a 1991 memorandum from EPA Region 4's Environmental Services Division (ESD), due to testing and method detection limitations, a total Residual Chlorine measurement below 0.05 mg/L shall be considered below detection for compliance purposes. Monitoring for TRC is only applicable if chlorine is utilized for disinfection purposes. That is, if chlorine disinfection is not utilized, monitoring would not be applicable during the monitoring period, and "\*9" should be entered on the monthly DMR.

The Permittee has requested that Peracetic Acid (PAA) be included as a method of disinfection in the Permit. The PAA limit of 1.0 mg/L (daily maximum) is imposed to be consistent with other Permits with

PAA limits. Monitoring for PAA is only applicable if PAA is utilized for disinfection purposes. Monitoring for PAA is required five days per week.

This permit imposes monitoring for the following nutrient-related parameters: Total Kjeldahl Nitrogen (TKN), Nitrite plus Nitrate as Nitrogen ( $\text{NO}_2 + \text{NO}_3\text{-N}$ ), 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.

Since this facility is classified as a Major Municipal Wastewater plant and treats a mixture of domestic and industrial wastewater, the Department completed a reasonable potential analysis (RPA) of the discharges based on background data from the Guntersville Forebay on the Tennessee River (Wheeler Lake) and laboratory data provided in the Permittee's application. The RPA indicates whether pollutants in treated effluent have the potential to contribute to excursions of Alabama's in-stream water quality standards. Based on the RPA for outfall 0012, it appears that there may be reasonable potential to cause in-stream water quality criteria exceedances for Arsenic and Zinc. The reasonable potential for Arsenic and Zinc in the Tennessee River (Wheeler Lake) appears to be due to the background data used in the analysis. The Arsenic and Zinc data submitted with the application indicates that the Arsenic and Zinc concentrations are well below the chronic, acute, and human health water quality criteria. Based on the RPA for outfall 0021, it appears that there may be reasonable potential to cause in-stream water quality criteria exceedances for Copper. Limits for Total Recoverable Copper are imposed on outfall 0021. The limits for Copper are 23.2  $\mu\text{g/L}$  (monthly average) and 34.8  $\mu\text{g/L}$  (maximum daily). The RPA for outfall 0021 indicates that there is not a reasonable potential for the discharge to cause exceedances of the established water quality criteria for Mercury. However, the submitted analytical data was not conclusive because the Permittee did not employ sufficient method reporting limits to allow the Department to definitively complete the RPA. The Permittee must conduct quarterly monitoring using EPA methods 1631E/1669 or an alternative method, approved by the Department. Future monitoring of mercury will not be required by the Permittee if the results of four consecutive quarterly analytical tests indicate that mercury is not detected at levels exceeding the appropriate method detection.

Because this facility is classified as a Major Municipal plant, this permit imposes toxicity testing for both outfalls. Outfall 0012 includes acute toxicity testing on an annual basis at the calculated IWC of 5 percent. Outfall 0021 includes chronic toxicity testing on an annual basis at the calculated IWC of 100 percent. Upon initial utilization of PAA, the Permittee will be required to test for toxicity (Chronic and Acute) on a quarterly basis. The toxicity testing will be conducted with two species (Ceriodaphnia and Pimephales). A reduction in frequency for toxicity testing would be allowed if approved by the Department in writing.

The permittee has certified that all storm water flow exits the plant site via sheet flow, therefore, storm water outfalls are not included with the permit reissuance.

Monitoring will be conducted three times per week for most parameters. Percent removal for CBOD and TSS will be calculated once per month. Monitoring for nutrient-related parameters and Copper will be once per month. Monitoring for PAA will be conducted five times per week. Flow will be monitored continuously, 7 days per week.

ADEM Administrative Rule 335-6-10-.04 requires applicants to 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 includes a new discharge to Blackwell Run, a Tier II stream. The permittee included an Anti-Degradation analysis in the permit application.

Revision 12/3/2020:

The Permittee provided a letter on November 17, 2020 that indicates that a Permit for an additional outfall to Blackwell Run is no longer requested. Effluent limitations and all other requirements imposed for outfall 0021 (Blackwell Run) have been removed from the Permit.

Prepared by: Nicholas Lowe



## TOXICITY AND DISINFECTION RATIONALE

Facility Name:	<b>Madison WWTP</b>	
NPDES Permit Number:	<b>AL0071897</b>	
Receiving Stream:	<b>Tennessee River (Wheeler Lake)</b>	
Facility Design Flow (Q <sub>w</sub> ):	<b>8.250 MGD</b>	
Receiving Stream 7Q <sub>10</sub> :	<b>6565.000 cfs</b>	
Receiving Stream 1Q <sub>10</sub> :	<b>3956.000 cfs</b>	
Winter Headwater Flow (WHF):	<b>11046.00 cfs</b>	
Summer Temperature for CCC:	<b>28 deg. Celsius</b>	
Winter Temperature for CCC:	<b>28 deg. Celsius</b>	
Headwater Background NH <sub>3</sub> -N Level:	<b>0.08 mg/l</b>	
Receiving Stream pH:	<b>7.0 s.u.</b>	
Headwater Background FC Level (summer):	<b>N/A.</b>	<b>(Only applicable for facilities with diffusers.)</b>
(winter)	<b>N/A.</b>	

The Stream Dilution Ration (SDR) is calculated using the 7Q<sub>10</sub> for all stream classifications.

$$\text{Stream Dilution Ration (SDR)} = \frac{Q_w}{7Q_{10} + Q_w} = 0.19\%$$

### 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.

$$\text{Limiting Dilution} = \frac{Q_w}{7Q_{10} + Q_w} = 0.19\% \quad \text{Stream-Dominated, CMC Applies}$$

Criterion Maximum Concentration (CMC):  $CMC = 0.411 / (1 + 10^{(7.204 - pH)}) + 58.4 / (1 + 10^{(pH - 7.204)})$   
 Criterion Continuous Concentration (CCC):  $CCC = [0.0577 / (1 + 10^{(7.688 - pH)}) + 2.487 / (1 + 10^{(pH - 7.688)})] * \text{Min}[2.85, 1.45 * 10^{(0.028 * (25 - T))}]$

	<u>CMC</u>	<u>CCC</u>
Allowable Summer Instream NH <sub>3</sub> -N:	<b>36.09 mg/l</b>	<b>2.48 mg/l</b>
Allowable Winter Instream NH <sub>3</sub> -N:	<b>36.09 mg/l</b>	<b>2.48 mg/l</b>

$$\text{Summer NH}_3\text{-N Toxicity Limit} = \frac{[(\text{Allowable Instream NH}_3\text{-N}) * (7Q_{10} + Q_w)] - [(\text{Headwater NH}_3\text{-N}) * (7Q_{10})]}{Q_w} = 18558.4 \text{ mg/l NH}_3\text{-N at 7Q}_{10}$$

$$\text{Winter NH}_3\text{-N Toxicity Limit} = \frac{[(\text{Allowable Instream NH}_3\text{-N}) * (\text{WHF} + Q_w)] - [(\text{Headwater NH}_3\text{-N}) * (\text{WHF})]}{Q_w} = \text{N/A.}$$

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.

	<u>DO-based NH<sub>3</sub>-N limit</u>	<u>Toxicity-based NH<sub>3</sub>-N limit</u>
Summer	<b>20.00 mg/l NH<sub>3</sub>-N</b>	<b>18558.40 mg/l NH<sub>3</sub>-N</b>
Winter	<b>N/A.</b>	<b>N/A.</b>

**Summer: The DO based limit of 20.00 mg/l NH<sub>3</sub>-N applies.**

**Winter limits are not applicable.**

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

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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) = Based on Cormix Model = **4.82%** Note: This number will be rounded up for toxicity testing purposes.

**DISINFECTION REQUIREMENTS**

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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: **Swimming, 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)
<b><u>E. Coli (applies to Non-coastal and Shellfish Harvesting Coastal)</u></b>		
Monthly limit as monthly average (November through April):	126	<b>126</b>
Monthly limit as monthly average (May through October):	126	<b>126</b>
Daily Max (November through April):	235	<b>235</b>
Daily Max (May through October):	235	<b>235</b>
<b><u>Enterococci (applies to Coastal)</u></b>		
Monthly limit as geometric mean (November through April):	Not applicable	<b>Not applicable</b>
Monthly limit as geometric mean (May through October):	Not applicable	<b>Not applicable</b>
Daily Max (November through April):	Not applicable	<b>Not applicable</b>
Daily Max (May through October):	Not applicable	<b>Not applicable</b>

**MAXIMUM ALLOWABLE CHLORINATION LIMITS**

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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:	5.668 mg/l (chronic)	(0.011)/(SDR)
Maximum allowable TRC in effluent:	9.791 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: Nicholas Lowe Date: 7/30/2019

# Waste Load Allocation Summary

Page 1

## REQUEST INFORMATION

Request Number: 3558

From: Nicholas Lowe In Branch/Section: Municipal  
Date Submitted: 3/29/2019 Date Required: 4/28/2019 FUND Code: 605  
Date Permit application received by NPDES program: 2/22/2019

Receiving Waterbody: Tennessee River (Wheeler Lake)  
Previous Stream Name: Tennessee River  
Facility Name: Madison WWTP (Name of Discharger-WQ will use to file)  
Previous Discharger Name:  
River Basin: Tennessee Outfall Latitude: 34.553219 (decimal degrees)  
County: Madison Outfall Longitude: -86.761715 (decimal degrees)

Permit Number: AL0071897 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:  
H'ville Aldridge Creek, H'ville Spring Branch WWTP, Redstone Arsenal Central WWTP, Huntsville West Area WWTP, Madison WWTF, Priceville WWTP, Decatur Dry Creek WWTP, Joe Wheeler Lagoon, IP Courtland TVA Brown Ferry, 3M Decatur, Daikin, BP Amoco, Ascend

Impacting dischargers permit numbers:  
AL0056855, AL0058394, AL0062863, AL0049531, AL0071897, AL0060577, AL0048593, AL0032387, AL0000396, AL0022080, AL0000205, AL0064351, AL000108, AL0000116

Existing Discharge Design Flow: 8.25 MGD  
Proposed Discharge Design Flow: MGD  
Note: The flow rates given should be those requested for modeling.

Comments included  
 Yes  No

Information Verified By: JJM  
Year File Was Created: 2001  
Response ID Number: 1700

Lat/Long Method: GPS

12 Digit HUC Code: 060300020906  
Use Classification: S / F&W  
Site Visit Completed?  Yes  No  
Waterbody Impaired?  Yes  No  
Antidegradation:  Yes  No  
Waterbody Tier Level: Tier I  
Use Support Category: 5

Date of Site Visit: 4/10/2019  
Date of WLA Response: 5/14/2019  
Approved TMDL?  Yes  No  
Approval Date of TMDL:

## Waste Load Allocation Information

Modeled Reach Length: 74.1 Miles Date of Allocation: 5/13/2019  
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	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 25 mg/L			CBOD5		TP		TP	
NH3-N 20 mg/L			NH3-N		TN		TN	
TKN			TKN		TSS		TSS	
D.O. mg/L			D.O.					

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

Water Quality Characteristics Immediately Upstream of Discharge					
Parameter	Summer			Winter	
CBODu	1.61	mg/l		mg/l	
NH3-N	0.0791	mg/l		mg/l	
Temperature	28	°C		°C	
pH	7.6	su		su	

### Hydrology at Discharge Location

Drainage Area Qualifier	Drainage Area	sq mi
Estimated	26090	sq mi
	Stream 7Q10	6565 cfs
	Stream 1Q10	3956 cfs
	Stream 7Q2	11046 cfs
	Annual Average	42848 cfs

Method Used to Calculate
ADEM Estimate w/TVA Gage Data
ADEM Estimate w/TVA Gage Data
ADEM Estimate w/TVA Gage Data
ADEM Estimate w/TVA Gage Data

Comments and/or Notations



101 Ray Sanderson Drive ~ Madison, Alabama 35758  
Tel: 256.772.0253 ~ Fax: 256.772.7501  
[www.madisonutilities.org](http://www.madisonutilities.org)

November 17, 2020  
ADEM  
Municipal Section, Water Division  
NPDES Enforcement Branch  
P.O. Box 301463  
Montgomery, AL 36130-1463

RE: Madison WWTP  
NPDES Permit No. A10071897 permit renewal

This letter is to inform you that we are no longer requesting the alternate discharge to the Blackwell Run be on our permit renewal application.

We have decided to seek an alternate to the discharge by adding a larger effluent pumping station in an upcoming project.

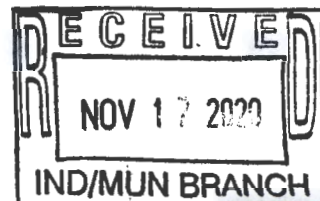
If you have any questions or comments, please contact me at (256) 772-0253 ext. 114 or by email at [mbland@madisonutilities.org](mailto:mbland@madisonutilities.org).

Sincerely

A handwritten signature in blue ink that reads 'Mark Bland'.

Mark Bland  
Wastewater Manager

Cc: Emory DeBord, General Manager



FORM <b>1</b> GENERAL	 U.S. ENVIRONMENTAL PROTECTION AGENCY <b>GENERAL INFORMATION</b> Consolidated Permits Program <i>(Read the "General Instructions" before starting.)</i>	I. EPA I.D. NUMBER <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:5%;">S</td> <td style="width:85%;"></td> <td style="width:5%;">T/A</td> <td style="width:5%;">C</td> </tr> <tr> <td>F</td> <td></td> <td></td> <td>D</td> </tr> <tr> <td>1</td> <td>2</td> <td>13</td> <td>14 15</td> </tr> </table>	S		T/A	C	F			D	1	2	13	14 15
S		T/A	C											
F			D											
1	2	13	14 15											
LABEL ITEMS	 PLEASE PLACE LABEL IN THIS SPACE	GENERAL INSTRUCTIONS												
EPA I.D. NUMBER		If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent ( <i>the area to the left of the label space lists the information that should appear</i> ), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI ( <i>except VI-B which must be completed regardless</i> ). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.												
III. FACILITY NAME														
V. FACILITY MAILING ADDRESS														
VI. FACILITY LOCATION														

**II. POLLUTANT CHARACTERISTICS**

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of **bold-faced terms**.

SPECIFIC QUESTIONS	Mark "X"			SPECIFIC QUESTIONS	Mark "X"		
	YES	NO	FORM ATTACHED		YES	NO	FORM ATTACHED
A. Is this facility a <b>publicly owned treatment works</b> which results in a <b>discharge to waters of the U.S.</b> ? (FORM 2A)	X		X	B. Does or will this facility ( <i>either existing or proposed</i> ) include a <b>concentrated animal feeding operation</b> or <b>aquatic animal production facility</b> which results in a <b>discharge to waters of the U.S.</b> ? (FORM 2B)		X	
C. Is this a facility which currently results in <b>discharges to waters of the U.S.</b> other than those described in A or B above? (FORM 2C)		X		D. Is this a proposed facility ( <i>other than those described in A or B above</i> ) which will result in a <b>discharge to waters of the U.S.</b> ? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of <b>hazardous wastes</b> ? (FORM 3)		X		F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
Is this facility a proposed <b>stationary source</b> which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed <b>stationary source</b> which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

**III. NAME OF FACILITY**

c	SKIP	Madison Wastewater Treatment Plant
1		
15	16 - 29	30

**IV. FACILITY CONTACT**

A. NAME & TITLE ( <i>last, first, &amp; title</i> )		B. PHONE ( <i>area code &amp; no.</i> )	
c	2 Bland, Mark, Wastewater Manager	(256)	772-0253
15	16	45	46 48 49 51 52- 55

**V. FACILITY MAILING ADDRESS**

A. STREET OR P.O. BOX			
c	3 701 Landless Circle		
15	16		
B. CITY OR TOWN		C. STATE	D. ZIP CODE
c	4 Madison	AL	35756
15	16	40	41 42 47 51

**VI. FACILITY LOCATION**

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER			
c	5 701 Landless Circle		
15	16		
B. COUNTY NAME			
Madison			
		70	
C. CITY OR TOWN		D. STATE	E. ZIP CODE
c	6 Madison	AL	35756
15	16	40	41 42 47 51 52 -54

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of priority)

A. FIRST				B. SECOND			
C	7	(specify)		C	7	(specify)	
15	16	19		15	16	19	
C. THIRD				D. FOURTH			
C		(specify)		C	7	(specify)	
15	16	19		15	16	19	

VIII. OPERATOR INFORMATION

A. NAME												B. Is the name listed in Item VIII-A also the owner? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO				
C	8 Madison Utilities											55	56			
15	16											55	56			
C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box: if "Other," specify.)										D. PHONE (area code & no.)						
F = FEDERAL S = STATE P = PRIVATE				M = PUBLIC (other than federal or state) O = OTHER (specify)				M	(specify)	A (256) 772-0253						
								58		15	16	18	19	21	22	26

E. STREET OR P.O. BOX

101 Ray Sanders Drive

F. CITY OR TOWN

Madison

G. STATE AL H. ZIP CODE 35758 IX. INDIAN LAND Is the facility located on Indian lands?  
 YES  NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)						D. PSD (Air Emissions from Proposed Sources)					
C	T	I	AL0071897			C	T	I			
9	N					9	P				
15	16	17	18	30	15	16	17	18	30		
B. UIC (Underground Injection of Fluids)						E. OTHER (specify)					
C	T	I				C	T	I	(specify)		
9	U					9					
15	16	17	18	30	15	16	17	18	30		
C. RCRA (Hazardous Wastes)						E. OTHER (specify)					
C	T	I	R			C	T	I	(specify)		
9						9					
16	17	18	30	15	16	17	18	30			

MAP

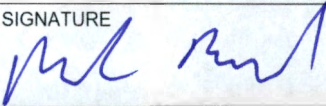
Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers, and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

Municipal provider of wastewater collection and treatment to the City of Madison and surrounding areas.

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

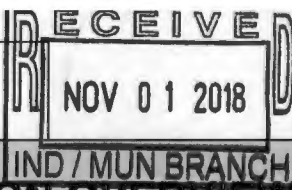
A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
Mark Blond / Wastewater Manager		10-31-10

REMARKS FOR OFFICIAL USE ONLY

C																55
15	16														55	

FACILITY NAME AND PERMIT NUMBER:

Madison Wastewater Treatment Plant; AL0071897



Form Approved 1/14/99  
OMB Number 2040-0086

FORM  
**2A**  
NPDES

# NPDES FORM 2A APPLICATION OVERVIEW

## APPLICATION OVERVIEW

Form 2A has been developed in a modular format and consists of a "Basic Application Information" packet and a "Supplemental Application Information" packet. The Basic Application Information packet is divided into two parts. All applicants must complete Parts A and C. Applicants with a design flow greater than or equal to 0.1 mgd must also complete Part B. Some applicants must also complete the Supplemental Application Information packet. The following items explain which parts of Form 2A you must complete.

### BASIC APPLICATION INFORMATION:

- A. Basic Application Information for all Applicants.** All applicants must complete questions A.1 through A.8. A treatment works that discharges effluent to surface waters of the United States must also answer questions A.9 through A.12.
- B. Additional Application Information for Applicants with a Design Flow  $\geq$  0.1 mgd.** All treatment works that have design flows greater than or equal to 0.1 million gallons per day must complete questions B.1 through B.6.
- C. Certification.** All applicants must complete Part C (Certification).

### SUPPLEMENTAL APPLICATION INFORMATION:

- D. Expanded Effluent Testing Data.** A treatment works that discharges effluent to surface waters of the United States and meets one or more of the following criteria must complete Part D (Expanded Effluent Testing Data):
  - 1. Has a design flow rate greater than or equal to 1 mgd,
  - 2. Is required to have a pretreatment program (or has one in place), or
  - 3. Is otherwise required by the permitting authority to provide the information.
- Toxicity Testing Data.** A treatment works that meets one or more of the following criteria must complete Part E (Toxicity Testing Data):
  - 1. Has a design flow rate greater than or equal to 1 mgd,
  - 2. Is required to have a pretreatment program (or has one in place), or
  - 3. Is otherwise required by the permitting authority to submit results of toxicity testing.
- F. Industrial User Discharges and RCRA/CERCLA Wastes.** A treatment works that accepts process wastewater from any significant industrial users (SIUs) or receives RCRA or CERCLA wastes must complete Part F (Industrial User Discharges and RCRA/CERCLA Wastes). SIUs are defined as:
  - 1. All industrial users subject to Categorical Pretreatment Standards under 40 Code of Federal Regulations (CFR) 403.6 and 40 CFR Chapter I, Subchapter N (see instructions); and
  - 2. Any other industrial user that:
    - a. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions); or
    - b. Contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the treatment plant; or
    - c. Is designated as an SIU by the control authority.
- G. Combined Sewer Systems.** A treatment works that has a combined sewer system must complete Part G (Combined Sewer Systems).

**ALL APPLICANTS MUST COMPLETE PART C (CERTIFICATION)**



FACILITY NAME AND PERMIT NUMBER:

Madison Wastewater Treatment Plant; AL0071897

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**BASIC APPLICATION INFORMATION**

**PART A. BASIC APPLICATION INFORMATION FOR ALL APPLICANTS:**

All treatment works must complete questions A.1 through A.8 of this Basic Application Information packet.

**A.1. Facility Information.**

Facility name Madison Wastewater Treatment Plant

Mailing Address 701 Landless Circle  
Madison, AL 35756

Contact person Mark Bland

Title Wastewater Manager

Telephone number 256-772-0253

Facility Address 701 Landless Circle  
(not P.O. Box) Madison, AL 35756

**A.2. Applicant Information.** If the applicant is different from the above, provide the following:

Applicant name \_\_\_\_\_

Mailing Address \_\_\_\_\_

Contact person \_\_\_\_\_

Title \_\_\_\_\_

Telephone number \_\_\_\_\_

Is the applicant the owner or operator (or both) of the treatment works?

owner       operator

Indicate whether correspondence regarding this permit should be directed to the facility or the applicant.

\_\_\_\_\_ facility      \_\_\_\_\_ applicant

**A.3. Existing Environmental Permits.** Provide the permit number of any existing environmental permits that have been issued to the treatment works (include state-issued permits).

NPDES AL0071897      PSD \_\_\_\_\_

UIC \_\_\_\_\_      Other \_\_\_\_\_

RCRA \_\_\_\_\_      Other \_\_\_\_\_

**A.4. Collection System Information.** Provide information on municipalities and areas served by the facility. Provide the name and population of each entity and, if known, provide information on the type of collection system (combined vs. separate) and its ownership (municipal, private, etc.).

Name	Population Served	Type of Collection System	Ownership
<u>Madison Utilities</u>	<u>43,861 (2017)</u>	<u>Separate Systems</u>	<u>Municipal</u>
_____	_____	_____	_____
_____	_____	_____	_____
<b>Total population served</b>		_____	_____

**FACILITY NAME AND PERMIT NUMBER:**

Madison Wastewater Treatment Plant; AL0071897

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**A.5. Indian Country.**

a. Is the treatment works located in Indian Country?

Yes  No

b. Does the treatment works discharge to a receiving water that is either in Indian Country or that is upstream from (and eventually flows through) Indian Country?

Yes  No

**A.6. Flow.** Indicate the design flow rate of the treatment plant (i.e., the wastewater flow rate that the plant was built to handle). Also provide the average daily flow rate and maximum daily flow rate for each of the last three years. Each year's data must be based on a 12-month time period with the 12th month of "this year" occurring no more than three months prior to this application submittal.

a. Design flow rate 8.250 mgd

	<u>Two Years Ago</u>	<u>Last Year</u>	<u>This Year</u>
b. Annual average daily flow rate	<u>5.186</u>	<u>6.561</u>	<u>7.521</u> mgd
c. Maximum daily flow rate	<u>14.400</u>	<u>16.550</u>	<u>17.220</u> mgd

**A.7. Collection System.** Indicate the type(s) of collection system(s) used by the treatment plant. Check all that apply. Also estimate the percent contribution (by miles) of each.

Separate sanitary sewer 100.00 %  
 Combined storm and sanitary sewer \_\_\_\_\_ %

**A.8. Discharges and Other Disposal Methods.**

a. Does the treatment works discharge effluent to waters of the U.S.?  Yes  No

If yes, list how many of each of the following types of discharge points the treatment works uses:

- i. Discharges of treated effluent 2
- ii. Discharges of untreated or partially treated effluent \_\_\_\_\_
- iii. Combined sewer overflow points \_\_\_\_\_
- iv. Constructed emergency overflows (prior to the headworks) \_\_\_\_\_
- v. Other \_\_\_\_\_

b. Does the treatment works discharge effluent to basins, ponds, or other surface impoundments that do not have outlets for discharge to waters of the U.S.?  Yes  No

If yes, provide the following for each surface impoundment:

Location: \_\_\_\_\_  
 Annual average daily volume discharged to surface impoundment(s) \_\_\_\_\_ mgd  
 Is discharge  continuous or  intermittent?

c. Does the treatment works land-apply treated wastewater?  Yes  No

If yes, provide the following for each land application site:

Location: \_\_\_\_\_  
 Number of acres: \_\_\_\_\_  
 Annual average daily volume applied to site: \_\_\_\_\_ Mgd  
 Is land application  continuous or  intermittent?

d. Does the treatment works discharge or transport treated or untreated wastewater to another treatment works?  Yes  No

**FACILITY NAME AND PERMIT NUMBER:**

Madison Wastewater Treatment Plant; AL0071897

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If yes, describe the mean(s) by which the wastewater from the treatment works is discharged or transported to the other treatment works (e.g., tank truck, pipe).

NA

If transport is by a party other than the applicant, provide:

Transporter name: NA

Mailing Address: NA

Contact person: NA

Title: NA

Telephone number:

For each treatment works that receives this discharge, provide the following:

Name: NA

Mailing Address: NA

Contact person: NA

Title: NA

Telephone number:

If known, provide the NPDES permit number of the treatment works that receives this discharge. NA

Provide the average daily flow rate from the treatment works into the receiving facility. \_\_\_\_\_ mgd

- e. Does the treatment works discharge or dispose of its wastewater in a manner not included in A.8.a through A.8.d above (e.g., underground percolation, well injection)? \_\_\_\_\_ Yes  No

If yes, provide the following for each disposal method:

Description of method (including location and size of site(s) if applicable):

NA

Annual daily volume disposed of by this method: NA

Is disposal through this method \_\_\_\_\_ continuous or \_\_\_\_\_ intermittent?

**FACILITY NAME AND PERMIT NUMBER:**

Madison Wastewater Treatment Plant; AL0071897

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**WASTEWATER DISCHARGES:**

If you answered "yes" to question A.8.a, complete questions A.9 through A.12 once for each outfall (including bypass points) through which effluent is discharged. Do not include information on combined sewer overflows in this section. If you answered "no" to question A.8.a, go to Part B, "Additional Application Information for Applicants with a Design Flow Greater than or Equal to 0.1 mgd."

**A.9. Description of Outfall.**

- a. Outfall number 0012
- b. Location Madison 35756  
(City or town, if applicable) (Zip Code)  
Madison AL  
(County) (State)  
34 33' 14" 86 45' 42"  
(Latitude) (Longitude)
- c. Distance from shore (if applicable) 350.00 ft.
- d. Depth below surface (if applicable) 36.00 ft.
- e. Average daily flow rate 6.19 mgd
- f. Does this outfall have either an intermittent or a periodic discharge?  
 Yes  No (go to A.9.g.)  
 If yes, provide the following information:  
 Number of times per year discharge occurs: \_\_\_\_\_  
 Average duration of each discharge: \_\_\_\_\_  
 Average flow per discharge: \_\_\_\_\_ mgd  
 Months in which discharge occurs: \_\_\_\_\_
- g. Is outfall equipped with a diffuser?  Yes  No

**A.10. Description of Receiving Waters.**

- a. Name of receiving water Tennessee River
- b. Name of watershed (if known) \_\_\_\_\_  
 United States Soil Conservation Service 14-digit watershed code (if known): \_\_\_\_\_
- c. Name of State Management/River Basin (if known): \_\_\_\_\_  
 United States Geological Survey 8-digit hydrologic cataloging unit code (if known): \_\_\_\_\_
- d. Critical low flow of receiving stream (if applicable):  
 acute \_\_\_\_\_ cfs chronic \_\_\_\_\_ cfs
- e. Total hardness of receiving stream at critical low flow (if applicable): \_\_\_\_\_ mg/l of CaCO<sub>3</sub>

**FACILITY NAME AND PERMIT NUMBER:**

Madison Wastewater Treatment Plant; AL0071897

Form Approved 1/14/99  
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**A.11. Description of Treatment.**

a. What levels of treatment are provided? Check all that apply.

Primary                       Secondary  
 Advanced                       Other. Describe: Activated Sludge

b. Indicate the following removal rates (as applicable):

Design BOD<sub>5</sub> removal or Design CBOD<sub>5</sub> removal                      85.00 %  
 Design SS removal                      85.00 %  
 Design P removal                      \_\_\_\_\_ %  
 Design N removal                      \_\_\_\_\_ %  
 Other \_\_\_\_\_ %

c. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe.

Ultraviolet and/or Peracetic Acid

If disinfection is by chlorination, is dechlorination used for this outfall?                      \_\_\_\_\_ Yes                       No

d. Does the treatment plant have post aeration?                      \_\_\_\_\_ Yes                       No

**A.12. Effluent Testing Information.** All Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three samples and must be no more than four and one-half years apart.

Outfall number: 0012

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	Value	Units	Value	Units	Number of Samples
pH (Minimum)	6.80	s.u.			
pH (Maximum)	8.61	s.u.			
Flow Rate	18.24	MGD	6.19	MGD	2,029.00
Temperature (Winter)	7.30	Deg. C	17.20	Deg C	365.00
Temperature (Summer)	24.80	Deg. C	22.10	Deg. C	365.00

\* For pH please report a minimum and a maximum daily value

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Conc.	Units	Number of Samples		

**CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.**

BIOCHEMICAL OXYGEN DEMAND (Report one)	BOD-5						
	CBOD-5	13.50	mg/L	2.90	mg/L	868.00	5210B 5/7
FECAL COLIFORM						9222D	5/7
TOTAL SUSPENDED SOLIDS (TSS)		722.80	mg/L	6.80	mg/L	871.00	2540D 5/7

**END OF PART A.**

**REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE**

**FACILITY NAME AND PERMIT NUMBER:**

Madison Wastewater Treatment Plant; AL0071897

Form Approved 1/14/99  
OMB Number 2040-0086

**WASTEWATER DISCHARGES:**

If you answered "yes" to question A.8.a, complete questions A.9 through A.12 once for each outfall (including bypass points) through which effluent is discharged. Do not include information on combined sewer overflows in this section. If you answered "no" to question A.8.a, go to Part B, "Additional Application Information for Applicants with a Design Flow Greater than or Equal to 0.1 mgd."

**A.9. Description of Outfall.**

- a. Outfall number 0013
- b. Location Madison 35756  
(City or town, if applicable) (Zip Code)  
Madison AL  
(County) (State)  
34 34' 15" 86 46' 19"  
(Latitude) (Longitude)
- c. Distance from shore (if applicable) 390.00 ft.
- d. Depth below surface (if applicable) \_\_\_\_\_ ft.
- e. Average daily flow rate 0.00 mgd
- f. Does this outfall have either an intermittent or a periodic discharge?  Yes  No (go to A.9.g.)  
If yes, provide the following information:  
Number of times per year discharge occurs: 1  
Average duration of each discharge: 8hours  
Average flow per discharge: 6.00 mgd  
Months in which discharge occurs: HighFlowMonths
- g. Is outfall equipped with a diffuser?  Yes  No

**A.10. Description of Receiving Waters.**

- a. Name of receiving water Tennessee River via Blackwell Run
- b. Name of watershed (if known) \_\_\_\_\_  
United States Soil Conservation Service 14-digit watershed code (if known): \_\_\_\_\_
- c. Name of State Management/River Basin (if known): \_\_\_\_\_  
United States Geological Survey 8-digit hydrologic cataloging unit code (if known): \_\_\_\_\_
- d. Critical low flow of receiving stream (if applicable):  
acute \_\_\_\_\_ cfs chronic \_\_\_\_\_ cfs
- e. Total hardness of receiving stream at critical low flow (if applicable): \_\_\_\_\_ mg/l of CaCO<sub>3</sub>

**FACILITY NAME AND PERMIT NUMBER:**  
 Madison Wastewater Treatment Plant; AL0071897

**A.11. Description of Treatment.**

a. What levels of treatment are provided? Check all that apply.

Primary                       Secondary  
 Advanced                       Other. Describe: Activated Sludge

b. Indicate the following removal rates (as applicable):

Design BOD<sub>5</sub> removal or Design CBOD<sub>5</sub> removal                      85.00 %  
 Design SS removal                      85.00 %  
 Design P removal                      \_\_\_\_\_ %  
 Design N removal                      \_\_\_\_\_ %  
 Other \_\_\_\_\_ %

c. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe.

Ultraviolet and/or Peracetic Acid

If disinfection is by chlorination, is dechlorination used for this outfall?                      \_\_\_\_\_ Yes                       No

d. Does the treatment plant have post aeration?                      \_\_\_\_\_ Yes                       No

**A.12. Effluent Testing Information.** All Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three samples and must be no more than four and one-half years apart.

Outfall number: 0012

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	Value	Units	Value	Units	Number of Samples
pH (Minimum)	6.80	s.u.			
pH (Maximum)	8.61	s.u.			
Flow Rate	18.24	MGD	6.19	MGD	2,029.00
Temperature (Winter)	7.30	Deg. C	17.20	Deg C	365.00
Temperature (Summer)	24.80	Deg. C	22.10	Deg. C	365.00

\* For pH please report a minimum and a maximum daily value

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Conc.	Units	Number of Samples		

**CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.**

BIOCHEMICAL OXYGEN DEMAND (Report one)	BOD-5						
	CBOD-5	13.50	mg/L	2.90	mg/L	868.00	5210B 5/7
FECAL COLIFORM						9222D	5/7
TOTAL SUSPENDED SOLIDS (TSS)		722.80	mg/L	6.80	mg/L	871.00	2540D 5/7

**END OF PART A.**

**REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE**

**FACILITY NAME AND PERMIT NUMBER:**

Madison Wastewater Treatment Plant; AL0071897

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**BASIC APPLICATION INFORMATION**

**PART B. ADDITIONAL APPLICATION INFORMATION FOR APPLICANTS WITH A DESIGN FLOW GREATER THAN OR EQUAL TO 0.1 MGD (100,000 gallons per day).**

All applicants with a design flow rate  $\geq$  0.1 mgd must answer questions B.1 through B.6. All others go to Part C (Certification).

**B.1. Inflow and Infiltration.** Estimate the average number of gallons per day that flow into the treatment works from inflow and/or infiltration.

25,000.00 gpd

Briefly explain any steps underway or planned to minimize inflow and infiltration.

**B.2. Topographic Map.** Attach to this application a topographic map of the area extending at least one mile beyond facility property boundaries. This map must show the outline of the facility and the following information. (You may submit more than one map if one map does not show the entire area.)

- a. The area surrounding the treatment plant, including all unit processes.
- b. The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable.
- c. Each well where wastewater from the treatment plant is injected underground.
- d. Wells, springs, other surface water bodies, and drinking water wells that are: 1) within 1/4 mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant.
- e. Any areas where the sewage sludge produced by the treatment works is stored, treated, or disposed.
- f. If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act (RCRA) by truck, rail, or special pipe, show on the map where that hazardous waste enters the treatment works and where it is treated, stored, and/or disposed.

**B.3. Process Flow Diagram or Schematic.** Provide a diagram showing the processes of the treatment plant, including all bypass piping and all backup power sources or redundancy in the system. Also provide a water balance showing all treatment units, including disinfection (e.g, chlorination and dechlorination). The water balance must show daily average flow rates at influent and discharge points and approximate daily flow rates between treatment units. Include a brief narrative description of the diagram.

**B.4. Operation/Maintenance Performed by Contractor(s).**

Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of a contractor?  Yes  No

If yes, list the name, address, telephone number, and status of each contractor and describe the contractor's responsibilities (attach additional pages if necessary).

Name: NA

Mailing Address: NA

Telephone Number: \_\_\_\_\_

Responsibilities of Contractor: NA

**B.5. Scheduled Improvements and Schedules of Implementation.** Provide information on any uncompleted implementation schedule or uncompleted plans for improvements that will affect the wastewater treatment, effluent quality, or design capacity of the treatment works. If the treatment works has several different implementation schedules or is planning several improvements, submit separate responses to question B.5 for each. (If none, go to question B.6.)

a. List the outfall number (assigned in question A.9) for each outfall that is covered by this implementation schedule.

0012, 0013

b. Indicate whether the planned improvements or implementation schedule are required by local, State, or Federal agencies.

Yes  No



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c. If the answer to B.5.b is "Yes," briefly describe, including new maximum daily inflow rate (if applicable).

NA

d. Provide dates imposed by any compliance schedule or any actual dates of completion for the implementation steps listed below, as applicable. For improvements planned independently of local, State, or Federal agencies, indicate planned or actual completion dates, as applicable. Indicate dates as accurately as possible.

Implementation Stage	Schedule	Actual Completion
	MM/DD/YYYY	MM/DD/YYYY
- Begin construction	__/__/__	__/__/__
- End construction	__/__/__	__/__/__
- Begin discharge	__/__/__	__/__/__
- Attain operational level	__/__/__	__/__/__

e. Have appropriate permits/clearances concerning other Federal/State requirements been obtained?  Yes  No

Describe briefly: \_\_\_\_\_

**B.6. EFFLUENT TESTING DATA (GREATER THAN 0.1 MGD ONLY).**

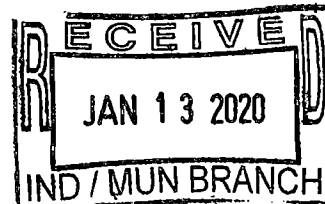
Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall Number: 0012, 0013

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Conc.	Units	Number of Samples		
<b>CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.</b>							
AMMONIA (as N)	0.33	mg/l	0.18	mg/l	3.00	SM 4500 NH3-C	0.1
CHLORINE (TOTAL RESIDUAL, TRC)		mg/l					
DISSOLVED OXYGEN	9.66	mg/l	8.08	mg/l	3.00	10360	0.1
TOTAL KJELDAHL NITROGEN (TKN)	2.09	mg/l	1.71	mg/l	3.00	SM-4500-Norg C	1.5
NITRATE PLUS NITRITE NITROGEN	10.90	mg/l	8.68	mg/l	3.00	EPA 300.0	0.06
OIL and GREASE	0.00	mg/l	0.00	mg/l	3.00	EPA 1664A	5.62
PHOSPHORUS (Total)	2.64	mg/l	1.81	mg/l	3.00	EPA 365.3	1
TOTAL DISSOLVED SOLIDS (TDS)	297.00	mg/l	282.33	mg/l	3.00	SM 2540C	1
OTHER							

**END OF PART B.**

**REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE**



**FACILITY NAME AND PERMIT NUMBER:**

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**BASIC APPLICATION INFORMATION**

**PART C. CERTIFICATION**

All applicants must complete the Certification Section. Refer to instructions to determine who is an officer for the purposes of this certification. All applicants must complete all applicable sections of Form 2A, as explained in the Application Overview. Indicate below which parts of Form 2A you have completed and are submitting. By signing this certification statement, applicants confirm that they have reviewed Form 2A and have completed all sections that apply to the facility for which this application is submitted.

**Indicate which parts of Form 2A you have completed and are submitting:**

Basic Application Information packet

Supplemental Application Information packet:

Part D (Expanded Effluent Testing Data)

Part E (Toxicity Testing: Biomonitoring Data)

Part F (Industrial User Discharges and RCRA/CERCLA Wastes)

Part G (Combined Sewer Systems)

**ALL APPLICANTS MUST COMPLETE 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 the information, the information 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 and official title Mark Bland, Wastewater Manager

Signature *Mark Bland*

Telephone number (256) 772-0253

Date signed 10-31-18

Upon request of the permitting authority, you must submit any other information necessary to assess wastewater treatment practices at the treatment works or identify appropriate permitting requirements.

**SEND COMPLETED FORMS TO:**

JAN 13 2020  
IND / MUN BRANCH

**FACILITY NAME AND PERMIT NUMBER:**  
Madison Wastewater Treatment Plant; AL0071897

Form Approved 1/14/89  
OMB Number 2040-0086

**SUPPLEMENTAL APPLICATION INFORMATION**

**PART D. EXPANDED EFFLUENT TESTING DATA**

Refer to the directions on the cover page to determine whether this section applies to the treatment works.

**Effluent Testing: 1.0 mgd and Pretreatment Treatment Works.** If the treatment works has a design flow greater than or equal to 1.0 mgd or it has (or is required to have) a pretreatment program, or is otherwise required by the permitting authority to provide the data, then provide effluent testing data for the following pollutants. Provide the indicated effluent testing information and any other information required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analyses conducted using 40 CFR Part 136 methods. In addition, these data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. Indicate in the blank rows provided below any data you may have on pollutants not specifically listed in this form. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

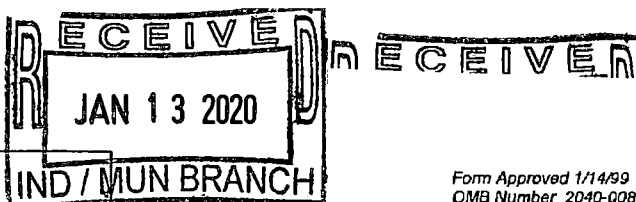
Outfall number: 0012 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		

**METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS, AND HARDNESS.**

ANTIMONY	ND	mg/l							3	200.8/6020A	0.00100
ARSENIC	0.00136	mg/l			0.00095	mg/l			3	200.8/6020A	0.000500
BERYLLIUM	ND	mg/l							3	200.8/6020A	0.00100
CADMIUM	ND	mg/l							3	200.8/6020A	0.00100
CHROMIUM	ND	mg/l							3	200.8/6020A	0.00100
COPPER	0.00985	mg/l			0.0073	mg/l			3	200.8/6020A	0.00500
LEAD	ND	mg/l							3	200.8/6020A	0.00100
MERCURY	ND	mg/l							3	245.1	0.000200
NICKEL	0.0187	mg/l			0.00129	mg/l			3	200.8/6020A	0.00100
SELENIUM	ND	mg/l							3	200.8/6020A	0.00100
SILVER	ND	mg/l							3	200.8/6020A	0.00100
THALLIUM	ND	mg/l							3	200.8/6020A	0.00100
ZINC	0.0336	mg/l			0.028	mg/l			3	200.8/6020A	0.0100
CYANIDE	0.00536	mg/l			0.00512	mg/l			3	D7511-09	0.00500
TOTAL PHENOLIC COMPOUNDS	ND	mg/l							3	420.1	0.0100
HARDNESS (AS CaCO <sub>3</sub> )	175	mg/l			159	mg/l			3		

Use this space (or a separate sheet) to provide information on other metals requested by the permit writer.

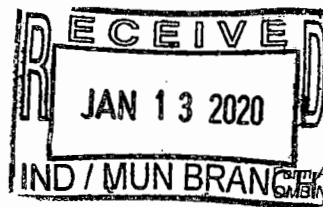


FACILITY NAME AND PERMIT NUMBER:  
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Outfall number: 0012 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
VOLATILE ORGANIC COMPOUNDS.											
ACROLEIN	ND	mg/l							3	624	0.0500
ACRYLONITRILE	ND	mg/l							3	624	0.0100
BENZENE	ND	mg/l							3	624	0.00100
BROMOFORM	ND	mg/l							3	624	0.00100
CARBON TETRACHLORIDE	ND	mg/l							3	624	0.00100
CLOROBENZENE	ND	mg/l							3	624	0.00100
CHLORODIBROMO-METHANE	ND	mg/l							3	624	0.00100
CHLOROETHANE	ND	mg/l							3	624	0.00500
2-CHLORO-ETHYLVINYL ETHER	ND	mg/l							3	624	0.0500
CHLOROFORM	ND	mg/l							3	624	0.00500
DICHLOROBROMO-METHANE	ND	mg/l							3	624	0.00250
1,1-DICHLOROETHANE	ND	mg/l							3	624	0.00100
1,2-DICHLOROETHANE	ND	mg/l							3	624	0.00100
TRANS-1,2-DICHLORO-ETHYLENE	ND	mg/l							3	624	0.00100
1,1-DICHLOROETHYLENE	ND	mg/l							3	624	0.00100
1,2-DICHLOROPROPANE	ND	mg/l							3	624	0.00100
1,3-DICHLORO-PROPYLENE	ND	mg/l							3	624	0.00100
ETHYLBENZENE	ND	mg/l							3	624	0.00100
METHYL BROMIDE	ND	mg/l							3	624	.00100
METHYL CHLORIDE	ND	mg/l							3	624	0.00100
METHYLENE CHLORIDE	ND	mg/l							3	624	0.00500
1,1,2,2-TETRACHLORO-ETHANE	ND	mg/l							3	624	0.00100
TETRACHLORO-ETHYLENE	ND	mg/l							3	624	0.00100
TOLUENE	ND	mg/l							3	624	0.00100



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Outfall number: 0012 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
1,1,1-TRICHLOROETHANE	ND	mg/l							3	624	0.00100
1,1,2-TRICHLOROETHANE	ND	mg/l							3	624	0.00100
TRICHLOROETHYLENE	ND	mg/l							3	624	0.00100
VINYL CHLORIDE	ND	mg/l							3	624	0.00100

Use this space (or a separate sheet) to provide information on other volatile organic compounds requested by the permit writer.

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**ACID-EXTRACTABLE COMPOUNDS**

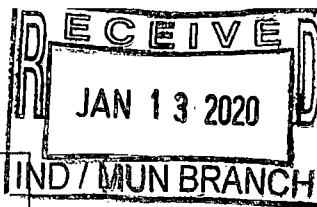
P-CHLORO-M-CRESOL	ND	m/l							3	625	0.0100
2-CHLOROPHENOL	ND	mg/l							3	625	0.0100
2,4-DICHLOROPHENOL	ND	mg/l							3	625	0.0100
2,4-DIMETHYLPHENOL	ND	mg/l							3	625	0.0100
4,6-DINITRO-O-CRESOL	ND	mg/l							3	625	0.0100
2,4-DINITROPHENOL	ND	mg/l							3	625	0.0100
2-NITROPHENOL	ND	mg/l							3	625	0.0100
4-NITROPHENOL	ND	mg/l							3	625	0.0100
PENTACHLOROPHENOL	ND	mg/l							3	625	0.0100
PHENOL	ND	mg/l							3	625	0.0100
2,4,6-TRICHLOROPHENOL	ND	mg/l							3	625	0.0100

Use this space (or a separate sheet) to provide information on other acid-extractable compounds requested by the permit writer.

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**BASE-NEUTRAL COMPOUNDS.**

ACENAPHTHENE	ND	mg/l							3	625	0.00100
ACENAPHTHYLENE	ND	mg/l							3	625	0.00100
ANTHRACENE	ND	mg/l							3	625	0.00100
BENZIDINE	ND	mg/l							3	625	0.0100
BENZO(A)ANTHRACENE	ND	mg/l							3	625	0.00100
BENZO(A)PYRENE	ND	mg/l							3	625	0.00100



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Outfall number: 0012 (Complete once for each outfall discharging effluent to waters of the United States.)											
POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
3,4 BENZO-FLUORANTHENE	ND	mg/l							3	625	0.0010
BENZO(GH)PERYLENE	ND	mg/l							3	625	0.0100
BENZO(K)FLUORANTHENE	ND	mg/l							3	625	0.0050
BIS (2-CHLOROETHOXY) METHANE	ND	mg/l							3	625	0.0100
BIS (2-CHLOROETHYL)-ETHER	ND	mg/l							3	625	0.0100
BIS (2-CHLOROISO-PROPYL) ETHER	ND	mg/l							3	625	0.0100
BIS (2-ETHYLHEXYL) PHTHALATE	ND	mg/l							3	625	0.0100
4-BROMOPHENYL PHENYL ETHER	ND	mg/l							3	625	0.0050
BUTYL BENZYL PHTHALATE	ND	mg/l							3	625	0.0100
2-CHLORONAPHTHALENE	ND	mg/l							3	625	0.0050
4-CHLORPHENYL PHENYL ETHER	ND	mg/l							3	625	0.0050
CHRYSENE	ND	mg/l							3	625	0.00100
DI-N-BUTYL PHTHALATE	ND	mg/l							3	625	0.0100
DI-N-OCTYL PHTHALATE	ND	mg/l							3	625	0.0100
DIBENZO(A,H) ANTHRACENE	ND	mg/l							3	625	0.0100
1,2-DICHLOROBENZENE	ND	mg/l							3	625	0.0100
1,3-DICHLOROBENZENE	ND	mg/l							3	625	0.0100
1,4-DICHLOROBENZENE	ND	mg/l							3	625	0.0100
3,3-DICHLOROBENZIDINE	ND	mg/l							3	625	0.0100
DIETHYL PHTHALATE	ND	mg/l							3	625	0.00300
DIMETHYL PHTHALATE	ND	mg/l							3	625	0.00300
2,4-DINITROTOLUENE	ND	mg/l							3	625	0.0100
2,6-DINITROTOLUENE	ND	mg/l							3	625	0.0100
1,2-DIPHENYLHYDRAZINE	ND	mg/l							3	625	0.0100

**FACILITY NAME AND PERMIT NUMBER:**

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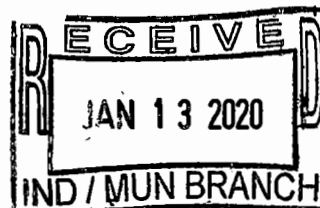
Outfall number: 0012 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
FLUORANTHENE	ND	mg/l							3	625	0.00100
FLUORENE	ND	mg/l							3	625	0.00100
HEXACHLOROBENZENE	ND	mg/l							3	625	0.00100
HEXACHLOROBUTADIENE	ND	mg/l							3	625	0.0100
HEXACHLOROCYCLO-PENTADIENE	ND	mg/l							3	625	0.0100
HEXACHLOROETHANE	ND	mg/l							3	625	0.0100
INDENO(1,2,3-CD)PYRENE	ND	mg/l							3	625	0.00100
ISOPHORONE	ND	mg/l							3	625	0.0100
NAPHTHALENE	ND	mg/l							3	625	0.00100
NITROBENZENE	ND	mg/l							3	625.00	0.0100
N-NITROSODI-N-PROPYLAMINE	ND	mg/l							3	625	0.0100
N-NITROSODI- METHYLAMINE	ND	mg/l							3	625	0.0100
N-NITROSODI-PHENYLAMINE	ND	mg/l							3	625	0.0100
PHENANTHRENE	ND	mg/l							3	625	0.00100
PYRENE	ND	mg/l							3	625	0.00100
1,2,4-TRICHLOROBENZENE	ND	mg/l							3	625	0.0100

Use this space (or a separate sheet) to provide information on other base-neutral compounds requested by the permit writer.

Use this space (or a separate sheet) to provide information on other pollutants (e.g., pesticides) requested by the permit writer.

**END OF PART D.  
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM  
2A YOU MUST COMPLETE**



**FACILITY NAME AND PERMIT NUMBER:**

Madison Wastewater Treatment Plant; AL0071897

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**SUPPLEMENTAL APPLICATION INFORMATION**

**PART E. TOXICITY TESTING DATA**

POTWs meeting one or more of the following criteria must provide the results of whole effluent toxicity tests for acute or chronic toxicity for each of the facility's discharge points: 1) POTWs with a design flow rate greater than or equal to 1.0 mgd; 2) POTWs with a pretreatment program (or those that are required to have one under 40 CFR Part 403); or 3) POTWs required by the permitting authority to submit data for these parameters.

- At a minimum, these results must include quarterly testing for a 12-month period within the past 1 year using multiple species (minimum of two species), or the results from four tests performed at least annually in the four and one-half years prior to the application, provided the results show no appreciable toxicity, and testing for acute and/or chronic toxicity, depending on the range of receiving water dilution. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136.
- In addition, submit the results of any other whole effluent toxicity tests from the past four and one-half years. If a whole effluent toxicity test conducted during the past four and one-half years revealed toxicity, provide any information on the cause of the toxicity or any results of a toxicity reduction evaluation, if one was conducted.
- If you have already submitted any of the information requested in Part E, you need not submit it again. Rather, provide the information requested in question E.4 for previously submitted information. If EPA methods were not used, report the reasons for using alternate methods. If test summaries are available that contain all of the information requested below, they may be submitted in place of Part E.

If no biomonitoring data is required, do not complete Part E. Refer to the Application Overview for directions on which other sections of the form to complete.

**E.1. Required Tests.**

*See attached*

Indicate the number of whole effluent toxicity tests conducted in the past four and one-half years.

\_\_\_\_ chronic      \_\_\_\_ acute

**E.2. Individual Test Data.** Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

Test number: \_\_\_\_\_ Test number: \_\_\_\_\_ Test number: \_\_\_\_\_

**a. Test information.**

Test species & test method number			
Age at initiation of test			
Outfall number			
Dates sample collected			
Date test started			
Duration			

**b. Give toxicity test methods followed.**

Manual title			
Edition number and year of publication			
Page number(s)			

**c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.**

24-Hour composite			
Grab			

**d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)**

Before disinfection			
After disinfection			
After dechlorination			



**FACILITY NAME AND PERMIT NUMBER:**

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Test number: \_\_\_\_\_

Test number: \_\_\_\_\_

Test number: \_\_\_\_\_

e. Describe the point in the treatment process at which the sample was collected.

Sample was collected:

f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.

Chronic toxicity

Acute toxicity

g. Provide the type of test performed.

Static

Static-renewal

Flow-through

h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.

Laboratory water

Receiving water

i. Type of dilution water. If salt water, specify "natural" or type of artificial sea salts or brine used.

Fresh water

Salt water

j. Give the percentage effluent used for all concentrations in the test series.

k. Parameters measured during the test. (State whether parameter meets test method specifications)

pH

Salinity

Temperature

Ammonia

Dissolved oxygen

l. Test Results.

Acute:

Percent survival in 100% effluent

%

%

%

LC<sub>50</sub>

95% C.I.

%

%

%

Control percent survival

%

%

%

Other (describe)

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Chronic:

NOEC	%	%	%
IC <sub>25</sub>	%	%	%
Control percent survival	%	%	%
Other (describe)			

m. Quality Control/Quality Assurance.

Is reference toxicant data available?			
Was reference toxicant test within acceptable bounds?			
What date was reference toxicant test run (MM/DD/YYYY)?			
Other (describe)			

**E.3. Toxicity Reduction Evaluation.** Is the treatment works involved in a Toxicity Reduction Evaluation?

\_\_\_ Yes  No      If yes, describe: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**E.4. Summary of Submitted Biomonitoring Test Information.** If you have submitted biomonitoring test information, or information regarding the cause of toxicity, within the past four and one-half years, provide the dates the information was submitted to the permitting authority and a summary of the results.

Date submitted: \_\_\_\_\_ (MM/DD/YYYY)

Summary of results: (see instructions)

9/13/2013 - Passed; 9/12/2014 - Passed; 9/18/2015 - Passed; 9/23/2016 - Passed  
 10/11/2017 - Passed; 10/18/2018 - Passed

**END OF PART E.**

**REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE.**

FACILITY NAME AND PERMIT NUMBER:  
Madison Wastewater Treatment Plant; AL0071897

Form Approved 1/14/99  
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**SUPPLEMENTAL APPLICATION INFORMATION**

**PART F. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES**

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete Part F.

**GENERAL INFORMATION:**

F.1. Pretreatment Program. Does the treatment works have, or is it subject to, an approved pretreatment program?

Yes  No

F.2. Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works.

- a. Number of non-categorical SIUs. 0.00
- b. Number of CIUs. 1.00

**SIGNIFICANT INDUSTRIAL USER INFORMATION:**

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3. Significant Industrial User Information. Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: Accurate Machine and Tool

Mailing Address: 226 Celtic Drive Madison, AL 35758

F.4. Industrial Processes. Describe all of the industrial processes that affect or contribute to the SIU's discharge.

Metal finishing operations

F.5. Principal Product(s) and Raw Material(s). Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): Fabricated metal products

Raw material(s): Steel and chemicals involved in coating products

F.6. Flow Rate.

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

800.00 gpd ( continuous or  intermittent)

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

2,300.00 gpd ( continuous or  intermittent)

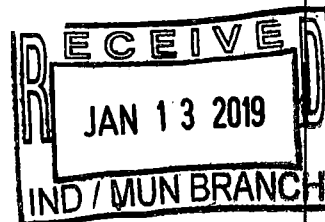
F.7. Pretreatment Standards. Indicate whether the SIU is subject to the following:

a. Local limits  Yes  No

b. Categorical pretreatment standards  Yes  No

If subject to categorical pretreatment standards, which category and subcategory?

See attached fixed upper limits as included in Madison's Industrial Discharge Code of Ordinance.



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**F.8. Problems at the Treatment Works Attributed to Waste Discharged by the SIU.** Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years?

Yes  No If yes, describe each episode.

\_\_\_\_\_  
\_\_\_\_\_

**RCRA HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDICATED PIPELINE:**

**F.9. RCRA Waste.** Does the treatment works receive or has it in the past three years received RCRA hazardous waste by truck, rail, or dedicated pipe?  Yes  No (go to F.12.)

**F.10. Waste Transport.** Method by which RCRA waste is received (check all that apply):

Truck  Rail  Dedicated Pipe

**F.11. Waste Description.** Give EPA hazardous waste number and amount (volume or mass, specify units).

<u>EPA Hazardous Waste Number</u>	<u>Amount</u>	<u>Units</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

**CERCLA (SUPERFUND) WASTEWATER, RCRA REMEDIATION/CORRECTIVE ACTION WASTEWATER, AND OTHER REMEDIAL ACTIVITY WASTEWATER:**

**F.12. Remediation Waste.** Does the treatment works currently (or has it been notified that it will) receive waste from remedial activities?

Yes (complete F.13 through F.15.)  No

Provide a list of sites and the requested information (F.13 - F.15.) for each current and future site.

**F.13. Waste Origin.** Describe the site and type of facility at which the CERCLA/RCRA/or other remedial waste originates (or is expected to originate in the next five years).

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**F.14. Pollutants.** List the hazardous constituents that are received (or are expected to be received). Include data on volume and concentration, if known. (Attach additional sheets if necessary).

\_\_\_\_\_  
\_\_\_\_\_

**F.15. Waste Treatment.**

a. Is this waste treated (or will it be treated) prior to entering the treatment works?

Yes  No

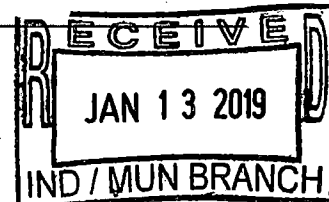
If yes, describe the treatment (provide information about the removal efficiency):

\_\_\_\_\_  
\_\_\_\_\_

b. Is the discharge (or will the discharge be) continuous or intermittent?

Continuous  Intermittent If intermittent, describe discharge schedule.

\_\_\_\_\_



**END OF PART F.  
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM  
2A YOU MUST COMPLETE**

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**SUPPLEMENTAL APPLICATION INFORMATION**

**PART G. COMBINED SEWER SYSTEMS**

**If the treatment works has a combined sewer system, complete Part G.**

**G.1. System Map.** Provide a map indicating the following: (may be included with Basic Application Information)

- a. All CSO discharge points.
- b. Sensitive use areas potentially affected by CSOs (e.g., beaches, drinking water supplies, shellfish beds, sensitive aquatic ecosystems, and outstanding natural resource waters).
- c. Waters that support threatened and endangered species potentially affected by CSOs.

**G.2. System Diagram.** Provide a diagram, either in the map provided in G.1. or on a separate drawing, of the combined sewer collection system that includes the following information:

- a. Locations of major sewer trunk lines, both combined and separate sanitary.
- b. Locations of points where separate sanitary sewers feed into the combined sewer system.
- c. Locations of in-line and off-line storage structures.
- d. Locations of flow-regulating devices.
- e. Locations of pump stations.

**CSO OUTFALLS:**

**Complete questions G.3 through G.6 once for each CSO discharge point.**

**G.3. Description of Outfall.**

- a. Outfall number \_\_\_\_\_
- b. Location \_\_\_\_\_  
 (City or town, if applicable) (Zip Code)  
 \_\_\_\_\_  
 (County) (State)  
 \_\_\_\_\_  
 (Latitude) (Longitude)
- c. Distance from shore (if applicable) \_\_\_\_\_ ft.
- d. Depth below surface (if applicable) \_\_\_\_\_ ft.
- e. Which of the following were monitored during the last year for this CSO?  
 \_\_\_ Rainfall      \_\_\_ CSO pollutant concentrations      \_\_\_ CSO frequency  
 \_\_\_ CSO flow volume      \_\_\_ Receiving water quality
- f. How many storm events were monitored during the last year? \_\_\_\_\_

**G.4. CSO Events.**

- a. Give the number of CSO events in the last year.  
 \_\_\_\_\_ events (\_\_\_ actual or \_\_\_ approx.)
- b. Give the average duration per CSO event.  
 \_\_\_\_\_ hours (\_\_\_ actual or \_\_\_ approx.)

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**.7. Land Application of Bulk Sewage Sludge. (con't)**

b. Do you identify all land application sites in Section C of this application?  Yes  No

If no, submit a copy of the land application plan with application (see instructions).

c. 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

If yes, describe, on this form or another sheet of paper, how you notify the permitting authority for the States where the land application sites are located. Provide a copy of the notification.

\_\_\_\_\_  
\_\_\_\_\_

**Complete Section B.8 if sewage sludge from your facility is placed on a surface disposal site.**

**B.8. Surface Disposal.**

a. Total dry metric tons of sewage sludge from your facility placed on all surface disposal sites per 365-day period: \_\_\_\_\_ dry metric tons

b. Do you own or operate all surface disposal sites to which you send sewage sludge for disposal?

Yes  No

If no, answer B.8.c through B.8.f for each surface disposal site that you do not own or operate. If you send sewage sludge to more than one such surface disposal site, attach additional pages as necessary.

c. Site name or number \_\_\_\_\_

d. Contact person \_\_\_\_\_

Title \_\_\_\_\_

Telephone number \_\_\_\_\_

Contact is  Site owner  Site operator

e. Mailing address \_\_\_\_\_

f. Total dry metric tons of sewage sludge from your facility placed on this surface disposal site per 365-day period: \_\_\_\_\_ dry metric tons

**Complete Section B.9 if sewage sludge from your facility is fired in a sewage sludge incinerator.**

**B.9. Incineration.**

a. Total dry metric tons of sewage sludge from your facility fired in all sewage sludge incinerators per 365-day period: \_\_\_\_\_ dry metric tons

b. Do you own or operate all sewage sludge incinerators in which sewage sludge from your facility is fired?  Yes  No

If no, complete B.9.c through B.9.f for each sewage sludge incinerator that you do not own or operate. If you send sewage sludge to more than one such sewage sludge incinerator, attach additional pages as necessary.

c. Incinerator name or number: \_\_\_\_\_

d. Contact person: \_\_\_\_\_

Title: \_\_\_\_\_

Telephone number: \_\_\_\_\_

Contact is:  Incinerator owner  Incinerator operator

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**B.9. Incineration. (con't)**

e. Mailing address: \_\_\_\_\_  
\_\_\_\_\_

f. Total dry metric tons of sewage sludge from your facility fired in this sewage sludge incinerator per 365-day period: \_\_\_\_\_ dry metric tons

**Complete Section B.10 if sewage sludge from this facility is placed on a municipal solid waste landfill.**

**B.10. Disposal in a Municipal Solid Waste Landfill.** Provide the following information for each municipal solid waste landfill on which sewage sludge from your facility is placed. If sewage sludge is placed on more than one municipal solid waste landfill, attach additional pages as necessary.

a. Name of landfill \_\_\_\_\_

b. Contact person \_\_\_\_\_

Title \_\_\_\_\_

Telephone number \_\_\_\_\_

Contact is \_\_\_\_\_ Landfill owner \_\_\_\_\_ Landfill operator

c. Mailing address \_\_\_\_\_  
\_\_\_\_\_

d. Location of municipal solid waste landfill:

Street or Route # \_\_\_\_\_

County \_\_\_\_\_

City or Town \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

e. Total dry metric tons of sewage sludge from your facility placed in this municipal solid waste landfill per 365-day period:  
\_\_\_\_\_ dry metric tons

f. List, on this form or an attachment, 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
_____	_____
_____	_____
_____	_____

g. Submit, with this 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)

h. Does the municipal solid waste landfill comply with applicable criteria set forth in 40 CFR Part 258?

\_\_\_\_\_ Yes \_\_\_\_\_ No

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**LAND APPLICATION OF BULK SEWAGE SLUDGE**

Complete Section C for sewage sludge that is applied to the land, unless any of the following conditions apply:

- The sewage sludge meets the Table 1 ceiling concentrations, the Table 3 pollutant concentrations, Class A pathogen requirements, and one of vector attraction reduction options 1-8 (fill out B.4 instead); or
- The sewage sludge is sold or given away in a bag or other container for application to the land (fill out B.5 instead); or
- You provide the sewage sludge to another facility for treatment or blending (fill out B.6 instead).

Complete Section C for every site on which the sewage sludge that you reported in Section B.7 is applied.

**C.1. Identification of Land Application Site.**

a. Site name or number Synagro

b. Site location (Complete 1 and 2).

1. Street or Route # 501 Woodall Road

County Morgan

City or Town Decatur State AL Zip 35601

2. Latitude 34.605496° Longitude -87.052035°

Method of latitude/longitude determination

USGS map  Field survey  Other

c. Topographic map. Provide a topographic map (or other appropriate map if a topographic map is unavailable) that shows the site location.

**2. Owner Information.**

a. Are you the owner of this land application site?  Yes  No

b. If no, provide the following information about the owner:

Name Synagro

Telephone number (256) 351-0959

Mailing Address 501 Woodall Road Decatur, AL 35601

**C.3. Applier Information.**

a. Are you the person who applies, or who is responsible for application of, sewage sludge to this land application site?  
 Yes  No

b. If no, provide the following information for the person who applies:

Name Synagro

Telephone number (256) 351-0959

Mailing Address 501 Woodall Road Decatur, AL 35601

**C.4. Site Type:** Identify the type of land application site from among the following.

Agricultural land  Forest  Public contact site

Reclamation site  Other. Describe: \_\_\_\_\_



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**C.5. Crop or Other Vegetation Grown on Site.**

a. What type of crop or other vegetation is grown on this site?

Sod and Hay

b. What is the nitrogen requirement for this crop or vegetation?

**C.6. Vector Attraction Reduction.**

Are any vector attraction reduction requirements met when sewage sludge is applied to the land application site?

Yes  No

If yes, answer C.6.a and C.6.b:

a. Indicate which vector attraction reduction option is met:

Option 9 (Injection below land surface)

Option 10 (Incorporation into soil within 6 hours)

b. Describe, on this form or another sheet of paper, any treatment processes used at the land application site to reduce vector attraction properties of sewage sludge:

**Complete Question C.7 only if the sewage sludge applied to this site since July 20, 1993, is subject to the cumulative pollutant loading rates (CPLRs) in 40 CFR 503.13(b)(2).**

**C.7. Cumulative Loadings and Remaining Allotments.**

a. Have you contacted the 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

If no, sewage sludge subject to CPLRs may not be applied to this site.

If yes, provide the following information:

Permitting authority \_\_\_\_\_

Contact Person \_\_\_\_\_

Telephone number \_\_\_\_\_

b. Based upon this inquiry, has bulk sewage sludge subject to CPLRs been applied to this site since July 20, 1993?

Yes  No

If no, skip C.7.c.

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- c. Provide the following information for every facility other than yours that is sending, or has sent, bulk sewage sludge 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.

Facility name \_\_\_\_\_

Mailing Address \_\_\_\_\_  
\_\_\_\_\_

Contact person \_\_\_\_\_

Title \_\_\_\_\_

Telephone number \_\_\_\_\_

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**D. SURFACE DISPOSAL**

Complete this section if you own or operate a surface disposal site.

Complete Sections D.1 - D.5 for each active sewage sludge unit.

**D.1. Information on Active Sewage Sludge Units.**

- a. Unit name or number: \_\_\_\_\_
- b. Unit location (Complete 1 and 2).
  - 1. Street or Route # \_\_\_\_\_  
 County \_\_\_\_\_  
 City or Town \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_
  - 2. Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
 Method of latitude/longitude determination: \_\_\_\_\_ USGS map \_\_\_\_\_ Field survey \_\_\_\_\_ Other
- c. Topographic map. Provide a topographic map (or other appropriate map if a topographic map is unavailable) that shows the site location.
- d. Total dry metric tons of sewage sludge placed on the active sewage sludge unit per 365-day period: \_\_\_\_\_ dry metric tons
- e. Total dry metric tons of sewage sludge placed on the active sewage sludge unit over the life of the unit: \_\_\_\_\_ dry metric tons
- f. Does the active sewage sludge unit have a liner with a maximum hydraulic conductivity of  $1 \times 10^{-7}$  cm/sec? \_\_\_\_\_ Yes \_\_\_\_\_ No  
 If yes, describe the liner (or attach a description):  
 \_\_\_\_\_  
 \_\_\_\_\_

- g. Does the active sewage sludge unit have a leachate collection system? \_\_\_\_\_ Yes \_\_\_\_\_ No  
 If yes, describe the leachate collection system (or attach a description). Also describe the method used for leachate disposal and provide the numbers of any Federal, State, or local permit(s) for leachate disposal:  
 \_\_\_\_\_  
 \_\_\_\_\_

- h. If you answered no to either D.1.f. or D.1.g., answer the following question:  
 Is the boundary of the active sewage sludge unit less than 150 meters from the property line of the surface disposal site?  
 \_\_\_\_\_ Yes \_\_\_\_\_ No

If yes, provide the actual distance in meters: \_\_\_\_\_

Provide the following information:

Remaining capacity of active sewage sludge unit, in dry metric tons: \_\_\_\_\_ dry metric tons

Anticipated closure date for active sewage sludge unit, if known: \_\_\_\_\_ (MM/DD/YYYY)

Provide, with this application, a copy of any closure plan that has been developed for this active sewage sludge unit.

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**J.2. Sewage Sludge from Other Facilities.** Is sewage sent to this active sewage sludge unit from any facilities other than your facility?

Yes  No

If yes, provide the following information for each such facility. If sewage sludge is sent to this active sewage sludge unit from more than one such facility, attach additional pages as necessary.

a. Facility name \_\_\_\_\_

b. Mailing Address \_\_\_\_\_  
\_\_\_\_\_

c. Contact person \_\_\_\_\_

Title \_\_\_\_\_

Telephone number \_\_\_\_\_

d. Which class of pathogen reduction is achieved before sewage sludge leaves the other facility?

Class A  Class B  None or unknown

e. Describe, on this form or another sheet of paper, any treatment processes used at the other facility to reduce pathogens in sewage sludge:

\_\_\_\_\_  
\_\_\_\_\_

f. Which vector attraction reduction option is met for the sewage sludge at the receiving facility?

- Option 1 (Minimum 38 percent reduction in volatile solids)
- Option 2 (Anaerobic process, with bench-scale demonstration)
- Option 3 (Aerobic process, with bench-scale demonstration)
- Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
- Option 5 (Aerobic processes plus raised temperature)
- Option 6 (Raise pH to 12 and retain at 11.5)
- Option 7 (75 percent solids with no unstabilized solids)
- Option 8 (90 percent solids with unstabilized solids)
- None or unknown

g. Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce vector attraction properties of sewage sludge

\_\_\_\_\_  
\_\_\_\_\_

h. Describe, on this form or another sheet of paper, any other sewage sludge treatment activities performed by the other facility that are not identified in (d) - (g) above:

\_\_\_\_\_  
\_\_\_\_\_

**D.3. Vector Attraction Reduction**

a. Which vector attraction 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)

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**D.3. Vector Attraction Reduction. (con't)**

- b. Describe, on this form or another sheet of paper, any treatment processes used at the active sewage sludge unit to reduce vector attraction properties of sewage sludge:

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**D.4. Ground-Water Monitoring.**

- a. Is ground-water monitoring currently conducted at this active sewage sludge unit, or are ground-water monitoring data otherwise available for this active sewage sludge unit?

\_\_\_\_\_ Yes      \_\_\_\_\_ No

If yes, provide a copy of available ground-water monitoring data. Also, provide a written description of the well locations, the approximate depth to ground-water, and the ground-water monitoring procedures used to obtain these data.

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- b. Has a ground-water monitoring program been prepared for this active sewage sludge unit? \_\_\_\_\_ Yes      \_\_\_\_\_ No

If yes, submit a copy of the ground-water monitoring program with this permit application.

- c. Have you obtained a certification from a qualified ground-water scientist that the aquifer below the active sewage sludge unit has not been contaminated? \_\_\_\_\_ Yes      \_\_\_\_\_ No

If yes, submit a copy of the certification with this permit application.

**D.5. Site-Specific Limits.** Are you seeking site-specific pollutant limits for the sewage sludge placed on the active sewage sludge unit?

\_\_\_\_\_ Yes      \_\_\_\_\_ No

If yes, submit information to support the request for site-specific pollutant limits with this application.

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**INCINERATION**

Complete this section if you fire sewage sludge in a sewage sludge incinerator.

Complete this section once for each incinerator in which you fire sewage sludge. If you fire sewage sludge in more than one sewage sludge incinerator, attach additional copies of this section s necessary.

**E.1. Incinerator Information.**

a. Incinerator name or number: \_\_\_\_\_

b. Incinerator location (Complete 1 and 2).

1. Street or Route # \_\_\_\_\_

County \_\_\_\_\_

City or Town \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

2. Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

Method of latitude/longitude determination: \_\_\_\_\_ USGS map \_\_\_\_\_ Field survey \_\_\_\_\_ Other

**E.2. Amount Fired.** Dry metric tons per 365-day period of sewage sludge fired in the sewage sludge incinerator: \_\_\_\_\_ dry metric tons

**E.3. Beryllium NESHAP.**

a. Is the sewage sludge fired in this incinerator "beryllium-containing waste," as defined in 40 CFR Part 61.31? \_\_\_\_\_ Yes \_\_\_\_\_ No

Submit, with this application, information, test data, and description of measures taken that demonstrate whether the sewage sludge incinerated is beryllium-containing waste, and will continue to remain as such.

b. If the answer to (a) is yes, **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.

**E.4. Mercury NESHAP.**

a. How is compliance with the mercury NESHAP being demonstrated?

\_\_\_\_\_ Stack testing (if checked, complete E.4.b)

\_\_\_\_\_ Sewage sludge sampling (if checked, complete E.4.c)

b. If stack testing is conducted, submit the following information with this application:

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.

Copies of mercury emission rate tests for the two most recent years in which testing was conducted.

c. If sewage sludge sampling is used to demonstrate compliance, 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.

**E.5. Dispersion Factor.**

a. Dispersion factor, in micrograms/cubic meter per gram/second: \_\_\_\_\_

b. Name and type of dispersion model: \_\_\_\_\_

c. Submit a copy of the modeling results and supporting documentation with this application.

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**6. Control Efficiency.**

a. Control efficiency, in hundredths, for the following pollutants:

Arsenic: \_\_\_\_\_ Chromium: \_\_\_\_\_ Nickel: \_\_\_\_\_  
Cadmium: \_\_\_\_\_ Lead: \_\_\_\_\_

b. Submit a copy of the results or performance testing and supporting documentation (including testing dates) with this application.

**E.7. Risk Specific Concentration for Chromium.**

a. Risk specific concentration (RSC) used for chromium, in micrograms per cubic meter: \_\_\_\_\_

b. Which basis was used to determine the RSC?

\_\_\_\_ Table 2 in 40 CFR 503.43  
\_\_\_\_ Equation 6 in 40 CFR 503.43 (site-specific determination)

c. If Table 2 was used, identify the type of incinerator used as the basis:

\_\_\_\_ Fluidized bed with wet scrubber  
\_\_\_\_ Fluidized bed with wet scrubber and wet electrostatic precipitator  
\_\_\_\_ Other types with wet scrubber  
\_\_\_\_ Other types with wet scrubber and wet electrostatic precipitator

d. If Equation 6 was used, provide the following:

Decimal fraction of hexavalent chromium concentration to total chromium concentration in stack exit gas: \_\_\_\_\_

Submit results of incinerator stack tests for hexavalent and total chromium concentrations, including date(s) of test, with this application.

**E.8. Incinerator Parameters**

a. Do you monitor Total Hydrocarbons (THC) in the sewage sludge incinerator's exit gas? \_\_\_\_\_ Yes \_\_\_\_\_ No

Do you monitor Carbon Monoxide (CO) in the sewage sludge incinerator's exit gas? \_\_\_\_\_ Yes \_\_\_\_\_ No

b. Incinerator type: \_\_\_\_\_

c. Incinerator stack height, in meters: \_\_\_\_\_

Indicate whether value submitted is: \_\_\_\_\_ Actual stack height \_\_\_\_\_ Creditable stack height

**E.9. Performance Test Operating Parameters**

a. Maximum Performance Test Combustion Temperature: \_\_\_\_\_

b. Performance test sewage sludge feed rate, in dry metric tons/day: \_\_\_\_\_

indicate whether value submitted is:

\_\_\_\_ Average use \_\_\_\_\_ Maximum design

Submit, with this application, supporting documents describing how the feed rate was calculated.

c. Submit, with this application, information documenting the performance test operating parameters for the air pollution control device(s) used for this sewage sludge incinerator.

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**E.10. Monitoring Equipment.** List the equipment in place to monitor the following parameters:

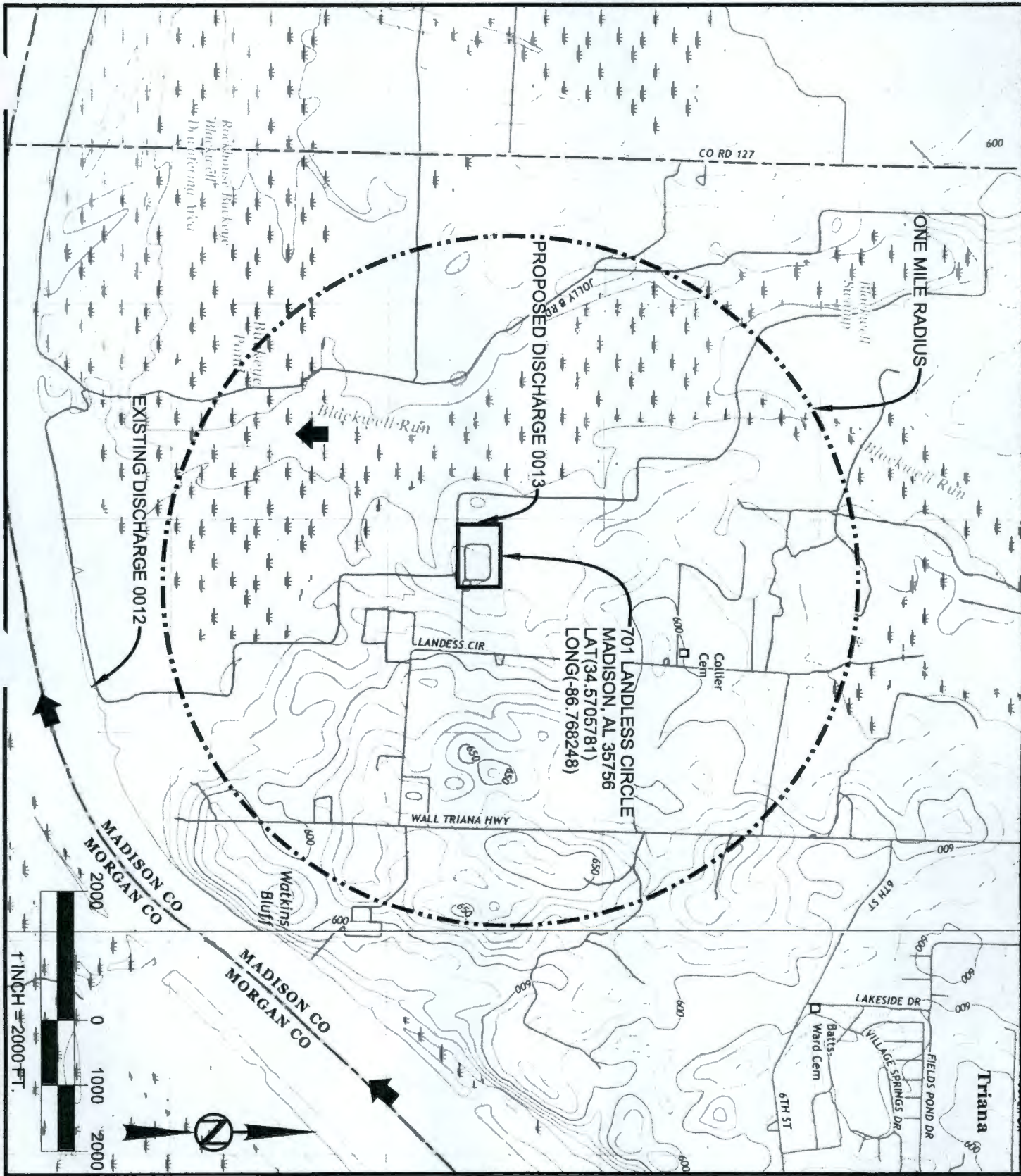
- a. Total hydrocarbons or carbon monoxide: \_\_\_\_\_
- b. Percent oxygen: \_\_\_\_\_
- c. Moisture content: \_\_\_\_\_
- d. Combustion temperature: \_\_\_\_\_
- e. Other: \_\_\_\_\_

**E.11. Air Pollution Control Equipment.** Submit, with this application, a list of all air pollution control equipment used with this sewage sludge incinerator.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_







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SHEET TITLE	
TOPOGRAPHIC/LOCATION MAP	
SHEET NO.	PROJECT NO. 18006
C0-01	SCALE 1" = 2000'
	DATE SEPT, 2018

MADISON UTILITIES  
MADISON WWTP PERMIT  
MADISON, AL



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- c. Give the average volume per CSO event.  
\_\_\_\_\_ million gallons (\_\_\_\_ actual or \_\_\_\_ approx.)
- d. Give the minimum rainfall that caused a CSO event in the last year.  
\_\_\_\_\_ inches of rainfall

**G.5. Description of Receiving Waters.**

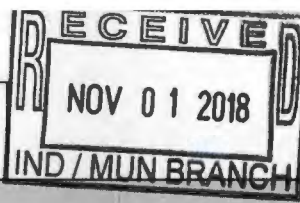
- a. Name of receiving water: \_\_\_\_\_
- b. Name of watershed/river/stream system: \_\_\_\_\_  
  
United States Soil Conservation Service 14-digit watershed code (if known): \_\_\_\_\_
- c. Name of State Management/River Basin: \_\_\_\_\_  
  
United States Geological Survey 8-digit hydrologic cataloging unit code (if known): \_\_\_\_\_

**G.6. CSO Operations.**

Describe any known water quality impacts on the receiving water caused by this CSO (e.g., permanent or intermittent beach closings, permanent or intermittent shell fish bed closings, fish kills, fish advisories, other recreational loss, or violation of any applicable State water quality standard).

\_\_\_\_\_  
\_\_\_\_\_

**END OF PART G.  
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM  
2A YOU MUST COMPLETE.**



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FORM  
**2S**  
NPDES

# NPDES FORM 2S APPLICATION OVERVIEW

## PRELIMINARY INFORMATION

This page is designed to indicate whether the applicant is to complete Part 1 or Part 2. Review each category, and then complete Part 1 or Part 2, as indicated. For purposes of this form, the term "you" refers to the applicant. "This facility" and "your facility" refer to the facility for which application information is submitted.

### FACILITIES INCLUDED IN ANY OF THE FOLLOWING CATEGORIES MUST COMPLETE PART 2 (PERMIT APPLICATION INFORMATION).

1. Facilities with a currently effective NPDES permit.
2. Facilities which have been directed by the permitting authority to submit a full permit application at this time.

### ALL OTHER FACILITIES MUST COMPLETE PART 1 (LIMITED BACKGROUND INFORMATION).

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**ART 1: LIMITED BACKGROUND INFORMATION**

This part should be completed only by "sludge-only" facilities - that is, facilities that do not currently have, and are not applying for, an NPDES permit for a direct discharge to a surface body of water.

For purposes of this form, the term "you" refers to the applicant. "This facility" and "your facility" refer to the facility for which application information is submitted.

**1. Facility Information.**

- a. Facility name Madison Wastewater Treatment Plant
- b. Mailing Address 701 Landless Circle Madison, AL 35756
- c. Contact person Mark Bland  
Title Wastewater Manager  
Telephone number (256) 772-0253
- d. Facility Address (not P.O. B ox) 701 Landless Circle Madison, AL 35756
- e. Indicate the type of facility  
 Publicly owned treatment works (POTW)  Privately owned treatment works  
 Federally owned treatment works  Blending or treatment operation  
 Surface disposal site  Sewage sludge incinerator  
 Other (describe) \_\_\_\_\_

**2. Applicant Information.**

- a. Applicant name Madison Utilities
- b. Mailing Address 101 Ray Sanders Drive Madison, AL 35758
- c. Contact person Mark Bland  
Title Wastewater Manager  
Telephone number (256) 772-0253
- d. Is the applicant the owner or operator (or both) of this facility?  
 owner  operator
- e. Should correspondence regarding this permit be directed to the facility or the applicant?  
 facility  applicant

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**Sewage Sludge Amount.** Provide the total dry metric tons per latest 365 day period of sewage sludge handled under the following practices:

- a. Amount generated at the facility 500.00 dry metric tons
- b. Amount received from off site \_\_\_\_\_ dry metric tons
- c. Amount treated or blended on site \_\_\_\_\_ dry metric tons
- d. Amount sold or given away in a bag or other container for application to the land \_\_\_\_\_ dry metric tons
- e. Amount of bulk sewage sludge shipped off site for treatment or blending \_\_\_\_\_ dry metric tons
- f. Amount applied to the land in bulk form \_\_\_\_\_ dry metric tons
- g. Amount placed on a surface disposal site \_\_\_\_\_ dry metric tons
- h. Amount fired in a sewage sludge incinerator \_\_\_\_\_ dry metric tons
- i. Amount sent to a municipal solid waste landfill \_\_\_\_\_ dry metric tons
- j. Amount used or disposed by another practice \_\_\_\_\_ dry metric tons

Describe \_\_\_\_\_

**4. Pollutant Concentrations.** Using the table below or a separate attachment, provide existing sewage sludge monitoring data for the pollutants for which limits in sewage sludge have been established in 40 CFR part 503 for this facility's expected use or disposal practices. If available, base data on three or more samples taken at least one month apart and no more than four and one-half years old.

POLLUTANT	CONCENTRATION (mg/kg dry weight)	ANALYTICAL METHOD	DETECTION LEVEL FOR ANALYSIS
ARSENIC			
CADMIUM			
CHROMIUM		SEE ATTACHED	
COPPER			
AD			
MERCURY			
MOLYBDENUM			
NICKEL			
SELENIUM			
ZINC			

**5. Treatment Provided At Your Facility.**

a. Which class of pathogen reduction does the sewage sludge meet at your facility?

\_\_\_\_\_ Class A  Class B \_\_\_\_\_ Neither or unknown

b. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce pathogens in sewage sludge:

Aerobic Digestion.  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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c. Which vector attraction reduction option is met for the sewage sludge at your facility?

- Option 1 (Minimum 38 percent reduction in volatile solids)
- Option 2 (Anaerobic process, with bench-scale demonstration)
- Option 3 (Aerobic process, with bench-scale demonstration)
- Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
- Option 5 (Aerobic processes plus raised temperature)
- Option 6 (Raise pH to 12 and retain at 11.5)
- Option 7 (75 percent solids with no unstabilized solids)
- Option 8 (90 percent solids with unstabilized solids)
- Option 9 (Injection below land surface)
- Option 10 (Incorporation into soil within 6 hours)
- Option 11 (Covering active sewage sludge unit daily)
- None or unknown

d. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce vector attraction properties of sewage sludge:

---



---

6. **Sewage Sludge Sent to Other Facilities.** Does the sewage sludge from your facility meet the Table 1 ceiling concentrations, the Table 3 pollutant concentrations, Class A pathogen requirements, and one of the vector attraction options 1-8?

Yes  No

If yes, go to question 8 (Certification).

If no, is sewage sludge from your facility provided to another facility for treatment, distribution, use, or disposal?

Yes  No

If no, go to question 7 (Use and Disposal Sites).

If yes, provide the following information for the facility receiving the sewage sludge:

- a. Facility name 

---
- b. Mailing address 

---

---
- c. Contact person 

---
- Title 

---
- Telephone number 

---

d. Which activities does the receiving facility provide? (Check all that apply)

- Treatment or blending
- Land application
- Incineration
- Sale or give-away in bag or other container
- Surface disposal
- Other (describe):

---



---

**FACILITY NAME AND PERMIT NUMBER:**

Madison Wastewater Treatment Plant AL0071897

Form Approved 1/14/99  
OMB Number 2040-0086**Use and Disposal Sites.** Provide the following information for each site on which sewage sludge from this facility is used or disposed:

- a. Site name or number Synagro
- b. Contact person \_\_\_\_\_  
Title \_\_\_\_\_  
Telephone (256) 351-0959
- c. Site location (Complete 1 or 2)
1. Street or Route # 501 Woodall Road  
County Morgan  
City or Town Decatur State AL Zip 35601
2. Latitude 34.605488° Longitude -87.052035°
- d. Site type (Check all that apply)
- Agricultural       Lawn or home garden       Forest  
 Surface disposal       Public Contact       Incineration  
 Reclamation       Municipal Solid Waste Landfill       Other (describe): \_\_\_\_\_

**8. Certification.** Sign the certification statement below. (Refer to instructions to determine who is an officer for purposes of this certification.)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with the 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 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 and official title Mark Bland Wastewater Manager

Signature ml Bland

Telephone number (256) 772-0253

Date signed 10-31-18

**SEND COMPLETED FORMS TO:**

**FACILITY NAME AND PERMIT NUMBER:**

Madison Wastewater Treatment Plant AL0071897

Form Approved 1/14/99  
OMB Number 2040-0086

## **PART 2: PERMIT APPLICATION INFORMATION**

**Complete this part if you have an effective NPDES permit or have been directed by the permitting authority to submit a full permit application at this time. In other words, complete this part if your facility has, or is applying for, an NPDES permit.**

**For purposes of this form, the term "you" refers to the applicant. "This facility" and "your facility" refer to the facility for which application information is submitted.**

### **APPLICATION OVERVIEW — SEWAGE SLUDGE USE OR DISPOSAL INFORMATION**

**Part 2 is divided into five sections (A-E). Section A pertains to all applicants. The applicability of Sections B, C, D, and E depends on your facility's sewage sludge use or disposal practices. The information provided on this page indicates which sections of Part 2 to fill out.**

#### **1. SECTION A: GENERAL INFORMATION.**

Section A must be completed by all applicants

#### **2. SECTION B: GENERATION OF SEWAGE SLUDGE OR PREPARATION OF A MATERIAL DERIVED FROM SEWAGE SLUDGE.**

Section B must be completed by applicants who either:

- 1) Generate sewage sludge, or
- 2) Derive a material from sewage sludge.

#### **3. SECTION C: LAND APPLICATION OF BULK SEWAGE SLUDGE.**

Section C must be completed by applicants who either:

- 1) Apply sewage to the land, or
- 2) Generate sewage sludge which is applied to the land by others.

**NOTE:** Applicants who meet either or both of the two above criteria are exempted from this requirement if all sewage sludge from their facility falls into one of the following three categories:

- 1) The sewage sludge from this facility meets the ceiling and pollutant concentrations, Class A pathogen reduction requirements, and one of vector attraction reduction options 1-8, as identified in the instructions, or
- 2) The sewage sludge from this facility is placed in a bag or other container for sale or give-away for application to the land, or
- 3) The sewage sludge from this facility is sent to another facility for treatment or blending.

#### **4. SECTION D: SURFACE DISPOSAL**

Section D must be completed by applicants who own or operate a surface disposal site.

#### **5. SECTION E: INCINERATION**

Section E must be completed by applicants who own or operate a sewage sludge incinerator.



**FACILITY NAME AND PERMIT NUMBER:**

Madison Wastewater Treatment Plant AL0071897

Form Approved 1/14/99  
OMB Number 2040-0086

**I. GENERAL INFORMATION**

All applicants must complete this section.

**A.1. Facility Information.**

- a. Facility name Madison Wastewater Treatment Plant
- b. Mailing Address 701 Landless Circle  
Madison, AL 35756
- c. Contact person Mark Bland  
Title Wastewater Manager  
Telephone number (256) 772-0253
- d. Facility Address (not P.O. Box) 701 Landless Circle  
Madison, AL 35756
- e. Is this facility a Class I sludge management facility?  Yes  No
- f. Facility design flow rate: 8.25 mgd
- g. Total population served: \_\_\_\_\_
- h. Indicate the type of facility:  
 Publicly owned treatment works (POTW)       Privately owned treatment works  
 Federally owned treatment works       Blending or treatment operation  
 Surface disposal site       Sewage sludge incinerator  
 Other (describe) \_\_\_\_\_

**A.2. Applicant Information.** If the applicant is different from the above, provide the following:

- a. Applicant name \_\_\_\_\_
- b. Mailing Address \_\_\_\_\_  
\_\_\_\_\_
- c. Contact person \_\_\_\_\_  
Title \_\_\_\_\_  
Telephone number \_\_\_\_\_
- d. Is the applicant the owner or operator (or both) of this facility?  
 owner       operator
- e. Should correspondence regarding this permit should be directed to the facility or the applicant.  
 facility       applicant

**FACILITY NAME AND PERMIT NUMBER:**

Madison Wastewater Treatment Plant AL0071897

Form Approved 1/14/99  
OMB Number 2040-0086

**.3. Permit Information.**

- a. Facility's NPDES permit number (if applicable): AL0071897
- b. List, on this form or an attachment, all other Federal, State, and local permits or construction approvals received or applied for that regulate this facility's sewage sludge management practices:

Permit Number	Type of Permit
_____	_____
_____	_____
_____	_____

**A.4. Indian Country.** Does any generation, treatment, storage, application to land, or disposal of sewage sludge from this facility occur in Indian Country?

Yes  No If yes, describe: \_\_\_\_\_

**A.5. Topographic Map.** Provide a topographic map or maps (or other appropriate map(s) if a topographic map is unavailable) that show the following information. Map(s) should include the area one mile beyond all property boundaries of the facility:

- a. Location of all sewage sludge management facilities, including locations where sewage sludge is stored, treated, or disposed.
- b. Location of all wells, springs, and other surface water bodies, listed in public records or otherwise known to the applicant within 1/4 mile of the facility property boundaries.

**A.6. Line Drawing.** Provide a line drawing and/or a narrative description that identifies all sewage sludge processes that will be employed during the term of the permit, including all processes used for collecting, dewatering, storing, or treating sewage sludge, the destination(s) of all liquids and solids leaving each unit, and all methods used for pathogen reduction and vector attraction reduction.

**.7. Contractor Information.**

Are any operational or maintenance aspects of this facility related to sewage sludge generation, treatment, use or disposal the responsibility of a contractor?  Yes  No

If yes, provide the following for each contractor (attach additional pages if necessary):

- a. Name Synergro
- b. Mailing Address 501 Woodall Road Decatur, AL 35601
- c. Telephone Number (256) 351-0959
- d. Responsibilities of contractor Removal and disposal of sludge.

**FACILITY NAME AND PERMIT NUMBER:**

Madison Wastewater Treatment Plant AL0071897

Form Approved 1/14/99  
OMB Number 2040-0086

**.8. Pollution 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 Part 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 four and one-half years old.

POLLUTANT	CONCENTRATION (mg/kg dry weight)	ANALYTICAL METHOD	DETECTION LEVEL FOR ANALYSIS
ARSENIC			
CADMIUM			
CHROMIUM			
COPPER			
LEAD	<h1>See attached</h1>		
MERCURY			
MOLYBDENUM			
NICKEL			
SELENIUM			
ZINC			

**.9. Certification.** Read and submit the following certification statement with this application. Refer to the instructions to determine who is an officer for purposes of this certification. Indicate which parts of Form 2S you have completed and are submitting:

Part 1 Limited Background Information packet

Part 2 Permit Application Information packet:

- Section A (General Information)
- Section B (Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge)
- Section C (Land Application of Bulk Sewage Sludge)
- Section D (Surface Disposal)
- Section E (Incineration)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with the 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 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 and official title Mark Bland Waste water Manager  
 Signature ml Bland Date signed 10-31-18  
 Telephone number (256) 772-0253

Upon request of the permitting authority, you must submit any other information necessary to assess sewage sludge use or disposal practices at your facility or identify appropriate permitting requirements.

**SEND COMPLETED FORMS TO:**

FACILITY NAME AND PERMIT NUMBER:

Madison Wastewater Treatment Plant AL0071897

Form Approved 1/14/99  
OMB Number 2040-0086

7. GENERATION OF SEWAGE SLUDGE OR PREPARATION OF A MATERIAL DERIVED FROM SEWAGE SLUDGE

Complete this section if your facility generates sewage sludge or derives a material from sewage sludge.

B.1. Amount Generated On Site.

Total dry metric tons per 365-day period generated at your facility: 500.00 dry metric tons

B.2. Amount Received from Off Site. If your facility receives sewage sludge from another facility for treatment, use, or disposal, provide the following information for each facility from which sewage sludge is received. If you receive sewage sludge from more than one facility, attach additional pages as necessary.

a. Facility name \_\_\_\_\_

b. Mailing Address \_\_\_\_\_  
\_\_\_\_\_

c. Contact person \_\_\_\_\_

Title \_\_\_\_\_

Telephone number \_\_\_\_\_

d. Facility Address (not P.O. Box) \_\_\_\_\_  
\_\_\_\_\_

e. Total dry metric tons per 365-day period received from this facility: \_\_\_\_\_ dry metric tons

f. Describe, on this form or on another sheet of paper, any treatment processes known to occur at the off-site facility, including blending activities and treatment to reduce pathogens or vector attraction characteristics.  
\_\_\_\_\_  
\_\_\_\_\_

B.3. Treatment Provided At Your Facility.

a. Which class of pathogen reduction is achieved for the sewage sludge at your facility?

\_\_\_\_\_ Class A     Class B    \_\_\_\_\_ Neither or unknown

b. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce pathogens in sewage sludge:  
Aerobic Digestion  
\_\_\_\_\_  
\_\_\_\_\_

c. Which vector attraction reduction option is met for the sewage sludge at your facility?

- \_\_\_\_\_ Option 1 (Minimum 38 percent reduction in volatile solids)
- \_\_\_\_\_ Option 2 (Anaerobic process, with bench-scale demonstration)
- Option 3 (Aerobic process, with bench-scale demonstration)
- \_\_\_\_\_ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
- \_\_\_\_\_ Option 5 (Aerobic processes plus raised temperature)
- \_\_\_\_\_ Option 6 (Raise pH to 12 and retain at 11.5)
- \_\_\_\_\_ Option 7 (75 percent solids with no unstabilized solids)
- \_\_\_\_\_ Option 8 (90 percent solids with unstabilized solids)
- \_\_\_\_\_ None or unknown

**FACILITY NAME AND PERMIT NUMBER:**

Madison Wastewater Treatment Plant AL0071897

Form Approved 1/14/99  
OMB Number 2040-0086

**B.3. Treatment Provided At Your Facility. (con't)**

d. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce vector attraction properties of sewage sludge:

Aerobic Digestion and verification of requirement via SOUR test

e. Describe, on this form or another sheet of paper, any other sewage sludge treatment or blending activities not identified in (a) - (d) above:

N/A

**Complete Section B.4 if sewage sludge from your facility meets the ceiling concentrations in Table 1 of 40 CFR 503.13, the pollutant concentrations in Table 3 of §503.13, the Class A pathogen reduction requirements in §503.32(a), and one of the vector attraction reduction requirements in § 503.33(b)(1)-(8) and is land applied. Skip this section if sewage sludge from your facility does not meet all of these criteria.**

**B.4. Preparation of Sewage Sludge Meeting Ceiling and Pollutant Concentrations, Class A Pathogen Requirements, and One of Vector Attraction Reduction Options 1-8.**

a. Total dry metric tons per 365-day period of sewage sludge subject to this section that is applied to the land: \_\_\_\_\_ dry metric tons

b. Is sewage sludge subject to this section placed in bags or other containers for sale or give-away for application to the land?

\_\_\_\_\_ Yes . \_\_\_\_\_ No

**Complete Section B.5 if you place sewage sludge in a bag or other container for sale or give-away for land application. Skip this section if the sewage sludge is covered in Section B.4.**

**B.5. Sale or Give-Away in a Bag or Other Container for Application to the Land.**

a. 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: \_\_\_\_\_ dry metric tons

b. Attach, with this application, 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.

**Complete Section B.6 if sewage sludge from your facility is provided to another facility that provides treatment or blending. This section does not apply to sewage sludge sent directly to a land application or surface disposal site. Skip this section if the sewage sludge is covered in Sections B.4 or B.5. If you provide sewage sludge to more than one facility, attach additional pages as necessary.**

**B.6. Shipment Off Site for Treatment or Blending.**

a. Receiving facility name \_\_\_\_\_

b. Mailing address \_\_\_\_\_  
\_\_\_\_\_

c. Contact person \_\_\_\_\_

Title \_\_\_\_\_

Telephone number \_\_\_\_\_

d. Total dry metric tons per 365-day period of sewage sludge provided to receiving facility: \_\_\_\_\_

**FACILITY NAME AND PERMIT NUMBER:**

Madison Wastewater Treatment Plant AL0071897

Form Approved 1/14/99  
OMB Number 2040-0086

**6. Shipment Off Site for Treatment or Blending. (con't)**

e. Does the receiving facility provide additional treatment to reduce pathogens in sewage sludge from your facility?  Yes  No

Which class of pathogen reduction is achieved for the sewage sludge at the receiving facility?

Class A  Class B  Neither or unknown

Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce pathogens in sewage sludge:

\_\_\_\_\_

f. Does the receiving facility provide additional treatment to reduce vector attraction characteristics of the sewage sludge?

Yes  No

Which vector attraction reduction option is met for the sewage sludge at the receiving facility?

- Option 1 (Minimum 38 percent reduction in volatile solids)
- Option 2 (Anaerobic process, with bench-scale demonstration)
- Option 3 (Aerobic process, with bench-scale demonstration)
- Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
- Option 5 (Aerobic processes plus raised temperature)
- Option 6 (Raise pH to 12 and retain at 11.5)
- Option 7 (75 percent solids with no unstabilized solids)
- Option 8 (90 percent solids with unstabilized solids)
- None

Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce vector attraction properties of sewage sludge.

\_\_\_\_\_

g. Does the receiving facility provide any additional treatment or blending activities not identified in (c) or (d) above?  Yes  No

If yes, describe, on this form or another sheet of paper, the treatment or blending activities not identified in (c) or (d) above:

\_\_\_\_\_

h. If you answered yes to (e), (f), or (g), 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).

i. 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

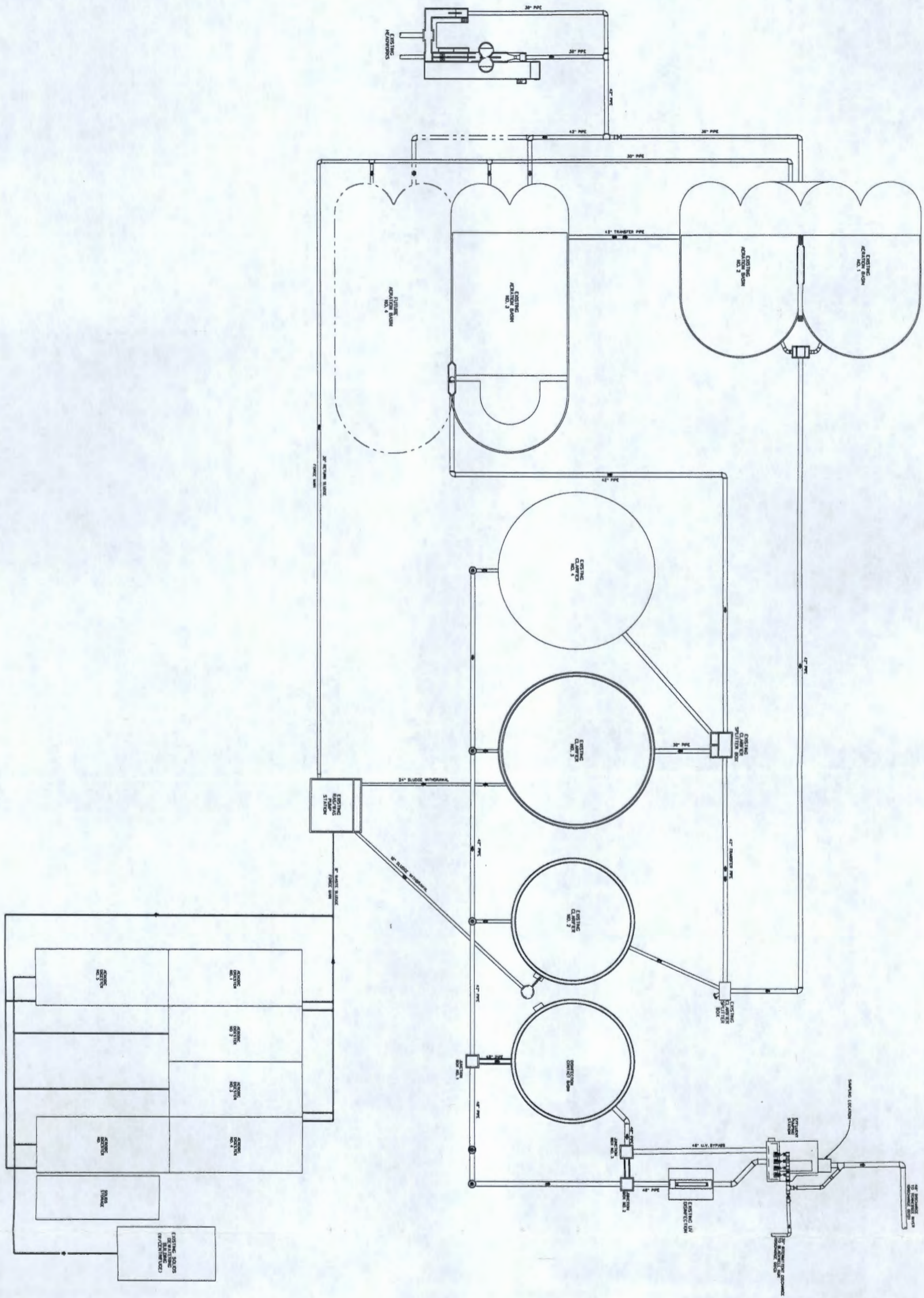
If yes, provide a copy of all labels or notices that accompany the product being sold or given away.

**Complete Section B.7 if sewage sludge from your facility is applied to the land, unless the sewage sludge is covered in:**

- Section B.4 (it meets Table 1 ceiling concentrations, Table 3 pollutant concentrations, Class A pathogen requirements, and one of vector attraction reduction options 1-8); or
- Section B.5 (you place it in a bag or other container for sale or give-away for application to the land); or
- Section B.6 (you send it to another facility for treatment or blending).

**7. Land Application of Bulk Sewage Sludge.**

a. Total dry metric tons per 365-day period of sewage sludge applied to all land application sites: 500.00 dry metric tons

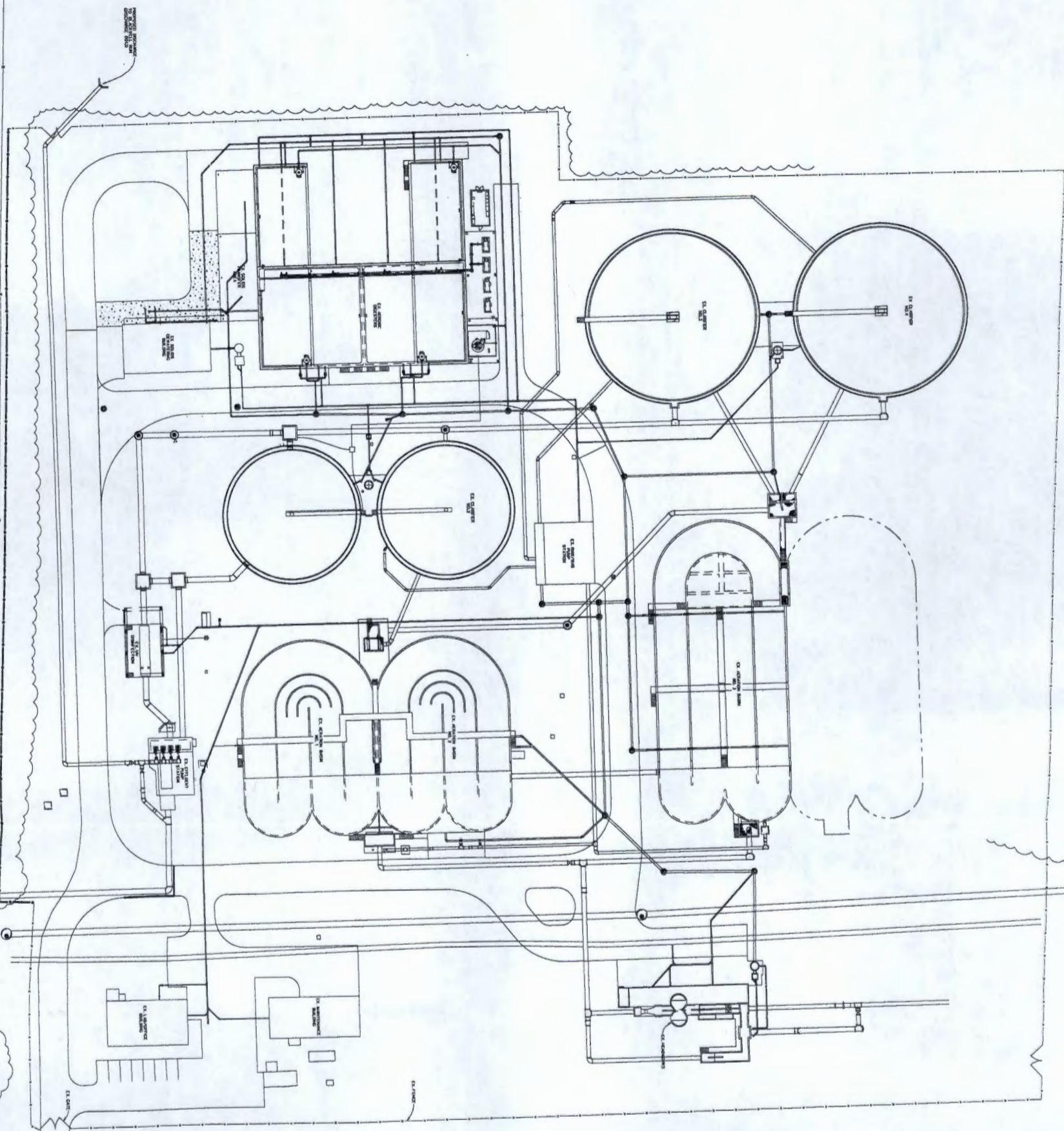


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SHEET TITLE		PROCESS FLOW SCHEMATIC	
SHEET NO.		PROJECT NO.	18006
C0-03		SCALE	NO SCALE
		DATE	09-04-18

MADISON UTILITIES BOARD  
 MADISON WWTP PERMIT  
 MADISON, ALABAMA





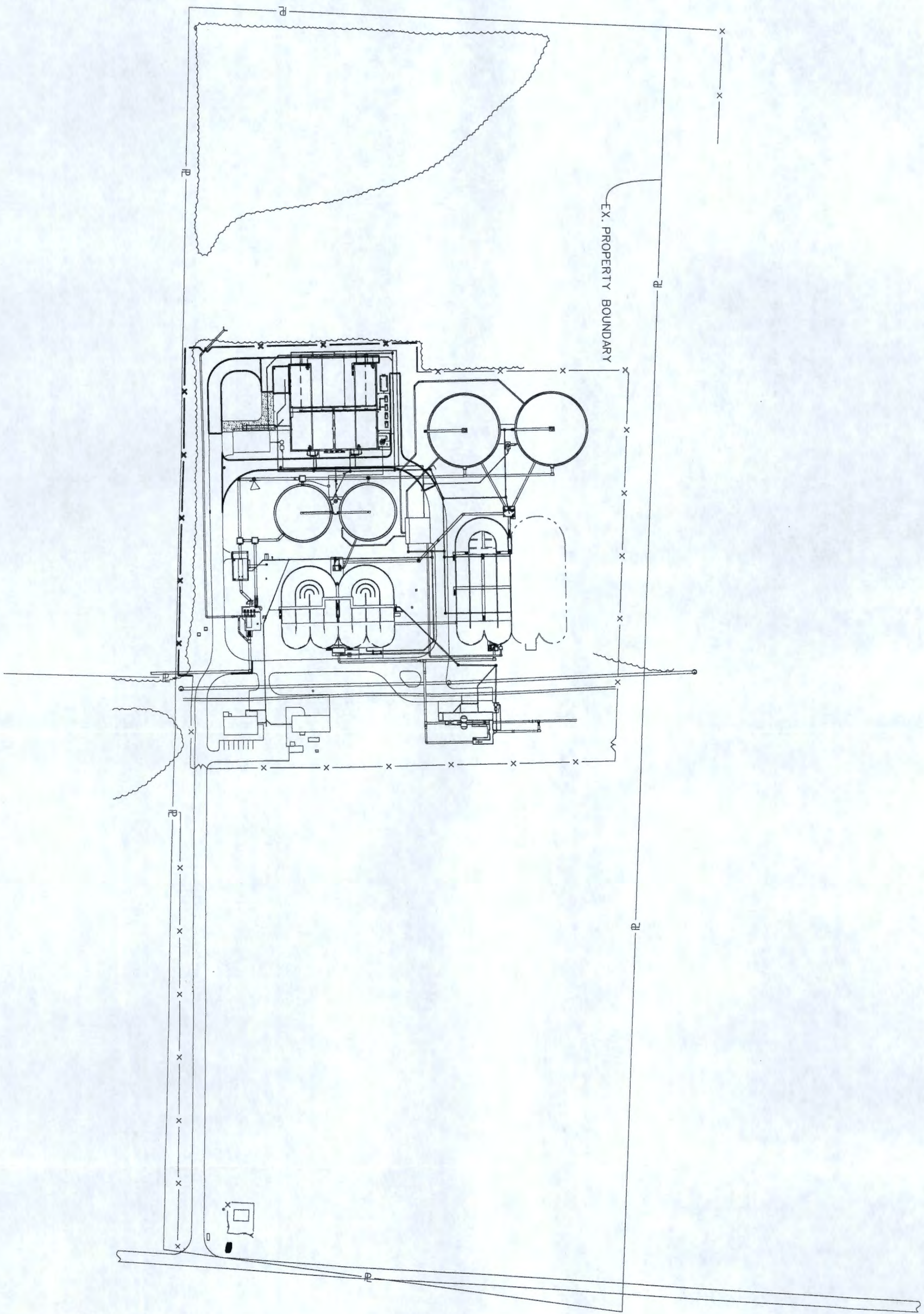
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SHEET TITLE		OVERALL SITE MAP	
SHEET NO.	C0-04	PROJECT NO.	18006
		SCALE	1" = 100'
		DATE	09-04-18

MADISON UTILITIES  
MADISON WWTP PERMIT  
MADISON, AL







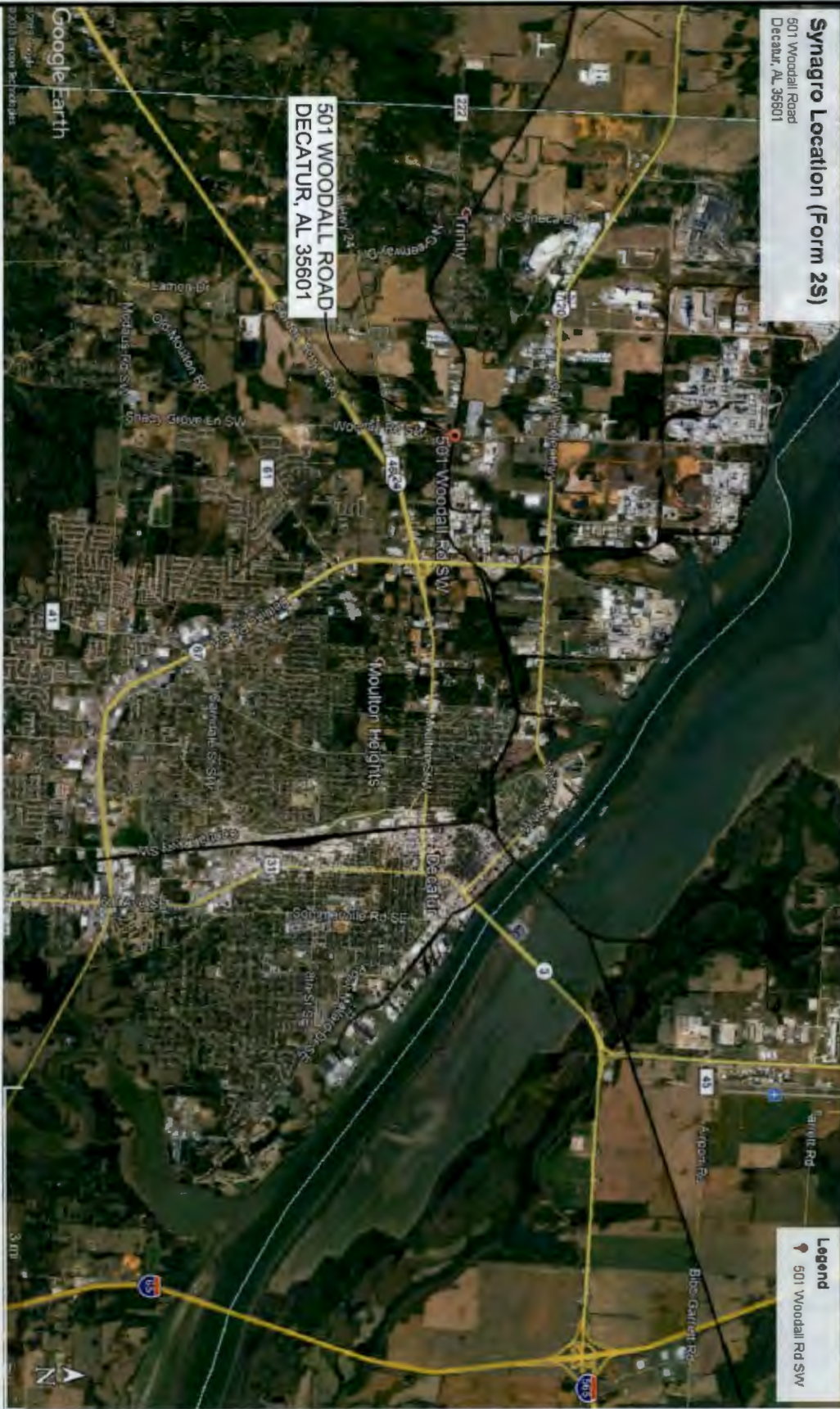
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SHEET TITLE	
PROPERTY BOUNDARY MAP	
SHEET NO.	PROJECT NO. 18006
C0-02	SCALE 1" = 200
	DATE 09-04-18

MADISON UTILITIES  
MADISON WWTP PERMIT  
MADISON, AL

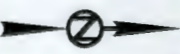


**Synagro Location (Form 2S)**  
501 Woodall Road  
Decatur, AL 35601



**501 WOODALL ROAD  
DECATUR, AL 35601**

**Legend**  
501 Woodall Rd SW



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T TITLE	
SYNAGRO LOCATION MAP	
SHEET NO	PROJECT NO 18006
C1-01	SCALE NO SCALE
	DATE SEPT, 2018

MADISON UTILITIES  
MADISON WWTP PERMIT  
MADISON, AL



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

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

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

**PURPOSE OF THIS APPLICATION**

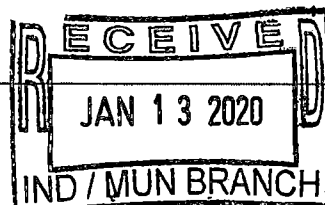
- Initial Permit Application for New Facility\*  
 Modification of Existing Permit  
 Revocation & Reissuance of Existing Permit

- Initial Permit Application for Existing Facility\*  
 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: Madison Wastewater Treatment Plant  
 a. Operator Name: Water and Wastewater Board of the City of Madison  
 b. Is the operator identified in A.1.a, the owner of the facility?  Yes  No  
 If no, provide name and address of the operator and submit information indicating the operator's scope of responsibility for the facility.  
 \_\_\_\_\_  
 \_\_\_\_\_  
 c. Name of Permittee\* if different than Operator: \_\_\_\_\_  
 \*Permittee will be responsible for compliance with the conditions of the permit
2. NPDES Permit Number: AL 0071897 (Not applicable if initial permit application)
3. Facility Physical Location: (Attach a map with location marked; street, route no. or other specific identifier)  
 Street: 701 Landess Circle  
 City: Madison County: Madison State: AL Zip: 35756  
 Facility Location (Front Gate): Latitude: 34 34' 10.84" Longitude: 86 46' 02.47"
4. Facility Mailing Address: 101 Ray Sanderson Drive  
 City: Madison County: Madison State: AL Zip: 35758
5. Responsible Official (as described on last page of this application):  
 Name and Title: Mark Bland, Wastewater Manager  
 Address: 101 Ray Sanderson Drive  
 City: Madison State: AL Zip: 35758  
 Phone Number: 256-772-0253 Email Address: mbland@madisonutilities.org



6. Designated Facility/DMR Contact:

Name and Title: Mark Bland, Wastewater Manager  
Phone Number: 256-772-0253 Email Address: mbland@madisonutilities.org

7. Designated Emergency Contact:

Name and Title: Chris West, Chief Wastewater Operator  
Phone Number: 256-774-3542 Email Address: cwest@madisonutilities.org

8. 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.5.

Name and Title: NA  
Address: NA  
City: NA State: NA Zip: NA  
Phone Number: NA Email Address: NA

9. Permit numbers for Applicant's previously issued NPDES Permits and identification of any other State Environmental Permits presently held by the Applicant within the State of Alabama:

<u>Permit Type</u>	<u>Permit Number</u>	<u>Held By</u>
<u>General Permit</u>	<u>ALG640073</u>	<u>Madison Utilities</u>
<u>WWTP</u>	<u>AL0071897</u>	<u>Madison Utilities</u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>

10. 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):

<u>Facility Name</u>	<u>Permit Number</u>	<u>Type of Action</u>	<u>Date of Action</u>
<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>

**SECTION B – WASTEWATER DISCHARGE INFORMATION**

1. List the following historical monthly flow rates recorded for the past five years for each outfall:

Outfall No.	Highest Flow in Last 12 Months (MGD)	Highest Daily Flow (MGD)	Average Flow (MGD)
0012	17.22	18.49	6.19
0013	N/A - requesting this	outfall per this permit	application

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

3. Do you share an outfall with another facility?  Yes  No (If no, continue to B.4)

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?
NA	NA	NA	NA

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

<b>Current:</b>	Flow Metering	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Sampling Equipment	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<b>Planned:</b>	Flow Metering	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
	Sampling Equipment	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> 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:

See Flow Schematic

5. 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

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

NA

**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
NA	NA

Describe the location of any sites used for the ultimate disposal of solid or liquid waste materials or residuals (e.g. sludges) generated by any wastewater treatment system located at the facility.

Description of Waste	Quantity (lbs/day)	Disposal Method*

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

**SECTION D – INDUSTRIAL INDIRECT DISCHARGE CONTRIBUTORS**

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

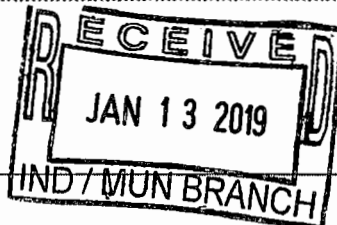
Company Name	Description of Industrial Wastewater	Existing or Proposed	Flow (MGD)	Subject to SID Permit?	
Accurate Machine and Tool	Metals from processing (IU084500556)	Existing	800 gallons per day	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
				<input type="checkbox"/> Yes	<input type="checkbox"/> No
				<input type="checkbox"/> Yes	<input type="checkbox"/> No
				<input type="checkbox"/> Yes	<input type="checkbox"/> No

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



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**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 other 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?

This second intermittently used discharge point will reduce the need for a second diffuser structure to be constructed in the Tenn. River to accommodate peak flow events.

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

NA

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

NA

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

NA

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

NA

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

Eliminating the environmental impact of construction in the TN River

---

**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. All applicants must submit Form 1.
2. 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.
3. Applicants for new or existing land application of sanitary wastewater must submit Form 2A and, if the land application site is not completely bermed to prevent runoff, applicants must also submit Form 2F.
4. Applicants for new and existing discharges of process wastewater from water treatment facilities (i.e. public water supply treatment plants) must submit Form 2C.
5. 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**

Any Engineering Report or Best Management Practice (BMP) Plans required to be submitted to ADEM by the applicant must be in accordance with ADEM 335-6-6-.08(i) & (j).

**SECTION I- RECEIVING WATERS**

Outfall No.	Receiving Water(s)	303(d) Segment?		Included in TMDL?*	
0012	Tennessee River	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
0013	Blackwell Run	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> 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: Mark Bland Date Signed: 10-31-18

Name and Title: Mark Bland Wastewater Manager

If the Responsible Official signing this application is not identified in Section A.5 or A.8, provide the following information:

Mailing Address: \_\_\_\_\_

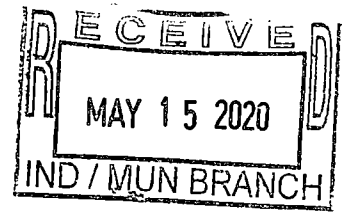
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Email Address: \_\_\_\_\_

**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.





## Attachment 1 to Supplementary Form ADEM Form 311

### *Alternatives Analysis*

*Applicant/Project:* \_\_\_\_\_ Water and Wastewater Board of the City of Madison/Madison Secondary Discharge

All new or expanded discharges (except discharges eligible for coverage under general permits) covered by the NPDES permitting program are subject to the provisions of ADEM's antidegradation policy. Applicants for such discharges to Tier 2 waters are required to demonstrate "... that the proposed discharge is necessary for important economic or social development." As a part of this demonstration, the applicant must complete an evaluation of the discharge alternatives listed below, including a calculation of the total annualized project costs for each technically feasible alternative (using ADEM Form 312 for public-sector projects and ADEM Form 313 for private-sector projects). Alternatives with total annualized project costs that are less than 110% of the total annualized project costs for the Tier 2 discharge proposal are considered viable alternatives.

Alternative	Viable	Non-Viable	Comment
1 Land Application		X	Not feasible to land apply 8 MGD
2 Pretreatment/Discharge to POTW		X	Not feasible due to nearby POTW not able to accept additional flows during peak events
3 Relocation of Discharge		X	Relocation is not needed or desired. See Form 412.
4 Reuse/Recycle		X	Users for reuse water are limited and flows would exceed needs of reuse users.
5 Process/Treatment Alternatives		X	The treatment processes are optimized to meet the current discharge limits.
6 On-site/Sub-surface Disposal		X	Not feasible - water table is likely too high
<i>(other project-specific alternatives considered by the applicant; attach additional sheets if necessary)</i>			
7 Build larger effluent pump station		X	Cost. See Form 412
8 Build a new diffuser in the TN River		X	Cost. See Form 412
9 Add second intermittent discharge	X		Chosen alternative based on reduced environmental impact and cost

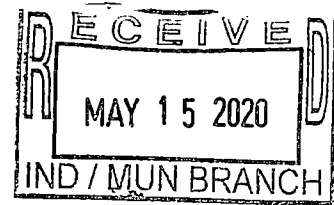
Pursuant to ADEM Administrative Code Rule 335-6-3-.04, I certify on behalf of the applicant that I have completed an evaluation of the discharge alternatives identified above, and reached the conclusions indicated.

Signature: \_\_\_\_\_  
(Professional Engineer)

Date: 5/15/2020

*(Supporting documentation to be attached, referenced, or otherwise handled as appropriate.)*





### **Land Application**

Land application for the required discharge flows from Madison's WWTP is not viable. Land application (spray fields) is typically used for smaller package type systems. Furthermore, Madison Utilities (MU) does not own enough land around the WWTP to accommodate land application.

### **Pretreatment/Discharge to POTW**

Pretreatment and discharge to a POTW is not viable. This alternative is generally used for industrial or private discharge permit applicants. Due to the location of MU's WWTP to a neighboring utilities WWTP, this could be thought to be a viable option. However, the nearby POTW has stated they cannot accept additional flows during peak events which is when the requested intermittent discharge is needed.

### **Relocation of Discharge**

Relocation of the existing discharge is not viable. MU's existing discharge into the Tennessee River is a desired location. Relocating the discharge would not effectively solve MU's intermittent discharge needs, because the outfall flow rate into the Tennessee River is largely based on the elevation of the river. During heavy rains when WWTP flows increase, the elevation of the Tennessee River rises and reduces the amount of effluent that can flow to the river. This is also cost prohibitive. It would cost approximately \$5,000,000 to relocate MU's discharge.

### **Reuse/Recycle**

Recycle/Reuse for the required discharge flows from Madison's WWTP is not viable. MU does not have an industrial customer nearby that could use the amount of reuse discharge (8 MGD). The customer based would likely be agriculture and residential irrigation. Because the higher flows typically occur in the winter when the discharge will likely be used, agriculture and residential irrigation is not needed during this time of year. This results in MU not having an end user for reuse discharge.

### **Process/Treatment Alternatives**

Process and treatment alternatives that were considered are surge basin storage on the influent or effluent side of the WWTP. Due to the flows that would need to be stored (8 MGD) this was not considered to be a viable option. The tankage or basins required to store this amount for several days of high flows cannot be feasibly built on the property owned by MU.

### **Onsite/Subsurface Disposal**

Onsite/Subsurface for the required discharged flows (8 MGD) is not viable. This type of discharge is typically used for smaller package type WWTPs. Furthermore, the attached geotechnical drill log is on MU's WWTP site and shows the groundwater table to be approximately 2-feet which would be prohibitive for subsurface disposal.

FEB 12 2020

**BORING LOG NO. B-2**

Page 1 of 1

**PROJECT:** Madison WWTP Clarifier No.4


**CLIENT:** Madison Water and Wastewater Board  
Birmingham, Alabama

**SITE:** 689 Landess Circle  
Madison, Alabama

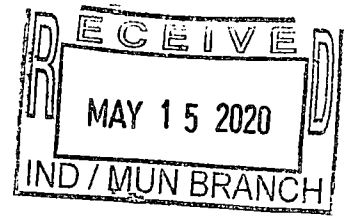
GRAPHIC LOG	LOCATION See Exhibit A-2	DEPTH (FL)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS	
							LL-PL-PI	PERCENT FINES
	Surface Elev.: 566 (Ft.) ELEVATION (Ft.)							
	DEPTH							
	TOPSOIL AND SILT				1-1-2 N=3	28		
	3.5	562.5			3-4-8 N=12	27		
	FAT CLAY WITH SAND (CH), light brown streaked with gray, stiff				4-6-8 N=14	23		
	8.0	558			4-7-9 N=16	26		
	FAT CLAY WITH LIMESTONE GRAVEL (CH), light brown mottled with red and gray, very stiff				5-8-14 N=22			
	18.0	548			2-4-7 N=11			
	FAT CLAY WITH LIMESTONE GRAVEL (CH), grayish brown, stiff							
	22.5	543.5						
	Auger Refusal at 22.5 Feet							

Stratification lines are approximate. In-situ, the transition may be gradual.

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT.

Advancement Method: Hollow-stem augers	See Exhibit A-3 for description of field procedures. See Appendix B for description of laboratory procedures and additional data (if any).	Notes:	
Abandonment Method: Borings backfilled with soil cuttings upon completion.	See Appendix C for explanation of symbols and abbreviations.		
<b>WATER LEVEL OBSERVATIONS</b>		Boring Started: 5/24/2013	Boring Completed: 5/24/2013
<input checked="" type="checkbox"/> Water level measured after 4 days		Drill Rig: Mobile S-47	Driller: South Brothers
		Project No.: E1135084	Exhibit: A-5

Alternate No. 3 (Same as Alternate No. 8 from cost standpoint.)



**Calculation of Total Annualized Project Costs  
for Public-Sector Projects**

**A. Capital Costs**

Capital Cost of Project	\$ 5,000,000.00	
Other One-Time Costs of Project (Please List, if any)		
Engineering and Construction Review Fees	\$ 500,000.00	
Permitting	\$ 50,000.00	
Survey & Geotechnical Investigation	\$ 15,000.00	
<b>Total Capital Costs (Sum column)</b>	\$ 5,565,000.00	(1)
Portion of Capital Costs to be Paid for with Grant Monies	\$ 0.00	(2)
Capital Costs to be Financed [Calculate: (1) – (2) ]	\$ 5,565,000.00	(3)
Type of Financing (e.g., G.O. bond, revenue bond, bank loan)	Bond	
Interest Rate for Financing (expressed as decimal)	.0375 - .0500	(i)
Time Period of Financing (in years)	30	(n)
Annualization Factor = $\frac{i}{(1+i)^n - 1} + i$	.0561 - .0651	(4)
<b>Annualized Capital Cost [Calculate: (3) x (4) ]</b>	\$312,197 - \$362,282	(5)

**B. Operating and Maintenance Costs**

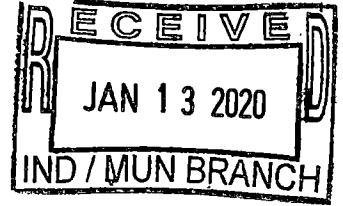
Annual Costs of Operation and Maintenance (including but not limited to: monitoring, inspection, permitting fees, waste disposal charges, repair, administration and replacement.) (Please list below.)

_____	\$	
_____	\$	
_____	\$	
_____	\$	
<b>Total Annual O &amp; M Costs (Sum column)</b>	\$	(6)

**C. Total Annual Cost of Pollution Control Project**

Total Annual Cost of Pollution Control Project [ (5) + (6) ]	\$ 312,197 - \$362,282	(7)
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Alternate No. 7



**Calculation of Total Annualized Project Costs  
for Public-Sector Projects**

**A. Capital Costs**

Capital Cost of Project	\$ 1,200,000.00	
Other One-Time Costs of Project (Please List, if any)		
Engineering and Construction Review Fees	\$ 300,000.00	
Survey	\$ 5,000.00	
Geotechnical Investigation	\$ 5,000.00	
<b>Total Capital Costs (Sum column)</b>	\$ 1,510,000.00	(1)
Portion of Capital Costs to be Paid for with Grant Monies	\$ 0.00	(2)
Capital Costs to be Financed [Calculate: (1) - (2) ]	\$ 1,510,000.00	(3)
Type of Financing (e.g., G.O. bond, revenue bond, bank loan)	Bond	
Interest Rate for Financing (expressed as decimal)	.0375 - .0500	(i)
Time Period of Financing (in years)	30	(n)
Annualization Factor = $\frac{i}{(1+i)^n - 1} + i$	.0561 - .0651	(4)
<b>Annualized Capital Cost [Calculate: (3) x (4) ]</b>	\$84,692 - \$98,228	(5)

**B. Operating and Maintenance Costs**

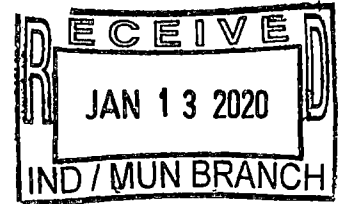
Annual Costs of Operation and Maintenance (including but not limited to: monitoring, inspection, permitting fees, waste disposal charges, repair, administration and replacement.) (Please list below.)

O&M Costs for Pumps and Flow Monitoring Equipment	\$ 25,000.00	
	\$	
	\$	
	\$	
<b>Total Annual O &amp; M Costs (Sum column)</b>	\$ 25,000.00	(6)

**C. Total Annual Cost of Pollution Control Project**

Total Annual Cost of Pollution Control Project [ (5) + (6) ]	\$ 109,692 - \$123,228	(7)
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Alternate No. 8



**Calculation of Total Annualized Project Costs  
for Public-Sector Projects**

**A. Capital Costs**

Capital Cost of Project	\$ 5,000,000.00	
Other One-Time Costs of Project (Please List, if any)		
Engineering and Construction Review Fees	\$ 500,000.00	
Permitting	\$ 50,000.00	
Survey & Geotechnical Investigation	\$ 15,000.00	
<b>Total Capital Costs (Sum column)</b>	<b>\$ 5,565,000.00</b>	<b>(1)</b>
Portion of Capital Costs to be Paid for with Grant Monies	\$ 0.00	(2)
Capital Costs to be Financed [Calculate: (1) - (2) ]	\$ 5,565,000.00	(3)
Type of Financing (e.g., G.O. bond, revenue bond, bank loan)	Bond	
Interest Rate for Financing (expressed as decimal)	.0375 - .0500	(i)
Time Period of Financing (in years)	30	(n)
Annualization Factor = $\frac{i}{(1+i)^n - 1} + i$	.0581 - .0651	(4)
<b>Annualized Capital Cost [Calculate: (3) x (4) ]</b>	<b>\$312,197 - \$362,282</b>	<b>(5)</b>

**B. Operating and Maintenance Costs**

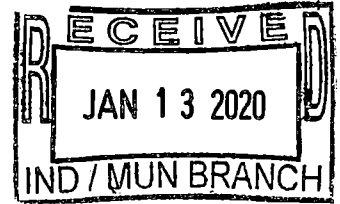
Annual Costs of Operation and Maintenance (including but not limited to: monitoring, inspection, permitting fees, waste disposal charges, repair, administration and replacement.) (Please list below.)

_____	\$	
_____	\$	
_____	\$	
_____	\$	
<b>Total Annual O &amp; M Costs (Sum column)</b>	<b>\$</b>	<b>(6)</b>

**C. Total Annual Cost of Pollution Control Project**

Total Annual Cost of Pollution Control Project [ (5) + (6) ]	<b>\$ 312,197 - \$362,282</b>	<b>(7)</b>
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Alternate No. 9 (Chosen)



**Calculation of Total Annualized Project Costs  
for Public-Sector Projects**

**A. Capital Costs**

Capital Cost of Project	\$ 155,000.00	
Other One-Time Costs of Project (Please List, if any)		
Engineering and Construction Review Fees	\$ 20,000.00	
Surveying	\$ 5,000.00	
	\$	
<b>Total Capital Costs (Sum column)</b>	\$ 180,000.00	(1)
Portion of Capital Costs to be Paid for with Grant Monies	\$ 0.00	(2)
Capital Costs to be Financed [Calculate: (1) - (2) ]	\$ 180,000.00	(3)
Type of Financing (e.g., G.O. bond, revenue bond, bank loan)	Bond	
Interest Rate for Financing (expressed as decimal)	.0375 - .0500	(i)
Time Period of Financing (in years)	30	(n)
Annualization Factor = $\frac{i}{(1+i)^n - 1} + i$	.0561 - .0651	(4)
<b>Annualized Capital Cost [Calculate: (3) x (4) ]</b>	\$10,098 - \$11,718	(5)

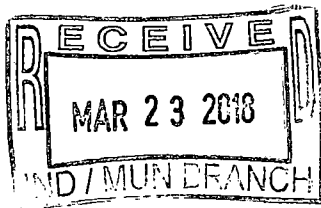
**B. Operating and Maintenance Costs**

Annual Costs of Operation and Maintenance (including but not limited to: monitoring, inspection, permitting fees, waste disposal charges, repair, administration and replacement.) (Please list below.)

_____	\$	
_____	\$	
_____	\$	
_____	\$	
<b>Total Annual O &amp; M Costs (Sum column)</b>	\$	(6)

**C. Total Annual Cost of Pollution Control Project**

Total Annual Cost of Pollution Control Project [ (5) + (6) ]	\$ 10,098- \$11,718	(7)
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March 9, 2018

Nicholas Lowe  
Alabama Department of Environmental Management  
1400 Coliseum Blvd.  
Montgomery, AL 36110

Re: Madison Utilities Wastewater Treatment Plant Secondary Discharge  
Contract Job No. 16064

Dear Nicholas:

On behalf of Madison Utilities (MU), the purpose of this letter is to request that ADEM evaluate the feasibility and permit limits for an additional intermittent discharge at the Madison Wastewater Treatment Plant (WWTP). Currently, the Madison WWTP effluent is conveyed through approximately 1.4 miles of 42-inch gravity pipe and discharged into the Tennessee River. Occasionally, when the river is in a high flood stage and WWTP flows are also high, the WWTP effluent must be pumped via an existing effluent pump station in the same existing 42-inch discharge pipe. Since the WWTP was constructed, the effluent pump station has only been used 2 times (one of those times occurring in the last 10 years), so these circumstances are infrequent/rare.

The Madison WWTP has the following capacity and flow characteristics:

- Permitted Capacity: 8.25 MGD
- Average Monthly Flow: 6.1 MGD (approximate)
- Max Daily Flow: 18.5 MGD (approximate)
- Capacity of 42-inch Gravity Effluent Pipe at Summer Pool: 24 MGD (approximate)
- Capacity of Existing Effluent PS and 42-Inch Effluent Pipe: 20 MGD (approximate)

There are substantial maintenance costs associated with the existing effluent pump station, and its configuration is such that it may be contributing to E-coli re-growth issues that MU has experienced in recent years. Therefore, MU recently developed plans and received bids to replace the existing effluent pumping station with a new effluent pumping station. The cost for the new effluent pumping station is significant (approximately \$1.5 Million), particularly since it is rarely needed. As a result, MU engaged Krebs to evaluate the possibility of adding a second intermittent discharge into Blackwell Run on the south/west side of the WWTP site (see attached map) in lieu of constructing a new effluent pumping station.

The Blackwell Run discharge will be designed such that it would only carry the excess flow that cannot be carried in the existing 42-inch effluent pipe. It would consist of an overflow box (with weir and meter) installed on the existing 42-inch effluent pipe, and a short section of new 42-inch effluent pipe between the overflow box and the Blackwell Run discharge point. The base flow (up



Nicholas Lowe  
March 9, 2018  
Page 2

to approximately 24 MGD) would continue to be discharged through the existing 42-inch pipe into the Tennessee River, so the Blackwell Run discharge would only be used intermittently for short periods of time during major flood events. Based on historical flow data, the Blackwell Run discharge flow should be within a range of 1 MGD to 6 MGD, depending on the elevation of the Tennessee River.

We appreciate your time in reviewing this. If you have any questions or comments, please do not hesitate to contact us. We look forward to receiving ADEM's determination on this matter.

Sincerely yours,

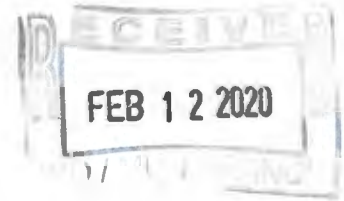
Krebs Engineering, Inc.

By           *Caleb L. Leach*          

Caleb L. Leach, P.E.  
Sr. Project Engineer

Enclosure

cc: Mark Bland, Chris West, Mark Smith  
Krebs File No. 16064



February 12, 2020

Nicholas Lowe  
Alabama Department of Environmental Management  
1400 Coliseum Boulevard  
Montgomery, AL 36110

Re: Madison WWTP Permit No. AL 0071987 – Request for Secondary Intermittent Discharge to Blackwell Run  
Krebs Job No. 20006

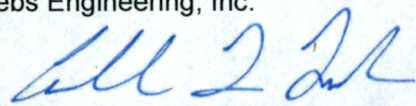
Dear Nicholas:

The following letter is submitted on behalf of Madison Utilities (MU) to clarify the request for the secondary intermittent discharge to Blackwell Run. Currently, MU either flows by gravity or pumps effluent flows to the Tennessee River outfall. Both the gravity and pumped effluent flows share a 42-inch outfall pipe and diffuser into the Tennessee River. The pumps are only used during times when flows to WWTP and the Tennessee River water surface elevation are high. The pumps have been used less than 10 times since the WWTP was put into operation in 2001. The request for the second intermittent discharge will allow MU to maximize the flow to the Tennessee River by gravity and send additional flows to Blackwell Run during high WWTP flows and high water levels in the Tennessee River. Piping modifications and additions at the existing Effluent Pump Station will repurpose the existing pumps to pump to Blackwell Run while allowing the maximum amount of flow to continue to the Tennessee River outfall. This will increase MU's effluent flow capacity. This discharge will be used on an as needed basis. As noted above, historically the use of the pumps has been rare. With the modifications at the existing Effluent Pump Station, MU will retain the ability (by valving) to pump flows to the Tennessee River as it currently does if needed/desired.

As documented in Form 311, MU has considered and vetted other options and shown the secondary intermittent discharge is the best solution. We appreciate ADEM's review, consideration, and subsequent approval of this discharge. If you have any questions or comments, do not to hesitate to contact us. We will be happy to schedule a meeting in needed to discuss.

Sincerely yours,

Krebs Engineering, Inc.

By 

Caleb L. Leach, P.E.  
Senior Project Engineer

cc: Mark Bland  
Krebs File No. 20006

**REQUIRED INFORMATION FOR MIXING ZONE MODELING**

**GENERAL INFORMATION**

1. Applicant Name: <u>Madison Utilities</u>	<b>RECEIVED</b> <b>MAY 01 2019</b> <b>IND / MUN BRANCH</b>
2. Permit No.: <u>AL0071897</u>	
3. Project Name (if different from applicant): _____	
4. Contact name and phone number: <u>Mark Bland - 256-772-0253</u>	
5. Date submitted: <u>May 1, 2019</u>	
5. Facility type (new, existing or upgrade): <u>Existing</u>	

**AMBIENT CONDITIONS**

1. Receiving waterbody: <u>Tennessee River</u>
2. Width of waterbody at discharge point (m): <u>410</u>
3. Depth of waterbody at discharge point (m): <u>9.1</u>
4. Average depth of waterbody at discharge point (m): <u>9.1</u>

**DISCHARGE TYPE:**

Submerged endpipe or submerged multiport diffuser? Submerged

Effluent Density (kg/m<sup>3</sup>): 997

**Note:** Fill out box A below for endpipe discharges; box B for diffuser discharges.

**A. DISCHARGE CONDITIONS FOR SUBMERGED ENDBPIPE DISCHARGES**

1. Nearest bank (right or left) to the outfall looking downstream: <u>NA</u>	
2. Distance from nearest bank to discharge (m): <u>NA</u>	
3. Endpipe diameter (m): <u>NA</u>	4. Contraction ratio (if known): <u>NA</u>
5. Height of discharge above stream bottom (m): <u>NA</u>	
6. Effluent flow rate (mgd): <u>NA</u>	

**B. DISCHARGE CONDITIONS FOR SUBMERGED MULTIPORT DIFFUSERS**

<b>NOTE:</b> Diffuser length is defined as the distance between the first and last diffuser ports.	
1. Diffuser length (m): <u>19.8</u>	
2. Nearest bank (right or left) to the outfall looking downstream: <u>right</u>	
3. Distance from nearest bank to first diffuser port (m): <u>91.4</u>	
4. Total number of ports: <u>13</u>	5. Diameter of a single port (m): <u>0.4</u>
6. Distance between adjacent ports (i.e., port spacing, m): <u>1.52</u>	
7. Height of ports above stream bottom (m): <u>.3048</u>	
8. Port contraction ratio (if known): _____	
9. Diameter of diffuser manifold (m): <u>1.0668</u>	
10. Effluent flow rate (mgd): <u>Average Flow - 6.2 MGD</u>	

**SPECIAL REQUIREMENTS**

1. Please submit a map displaying the outfall location along with the appropriate latitude/longitude coordinates.
2. Please submit the appropriate engineering plans that depict the outfall configuration.



OUTFALL LOCATION  
34°33'11.53"N  
86°45'42.72"W

Blackwell Run

Cowan Rd

Landess Cir

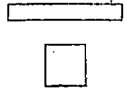
Wall-Triana Hwy

Mitchell Pond

Madder Branch Rd

Truck Branch  
Madder Branch

3-DISTRICT/PROJECT/DATE 1-13/19/13/13/13/13/13



**Goodwin, Mills & Carwood, Inc.**  
 ENGINEERS  
 ARCHITECTS  
 ENVIRONMENTAL SCIENTISTS  
 PLANNERS

124 West Park Drive, #200  
 Madison, TN 37102  
 Phone: (615) 251-1200  
 Fax: (615) 251-1100

112 West 87th Street  
 New York, NY 10024  
 Phone: (212) 878-1100  
 Telex: 252 878-1100



**Madison  
 WWTP  
 Outfall  
 and  
 Diffuser**

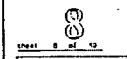
The City of Madison  
 Water & Wastewater  
 Board

**B-1-004**

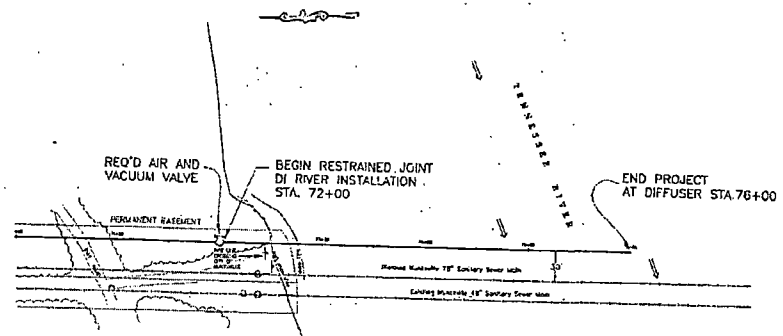
Horizontal Scale: 1" = 50'  
 Vertical Scale: 1" = 10'

Issue	Date
Quantity	
Price	02/19/07
Engineer	YCS
Drawn by	102

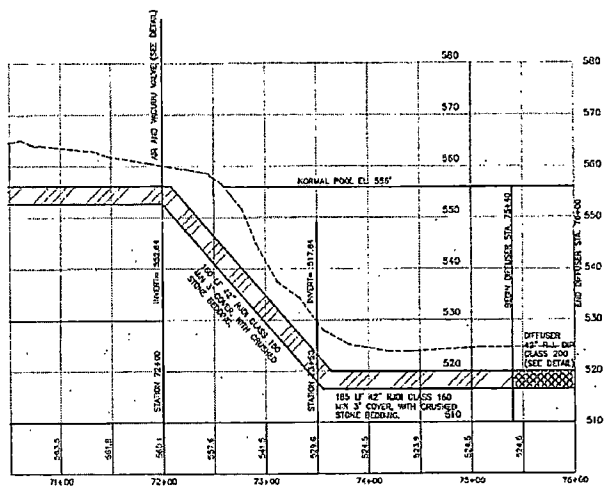
**Plan  
 &  
 Profile**

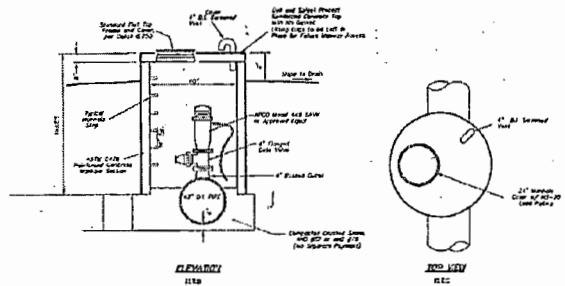


Sheet 8 of 13

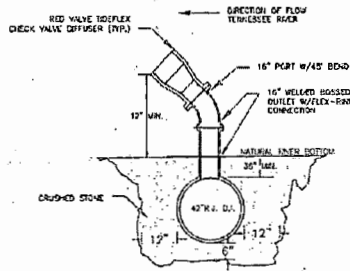


ALL EXISTING UTILITIES SHOWN ABOVE AND BELOW  
 GROUND ARE APPROXIMATE AND ARE NOT NECESSARILY  
 ALL THAT EXIST. THE DETERMINATION OF THE EXISTENCE  
 AND THE LOCATION OF ALL UTILITIES SHALL BE  
 THE RESPONSIBILITY OF THE CONTRACTOR.





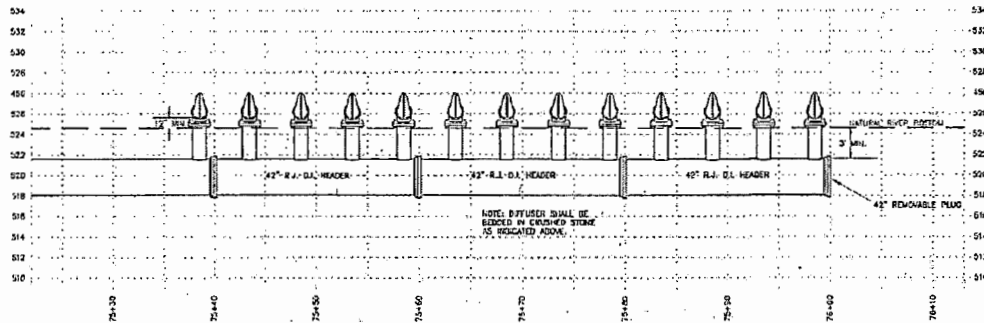
AIR AND VACUUM VALVE DETAIL



DIFFUSER DETAIL

1. CONTRACTOR SHALL REESTABLISH NATURAL RIVER BOTTOM CONTROLS. EXCESS CUT MATERIAL SHALL BE AWAY AND DISPOSED OFF-SITE ABOVE THE 507.5' ELEVATION.
2. LENGTH OF 10' RISER TO SUIT RIVER BOTTOM TO PROVIDE MINIMUM 12" CLEARANCE.
3. DIFFUSER SHALL BE 42" DUCTILE IRON RESTRAINED ABOVE P.C. CLASS 200.
4. DIFFUSER SHALL BE A TOTAL OF 60' LONG. 16" PORTS SHALL BE PLACED AT 5' SEPARATION FOR A TOTAL OF 13 PORTS.

TENNESSEE RIVER (LOOKING UPSTREAM)  
NORMAL WHITE POOL EL. 554'



SCALE:  
HORIZ: 1"=5'  
VERT: 1"=5'

GOODWIN, MILLS  
& INC.

ENGINEERING  
ARCHITECTURE  
SURVEYING  
CONSTRUCTION

125 HICKORY LANE  
MEMPHIS, TENNESSEE 38103  
PH: 901-525-1100  
FAX: 901-525-1101  
WWW.GMI-INC.COM



Madison  
WWTP  
Outfall  
and  
Diffuser

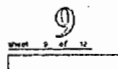
The City of Madison  
Water & Wastewater  
Board

B-1-004

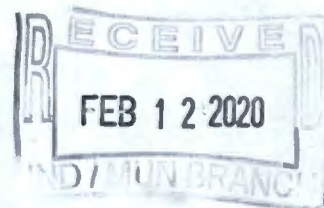
Horizontal Scale: n.s.  
Vertical Scale:

Issue Date	
Prepared by	
Drawn by	10/1/2004
Checked by	
Engineer	MS
Drawn by	SD

Dotello



DATE: 10/1/04 11:51 AM



July 11, 2008

Mr. Jeff Taylor  
Madison Water and Wastewater Board  
101 Ray Sanderson Drive  
Madison, Alabama 35758

Re: Storm Water Discharge at Madison WWTP

Dear Mr. Taylor:

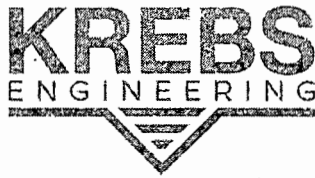
The purpose of this letter is to document and confirm that the wastewater treatment plant improvements that are currently under construction will eliminate the storm water piping and ditches on the treatment plant site. This will include some minor re-grading and the omission of some small drainage swales and rip rap. All storm water flow on the site will drain and exit the site via sheet flow. Therefore it is our opinion that there will no longer be a need for the storm water to be permitted or monitored. Please don't hesitate to call us with questions or comments.

Sincerely yours,

Krebs Architecture & Engineering, Inc.

By Mark A. Smith  
Mark A. Smith, P.E.  
Project Manager

Cc: Mr. Mark Bland, Mr. Clif Osborne  
Krebs File No. 07023/A1



October 29, 2018

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

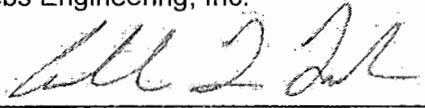
Re: Madison Utilities Wastewater Treatment Plant NPDES Permit No. AL0071897 Permit  
Renewal Application  
Krebs Job No. 18006

Dear Nicholas:

Please find the enclosed renewal application for Madison Utilities Wastewater Treatment Plant NPDES Permit. As discussed during previous correspondence, Madison Utilities desires to renew their existing discharge location (Tennessee River), and also add an intermittent use discharge location in Blackwell Run. The enclosed application reflects this requests. If you have any questions or need any additional information, do not hesitate to contact us. We appreciate your assistance in this process.

Sincerely yours,

Krebs Engineering, Inc.

By 

Caleb L. Leach, P.E.  
Senior Project Engineer

Cc: Emory DeBord, Mark Bland, Chris West  
Krebs File No. 18006



# ANALYTICAL REPORT

September 03, 2019

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Gl

<sup>7</sup> Al

<sup>8</sup> Sc

## City of Madison Water & Wastewater Board

Sample Delivery Group: L1132870

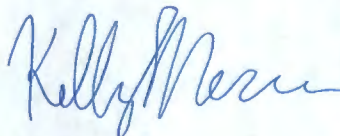
Samples Received: 08/26/2019

Project Number:

Description:

Report To: Mark Bland  
101 Ray Sanderson Drive  
Madison, AL 35758

Entire Report Reviewed By:



Kelly Mercer  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MT.JL-0067 and ENV-SOP-MT.JL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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Al: Accreditations & Locations	7
Sc: Sample Chain of Custody	8

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Gl

<sup>7</sup> Al

<sup>8</sup> Sc

# SAMPLE SUMMARY

ONE LAB. NATIONWIDE. 

SAMPLE L1132870-01 WW

Collected by  
CLIENT  
Collected date/time  
08/26/19 11:15  
Received date/time  
08/26/19 13:35

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method OIA-1677-09	WG1337723	1	08/30/19 13:41	08/30/19 13:41	SDH	Decatur, AL
Wet Chemistry by Method OIA-1677-09	WG1339018	1	09/03/19 11:54	09/03/19 11:54	SDH	Decatur, AL
Metals (ICP) by Method 200.7	WG1337445	1	08/29/19 20:29	08/30/19 08:57	TRB	Mt. Juliet, TN

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Gl

<sup>7</sup> Al

<sup>8</sup> Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Kelly Mercer  
Project Manager

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

Cn

<sup>5</sup> Sr

<sup>6</sup> Gl

<sup>7</sup> Al

<sup>8</sup> Sc

SAMPLE

Collected date/time: 08/26/19 11:15

SAMPLE RESULTS - 01

L1132870

ONE LAB. NATIONWIDE.



Wet Chemistry by Method OIA-1677-09

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Available Cyanide	ND		0.00200	1	08/30/2019 13:41	WG1337723
Cyanide,free	ND		0.00200	1	09/03/2019 11:54	WG1339018

1 Cp

2 Tc

3 Ss

Metals (ICP) by Method 200.7

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Arsenic,Dissolved	ND		0.0100	1	08/30/2019 08:57	WG1337445

4 Cn

5 Sr

6 Gl

7 Al

8 Sc



## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

**Results Disclaimer** - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
SDG	Sample Delivery Group.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 GI

7 AI

8 Sc

Qualifier	Description
-----------	-------------

	The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.
--	---

# ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

1 Cp

2 Tc

3 Ss

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8 Sc

## State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico <sup>1</sup>	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	90010	South Carolina	84004
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AJ30792	Tennessee <sup>1,4</sup>	2006
Louisiana <sup>1</sup>	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

## Third Party Federal Accreditations

A2LA - ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA - ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

## Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



ACCOUNT:

City of Madison Water & Wastewater Board

PROJECT:

SDG:

L1132870

DATE/TIME:

09/03/19 14:57

PAGE:

7 of 8



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256) 350-0846

www.pacenational.com

PAGE	1	of	1
Digester			
MADWWMAL			

COMPANY/CLIENT NAME Water & WW Bd City of Madison		CLIENT P.O. NUMBER		ENERSOLV PROJECT NUMBER		REQUESTED ANALYSES								
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHYSICAL ADDRESS 701 Landess Cirle		CITY/STATE/ZIP Madison, AL 35756										
CLIENT EMAIL mbland@madisonutilities.org		PHONE NUMBER 256-461-0845	OTHER INFORMATION											
SAMPLE COLLECTED BY <i>John Can</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)												
		DATE DUE (REQUIRED)												
Pace Analytical LAB NUMBER L1132870-01	SAMPLE DESCRIPTION			SAMPLE TRANSFER/GRAB DATE 8-26-19	SAMPLE TRANSFER/GRAB TIME 11:15	GRAB	COMP	ASD/C/P	DECCNF	DECCNA				

Comments: Collector to complete shaded areas, as applicable

SAMPLE TEMPERATURE RECEIVED @ 0-7

COMPOSITE SAMPLER INFO		FIELD INFORMATION					Qty	Type	Parameter
		SM 4500H+B	SM 4500-CI D	SM 4500-O G	SM 2550B		1	Poly Pint Cool 6c	Metals
Start Date	pH	TRC	DO	Temp			-1	8oz Amb Cool 6c NaOH	CNA, CNF
	su	mg/l	mg/l	deg C					
Start Time	Date	Date	Date	Date					
Stop Date	Time	Time	Time	Time					
Stop Time	Analyst	Analyst	Analyst	Analyst					

RELINQUISHED BY (SIGNATURE) <i>John Can</i>	DATE 8-26-19	TIME 1120	RELINQUISHED BY (SIGNATURE) <i>Michelle McWhorter</i>	DATE 8/24/19	TIME 1335	RELINQUISHED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE) <i>Michelle McWhorter</i>	DATE 8/24/19	TIME 1120	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY (SIGNATURE) <i>Kimberly Allen</i>	DATE 8-26-19	TIME 1335	SAMPLE STATUS <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					



# ANALYTICAL REPORT

September 04, 2019

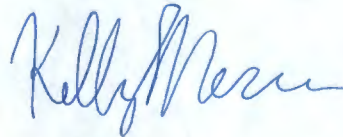
- <sup>1</sup>Cp
- <sup>2</sup>Tc
- <sup>3</sup>Ss
- <sup>4</sup>Cn
- <sup>5</sup>Sr
- <sup>6</sup>Gl
- <sup>7</sup>Al
- <sup>8</sup>Sc

## City of Madison Water & Wastewater Board

Sample Delivery Group: L1133678  
Samples Received: 08/28/2019  
Project Number:  
Description:

Report To: Mark Bland  
101 Ray Sanderson Drive  
Madison, AL 35758

Entire Report Reviewed By:



Kelly Mercer  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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Sc: Sample Chain of Custody	8

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Gl

<sup>7</sup> Al

<sup>8</sup> Sc



# SAMPLE SUMMARY

ONE LAB. NATIONWIDE. 

SAMPLE L1133678-01 WW			Collected by	Collected date/time	Received date/time		
			CLIENT	08/28/19 11:25	08/28/19 14:00		
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location	
Wet Chemistry by Method OIA-1677-09	WG1337723	1	08/30/19 13:49	08/30/19 13:49	SDH	Decatur, AL	
Wet Chemistry by Method OIA-1677-09	WG1339018	1	09/03/19 11:58	09/03/19 11:58	SDH	Decatur, AL	
Metals (ICP) by Method 200.7	WG1337445	1	08/29/19 20:29	08/30/19 09:11	TRB	Mt. Juliet, TN	

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Gl

7  
Al

8  
Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Kelly Mercer  
Project Manager

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

Cn

<sup>5</sup> Sr

<sup>6</sup> Gl

<sup>7</sup> Al

<sup>8</sup> Sc

SAMPLE

SAMPLE RESULTS - 01

ONE LAB. NATIONWIDE.



Collected date/time: 08/28/19 11:25

L1133678

Wet Chemistry by Method OIA-1677-09

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Available Cyanide	ND		0.00200	1	08/30/2019 13:49	WG1337723
Cyanide,free	ND		0.00200	1	09/03/2019 11:58	WG1339018

1 Cp

2 Tc

3 Ss

Metals (ICP) by Method 200.7

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Arsenic,Dissolved	ND		0.0100	1	08/30/2019 09:11	WG1337445

4 Cn

5 Sr

6 Gl

7 Al

8 Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
SDG	Sample Delivery Group.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Gl

7 Al

8 Sc

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

# ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.  
 \* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.



## State Accreditations

Alabama	40660	Nebraska	NE-05-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico <sup>1</sup>	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>2</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	90010	South Carolina	84004
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana <sup>1</sup>	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

## Third Party Federal Accreditations

A2LA - ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA - ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

## Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.





**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256) 350-0846

www.pacenational.com

COMPANY/CLIENT NAME Water & WW Bd City of Madison		CLIENT P.O. NUMBER	ENERSOLV PROJECT NUMBER		REQUESTED ANALYSES															
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHYSICAL ADDRESS 701 Landess Cirle		CITY/STATE/ZIP Madison, AL 35756																
CLIENT EMAIL mbland@madisonutilities.org		PHONE NUMBER 256-461-0845	OTHER INFORMATION																	
SAMPLE COLLECTED BY <i>John Law</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)																		
DATE DUE (REQUIRED)		SAMPLE TRANSFER/GRAB DATE 8-28-19		SAMPLE TRANSFER/GRAB TIME 11:25		GRAB	COMP	ASDICP	DECCNF	DECCNA										

Comments: Collector to complete shaded areas, as applicable

SAMPLE TEMPERATURE RECEIVED @ 5.2

COMPOSITE SAMPLER INFO	FIELD INFORMATION							Qty	Type	Parameter
	SM 4500H+B	SM 4500-CI D	SM 4500-O G	SM 2550B						
Start Date	pH	TRC	DO	Temp			1	Poly Pint Cool 6c	Metals	
Date	su	mg/l	mg/l	deg C			1	8oz Amb Cool 6c NaOH	CNA, CNF	
Start Time	Date	Date	Date	Date						
Stop Date	Time	Time	Time	Time						
Stop Time	Analyst	Analyst	Analyst	Analyst						

RELINQUISHED BY: (SIGNATURE) <i>John Law</i>	DATE 8-28-19	TIME 12:50	RELINQUISHED BY: (SIGNATURE) <i>John Law</i>	DATE 8/28/19	TIME 1400	RELINQUISHED BY: (SIGNATURE) <i>John Law</i>	DATE 8/28/19	TIME 1700
RECEIVED BY: (SIGNATURE) <i>John Law</i>	DATE 8/28/19	TIME 1250	RECEIVED BY: (SIGNATURE) <i>John Law</i>	DATE 8/28/19	TIME 1400	RECEIVED BY: (SIGNATURE) <i>John Law</i>	DATE	TIME
RECEIVED FOR LABORATORY USE BY: (SIGNATURE) <i>John Law</i>			DATE 8/28/19	TIME 1400	SAMPLE STATUS <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception			





# ANALYTICAL REPORT

September 09, 2019

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Gl
- 7 Al
- 8 Sc

## City of Madison Water & Wastewater Board

Sample Delivery Group: L1134543  
Samples Received: 08/30/2019  
Project Number:  
Description:

Report To: Mark Bland  
101 Ray Sanderson Drive  
Madison, AL 35758

Entire Report Reviewed By:









Kelly Mercer  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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<b>Al: Accreditations &amp; Locations</b>	7	
<b>Sc: Sample Chain of Custody</b>	8	
		
		

# SAMPLE SUMMARY

ONE LAB. NATIONWIDE. 

SAMPLE L1134543-01 WW

Collected by: CLIENT  
 Collected date/time: 08/30/19 10:50  
 Received date/time: 08/30/19 12:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method OIA-1677-09	WG1339018	1	09/03/19 12:00	09/03/19 12:00	SDH	Decatur, AL
Wet Chemistry by Method OIA-1677-09	WG1339555	1	09/04/19 11:15	09/04/19 11:15	SDH	Decatur, AL
Metals (ICP) by Method 200.7	WG1340845	1	09/05/19 21:45	09/06/19 13:16	TRB	Mt. Juliet, TN

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Gl

<sup>7</sup> Al

<sup>8</sup> Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Kelly Mercer  
Project Manager

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Gl

<sup>7</sup> Al

<sup>8</sup> Sc

SAMPLE

SAMPLE RESULTS - 01

ONE LAB. NATIONWIDE.



Collected date/time: 08/30/19 10:50

L1134543

Wet Chemistry by Method OIA-1677-09

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Available Cyanide	ND		0.00200	1	09/04/2019 11:15	WG1339555
Cyanide,free	0.00200		0.00200	1	09/03/2019 12:00	WG1339018

1 Cp

2 Tc

3 Ss

Metals (ICP) by Method 200.7

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Arsenic,Dissolved	ND		0.0100	1	09/06/2019 13:16	WG1340845

4 Cn

5 Sr

6 Gl

7 Al

8 Sc



Guide to Reading and Understanding Your Laboratory Report

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Abbreviations and Definitions

ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
SDG	Sample Delivery Group.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
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Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 GI

7 AI

8 Sc

Qualifier	Description
-----------	-------------

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

# ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.



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 \* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Gl
- 7 Al
- 8 Sc

## State Accreditations

Alabama	40660	Nebraska	NE-05-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico <sup>1</sup>	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	90010	South Carolina	84004
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana <sup>1</sup>	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

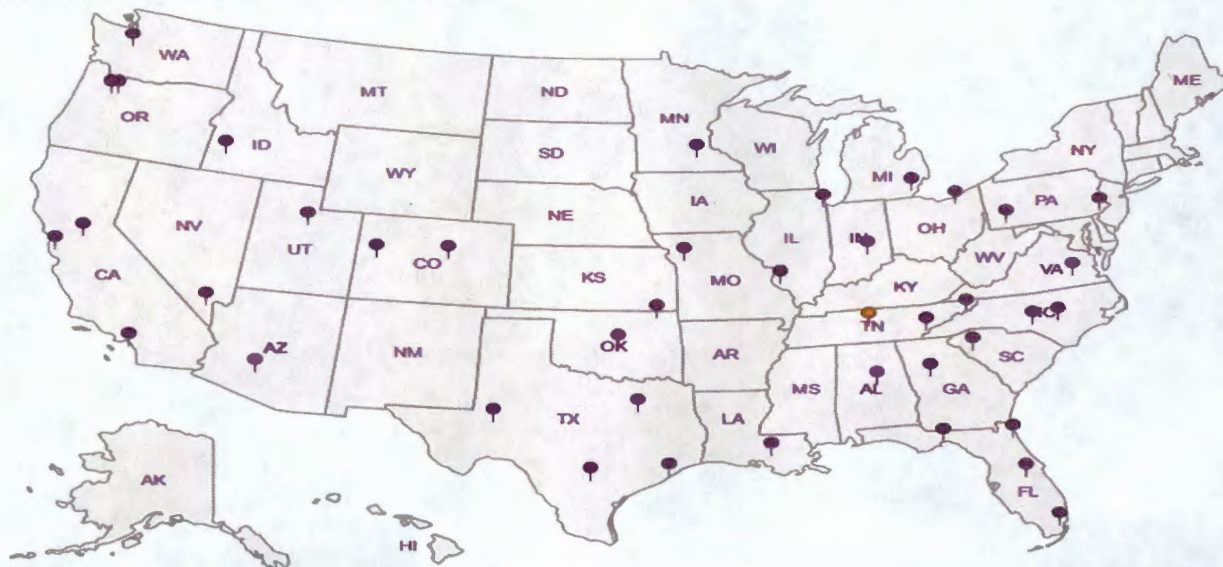
## Third Party Federal Accreditations

AZLA - ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
AZLA - ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

## Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.





**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256) 350-0846

PAGE	1	of	1
Digester			
MADWWMAL			

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COMPANY/CLIENT NAME Water & WW Bd City of Madison		CLIENT P.O. NUMBER	ENERSOLV PROJECT NUMBER		REQUESTED ANALYSES															
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHYSICAL ADDRESS 701 Landess Circle		CITY/STATE/ZIP Madison, AL 35756																
CLIENT EMAIL mbland@madisonutilities.org		PHONE NUMBER 256-461-0845	OTHER INFORMATION																	
SAMPLE COLLECTED BY Johnnie Lewis		EXPEDITED REPORT DELIVERY (SURCHARGE)											DATE DUE (REQUIRED)							
LAB NUMBER U134543-1	SAMPLE DESCRIPTION		SAMPLE TRANSFER/GRAB DATE 8-30-19	SAMPLE TRANSFER/GRAB TIME 10:50	GRAB	COMP	ASDIP	DECCNF	DECCNA											

Comments: Collector to complete shaded areas, as applicable

SAMPLE TEMPERATURE RECEIVED @ 24.1°C

COMPOSITE SAMPLER INFO	FIELD INFORMATION				Qty	Type	Parameter
	SM 4500H+B	SM 4500-CI D	SM 4500-O G	SM 2550B			
Start Date	pH su	TRC mg/l	DO mg/l	Temp deg C	1	Poly Pint Cool 6c	Metals
Start Time	Date	Date	Date	Date	1	8oz Amb Cool 6c NaOH	CNA, CNF
Stop Date	Time	Time	Time	Time			
Stop Time	Analyst	Analyst	Analyst	Analyst			

RELINQUISHED BY: (SIGNATURE) Johnnie Lewis	DATE 8-30-19	TIME 11:45	RELINQUISHED BY: (SIGNATURE) Jimmy Sharp	DATE 8-30-19	TIME 12:30	RELINQUISHED BY: (SIGNATURE) William A. Gull	DATE 8/30/19	TIME 1700
RECEIVED BY: (SIGNATURE) Jimmy Sharp	DATE 8-30-19	TIME 11:45	RECEIVED BY: (SIGNATURE) William A. Gull	DATE 8/30/19	TIME 1230	RECEIVED BY: (SIGNATURE) Billy Baras	DATE 8/21/19	TIME 8500
RECEIVED FOR LABORATORY USE BY: (SIGNATURE) William A. Gull	DATE 8/30/19	TIME 1230	SAMPLE STATUS: <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					





# ANALYTICAL REPORT

February 16, 2018



## ESC - Decatur Lab

Sample Delivery Group: L969158  
Samples Received: 02/09/2018  
Project Number: 1801786  
Description: Effluent Permit Renewal Comp.

Report To: Mr. Bill Hollerman  
2220 Beltline Road SW  
Decatur, AL 35601

Entire Report Reviewed By:

Olivia Studebaker  
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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Qc: Quality Control Summary	8
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Wet Chemistry by Method 420.4	9
Mercury by Method 245.1	10
Metals (ICP) by Method 200.7	11
Metals (ICPMS) by Method 200.8	12
Volatile Organic Compounds (GC/MS) by Method 624	15
Semi Volatile Organic Compounds (GC/MS) by Method 625	17
Gl: Glossary of Terms	22
Al: Accreditations & Locations	23
Sc: Sample Chain of Custody	24



# SAMPLE SUMMARY

ONE LAB. NATIONWIDE. 

1801786-01 L969158-01 WW

Collected by: Slade Sparkman  
 Collected date/time: 02/07/18 08:17  
 Received date/time: 02/09/18 15:41

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 245.1	WG1072423	1	02/11/18 13:08	02/12/18 09:56	EL
Metals (ICP) by Method 200.7	WG1072122	1	02/10/18 10:48	02/12/18 03:18	CCE
Metals (ICPMS) by Method 200.8	WG1072414	1	02/12/18 14:30	02/12/18 23:55	LAT
Metals (ICPMS) by Method 200.8	WG1073215	1	02/13/18 19:39	02/14/18 13:12	JPD

1801786-02 L969158-02 WW

Collected by: Slade Sparkman  
 Collected date/time: 02/07/18 10:04  
 Received date/time: 02/09/18 15:41

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 1664A	WG1073651	1	02/15/18 07:03	02/15/18 11:23	BMG
Wet Chemistry by Method 420.4	WG1071617	1	02/11/18 08:27	02/13/18 12:21	KK
Volatile Organic Compounds (GC/MS) by Method 624	WG1072302	1	02/10/18 14:34	02/10/18 14:34	ACG
Semi Volatile Organic Compounds (GC/MS) by Method 625	WG1072213	1	02/12/18 10:17	02/13/18 23:07	SR

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Olivia Studebaker  
Technical Service Representative

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

1801786-01

Collected date/time: 02/07/18 08:17

## SAMPLE RESULTS - 01

L969158

ONE LAB. NATIONWIDE.



## Mercury by Method 245.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	02/12/2018 09:56	WG1072423

Cp

Tc

## Metals (ICP) by Method 200.7

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	12.6		1.00	1	02/12/2018 03:18	WG1072122
Magnesium	5.35		1.00	1	02/12/2018 03:18	WG1072122

Ss

Cn

## Metals (ICPMS) by Method 200.8

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.00200	1	02/12/2018 23:55	WG1072414
Arsenic	ND		0.00100	1	02/12/2018 23:55	WG1072414
Beryllium	ND		0.00100	1	02/12/2018 23:55	WG1072414
Cadmium	ND		0.00100	1	02/12/2018 23:55	WG1072414
Chromium	ND		0.00100	1	02/12/2018 23:55	WG1072414
Copper	0.00541		0.00100	1	02/14/2018 13:12	WG1073215
Lead	ND		0.00100	1	02/14/2018 13:12	WG1073215
Nickel	ND		0.00100	1	02/12/2018 23:55	WG1072414
Selenium	ND		0.00200	1	02/12/2018 23:55	WG1072414
Silver	ND		0.00100	1	02/12/2018 23:55	WG1072414
Thallium	ND		0.00100	1	02/12/2018 23:55	WG1072414
Zinc	0.0336	B	0.0100	1	02/12/2018 23:55	WG1072414

Sr

Qc

Gl

Al

Sc

1801786-02

## SAMPLE RESULTS - 02

ONE LAB. NATIONWIDE.

Collected date/time: 02/07/18 10:04

L969158

## Wet Chemistry by Method 1664A

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Oil & Grease (Hexane Extr)	ND		5.62	1	02/15/2018 11:23	WG1073651

## Wet Chemistry by Method 420.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Total Phenol by 4AAP	ND	J6	0.0400	1	02/13/2018 12:21	WG1071617

## Volatile Organic Compounds (GC/MS) by Method 624

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Acrolein	ND		0.0500	1	02/10/2018 14:34	WG1072302
Acrylonitrile	ND		0.0100	1	02/10/2018 14:34	WG1072302
Benzene	ND		0.00100	1	02/10/2018 14:34	WG1072302
Bromodichloromethane	ND		0.00100	1	02/10/2018 14:34	WG1072302
Bromoform	ND		0.00100	1	02/10/2018 14:34	WG1072302
Bromomethane	ND	J3	0.00500	1	02/10/2018 14:34	WG1072302
Carbon tetrachloride	ND		0.00100	1	02/10/2018 14:34	WG1072302
Chlorobenzene	ND		0.00100	1	02/10/2018 14:34	WG1072302
Chlorodibromomethane	ND		0.00100	1	02/10/2018 14:34	WG1072302
Chloroethane	ND		0.00500	1	02/10/2018 14:34	WG1072302
2-Chloroethyl vinyl ether	ND		0.0500	1	02/10/2018 14:34	WG1072302
Chloroform	ND		0.00500	1	02/10/2018 14:34	WG1072302
Chloromethane	ND		0.00250	1	02/10/2018 14:34	WG1072302
1,1-Dichloroethane	ND		0.00100	1	02/10/2018 14:34	WG1072302
1,2-Dichloroethane	ND		0.00100	1	02/10/2018 14:34	WG1072302
1,1-Dichloroethene	ND		0.00100	1	02/10/2018 14:34	WG1072302
trans-1,2-Dichloroethene	ND		0.00100	1	02/10/2018 14:34	WG1072302
1,2-Dichloropropane	ND		0.00100	1	02/10/2018 14:34	WG1072302
cis-1,3-Dichloropropene	ND		0.00100	1	02/10/2018 14:34	WG1072302
Ethylbenzene	ND		0.00100	1	02/10/2018 14:34	WG1072302
Methylene Chloride	ND		0.00500	1	02/10/2018 14:34	WG1072302
1,1,2,2-Tetrachloroethane	ND		0.00100	1	02/10/2018 14:34	WG1072302
Tetrachloroethene	ND		0.00100	1	02/10/2018 14:34	WG1072302
Toluene	ND		0.00100	1	02/10/2018 14:34	WG1072302
1,1,1-Trichloroethane	ND		0.00100	1	02/10/2018 14:34	WG1072302
1,1,2-Trichloroethane	ND		0.00100	1	02/10/2018 14:34	WG1072302
Trichloroethene	ND		0.00100	1	02/10/2018 14:34	WG1072302
Vinyl chloride	ND		0.00100	1	02/10/2018 14:34	WG1072302
(S) Toluene-d8	111		80.0-120		02/10/2018 14:34	WG1072302
(S) Dibromofluoromethane	88.8		76.0-123		02/10/2018 14:34	WG1072302
(S) a,a,a-Trifluorotoluene	102		80.0-120		02/10/2018 14:34	WG1072302
(S) 4-Bromofluorobenzene	105		80.0-120		02/10/2018 14:34	WG1072302

## Semi Volatile Organic Compounds (GC/MS) by Method 625

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00100	1	02/13/2018 23:07	WG1072213
Acenaphthylene	ND		0.00100	1	02/13/2018 23:07	WG1072213
Anthracene	ND		0.00100	1	02/13/2018 23:07	WG1072213
Benzidine	ND		0.0100	1	02/13/2018 23:07	WG1072213
Benzo(a)anthracene	ND		0.00100	1	02/13/2018 23:07	WG1072213
benzo(b)fluoranthene	ND		0.00100	1	02/13/2018 23:07	WG1072213
benzo(k)fluoranthene	ND		0.00100	1	02/13/2018 23:07	WG1072213
Benzo(g,h,i)perylene	ND		0.00100	1	02/13/2018 23:07	WG1072213

1801786-02

## SAMPLE RESULTS - 02

ONE LAB. NATIONWIDE.

Collected date/time: 02/07/18 10:04

L969158

## Semi Volatile Organic Compounds (GC/MS) by Method 625

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Bis(2-chloroethoxy)methane	ND		0.0100	1	02/13/2018 23:07	WG1072213
Bis(2-chloroethyl)ether	ND		0.0100	1	02/13/2018 23:07	WG1072213
Bis(2-chloroisopropyl)ether	ND		0.0100	1	02/13/2018 23:07	WG1072213
4-Bromophenyl-phenylether	ND		0.0100	1	02/13/2018 23:07	WG1072213
2-Chloronaphthalene	ND		0.00100	1	02/13/2018 23:07	WG1072213
4-Chlorophenyl-phenylether	ND		0.0100	1	02/13/2018 23:07	WG1072213
Chrysene	ND		0.00100	1	02/13/2018 23:07	WG1072213
Dibenz(a,h)anthracene	ND		0.00100	1	02/13/2018 23:07	WG1072213
1,2-Dichlorobenzene	ND		0.0100	1	02/13/2018 23:07	WG1072213
1,3-Dichlorobenzene	ND		0.0100	1	02/13/2018 23:07	WG1072213
1,4-Dichlorobenzene	ND		0.0100	1	02/13/2018 23:07	WG1072213
3,3-Dichlorobenzidine	ND		0.0100	1	02/13/2018 23:07	WG1072213
2,4-Dinitrotoluene	ND		0.0100	1	02/13/2018 23:07	WG1072213
2,6-Dinitrotoluene	ND		0.0100	1	02/13/2018 23:07	WG1072213
1,2-Diphenylhydrazine	ND		0.0100	1	02/13/2018 23:07	WG1072213
Fluoranthene	ND		0.00100	1	02/13/2018 23:07	WG1072213
Fluorene	ND		0.00100	1	02/13/2018 23:07	WG1072213
Hexachlorobenzene	ND		0.00100	1	02/13/2018 23:07	WG1072213
Hexachloro-1,3-butadiene	ND		0.0100	1	02/13/2018 23:07	WG1072213
Hexachlorocyclopentadiene	ND		0.0100	1	02/13/2018 23:07	WG1072213
Hexachloroethane	ND		0.0100	1	02/13/2018 23:07	WG1072213
Indeno(1,2,3-cd)pyrene	ND		0.00100	1	02/13/2018 23:07	WG1072213
Isophorone	ND		0.0100	1	02/13/2018 23:07	WG1072213
Naphthalene	ND		0.00100	1	02/13/2018 23:07	WG1072213
Nitrobenzene	ND		0.0100	1	02/13/2018 23:07	WG1072213
Nitrosodimethylamine	ND		0.0100	1	02/13/2018 23:07	WG1072213
Nitrosodiphenylamine	ND		0.0100	1	02/13/2018 23:07	WG1072213
n-Nitrosodi-n-propylamine	ND		0.0100	1	02/13/2018 23:07	WG1072213
Phenanthrene	ND		0.00100	1	02/13/2018 23:07	WG1072213
Benzylbutyl phthalate	ND		0.00300	1	02/13/2018 23:07	WG1072213
Bis(2-ethylhexyl)phthalate	ND		0.00300	1	02/13/2018 23:07	WG1072213
Di-n-butyl phthalate	ND		0.00300	1	02/13/2018 23:07	WG1072213
Di-n-octyl phthalate	ND		0.00300	1	02/13/2018 23:07	WG1072213
Diethyl phthalate	ND		0.00300	1	02/13/2018 23:07	WG1072213
Dimethyl phthalate	ND		0.00300	1	02/13/2018 23:07	WG1072213
Pyrene	ND		0.00100	1	02/13/2018 23:07	WG1072213
1,2,4-Trichlorobenzene	ND		0.0100	1	02/13/2018 23:07	WG1072213
2,4,6-Trichlorophenol	ND		0.0100	1	02/13/2018 23:07	WG1072213
4-Chloro-3-methylphenol	ND		0.0100	1	02/13/2018 23:07	WG1072213
2-Chlorophenol	ND		0.0100	1	02/13/2018 23:07	WG1072213
2,4-Dichlorophenol	ND		0.0100	1	02/13/2018 23:07	WG1072213
2,4-Dimethylphenol	ND		0.0100	1	02/13/2018 23:07	WG1072213
2,4-Dinitrophenol	ND	J3	0.0100	1	02/13/2018 23:07	WG1072213
2-Nitrophenol	ND		0.0100	1	02/13/2018 23:07	WG1072213
4,6-Dinitro-2-methylphenol	ND		0.0100	1	02/13/2018 23:07	WG1072213
4-Nitrophenol	ND	J3	0.0100	1	02/13/2018 23:07	WG1072213
Pentachlorophenol	ND		0.0100	1	02/13/2018 23:07	WG1072213
Phenol	ND		0.0100	1	02/13/2018 23:07	WG1072213
(S) Nitrobenzene-d5	74.3		10.0-126		02/13/2018 23:07	WG1072213
(S) 2-Fluorobiphenyl	72.4		22.0-127		02/13/2018 23:07	WG1072213
(S) p-Terphenyl-d14	66.8		29.0-141		02/13/2018 23:07	WG1072213
(S) Phenol-d5	28.0		10.0-120		02/13/2018 23:07	WG1072213
(S) 2-Fluorophenol	40.0		10.0-120		02/13/2018 23:07	WG1072213
(S) 2,4,6-Tribromophenol	89.7		10.0-153		02/13/2018 23:07	WG1072213



Method Blank (MB)

(MB) R3286570-1 02/15/18 11:12

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Oil & Grease (Hexane Extr)	U		1.16	5.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3286570-2 02/15/18 11:13 • (LCSD) R3286570-3 02/15/18 11:13

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Oil & Grease (Hexane Extr)	40.0	39.5	37.6	98.8	94.0	78.0-114			4.93	20

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 **Qc**
- 7 Gl
- 8 Al
- 9 Sc



Wet Chemistry by Method 420.4

L969158-02

Method Blank (MB)

(MB) R3285932-1 02/13/18 12:00

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Total Phenol by 4AAP	U		0.0083	0.0400

L968725-02 Original Sample (OS) • Duplicate (DUP)

(OS) L968725-02 02/13/18 12:06 • (DUP) R3285932-4 02/13/18 12:06

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Total Phenol by 4AAP	ND	0.000	1	0		20

L969038-05 Original Sample (OS) • Duplicate (DUP)

(OS) L969038-05 02/13/18 12:16 • (DUP) R3285932-7 02/13/18 12:17

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Total Phenol by 4AAP	U	0.000	1	0		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3285932-2 02/13/18 12:01 • (LCSD) R3285932-3 02/13/18 12:02

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Total Phenol by 4AAP	0.500	0.451	0.454	90.2	90.8	90-110			0.663	20

L968915-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L968915-01 02/13/18 12:10 • (MS) R3285932-5 02/13/18 12:10 • (MSD) R3285932-6 02/13/18 12:11

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Total Phenol by 4AAP	1.00	ND	0.325	0.806	32.5	80.6	1	90-110	J6	J3 J6	85	20

L969158-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L969158-02 02/13/18 12:21 • (MS) R3285932-8 02/13/18 12:22

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Total Phenol by 4AAP	1.00	ND	0.837	83.7	1	90-110	J6



Mercury by Method 245.1

L969158-01

Method Blank (MB)

(MB) R3285626-1 02/12/18 09:49

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury	0.0000848	J	0.000049	0.000200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3285626-2 02/12/18 09:52 • (LCSD) R3285626-3 02/12/18 09:54

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	0.00306	0.00304	102	101	85-115			0.75	20

L969158-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

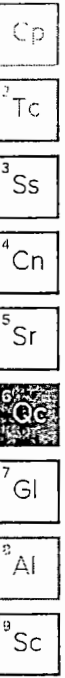
(OS) L969158-01 02/12/18 09:56 • (MS) R3285626-4 02/12/18 09:59 • (MSD) R3285626-5 02/12/18 10:01

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	ND	0.00303	0.00299	101	99.6	1	70-130			1.49	20

L969438-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L969438-01 02/12/18 10:11 • (MS) R3285626-6 02/12/18 10:13 • (MSD) R3285626-7 02/12/18 10:15

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	ND	0.00305	0.00291	99.4	94.5	1	70-130			4.89	20



Method Blank (MB)

(MB) R3285553-1 02/12/18 03:08

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Calcium	U		0.1	1.00
Magnesium	0.0263	J	0.0168	1.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3285553-2 02/12/18 03:11 • (LCSD) R3285553-3 02/12/18 03:14

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Calcium	10.0	9.71	9.84	97.1	98.4	85-115			1.35	20
Magnesium	10.0	10.3	10.5	103	105	85-115			1.66	20

L969158-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L969158-01 02/12/18 03:18 • (MS) R3285553-5 02/12/18 03:24 • (MSD) R3285553-6 02/12/18 03:27

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Calcium	10.0	12.6	24.0	23.8	114	112	1	70-130			0.666	20
Magnesium	10.0	5.35	15.7	15.5	104	102	1	70-130			1.26	20

L969115-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L969115-01 02/12/18 03:31 • (MS) R3285553-7 02/12/18 03:34 • (MSD) R3285553-8 02/12/18 03:37

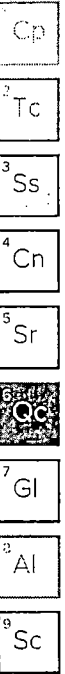
Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Calcium	10.0	63.2	73.9	73.6	107	104	1	70-130			0.447	20
Magnesium	10.0	5.78	16.0	15.9	102	102	1	70-130			0.461	20

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Gc
- 7 Gl
- 8 Al
- 9 Sc

Method Blank (MB)

(MB) R3285839-1 02/12/18 22:33

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.000754	0.00200
Arsenic	U		0.00017	0.00100
Beryllium	U		0.00028	0.00100
Cadmium	U		0.00022	0.00100
Chromium	U		0.00032	0.00100
Nickel	U		0.00032	0.00100
Selenium	U		0.00032	0.00200
Silver	U		0.00018	0.00100
Thallium	U		0.00028	0.00100
Zinc	0.00724	J	0.00191	0.0100



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3285839-2 02/12/18 22:37 • (LCSD) R3285839-3 02/12/18 22:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Antimony	0.0500	0.0527	0.0517	105	103	85-115			1.87	20
Arsenic	0.0500	0.0516	0.0509	103	102	85-115			1.38	20
Beryllium	0.0500	0.0486	0.0474	97.1	94.8	85-115			2.43	20
Cadmium	0.0500	0.0541	0.0530	108	106	85-115			2.14	20
Chromium	0.0500	0.0514	0.0508	103	102	85-115			1.05	20
Nickel	0.0500	0.0506	0.0497	101	99.4	85-115			1.82	20
Selenium	0.0500	0.0527	0.0513	105	103	85-115			2.82	20
Silver	0.0500	0.0538	0.0532	108	106	85-115			1.11	20
Thallium	0.0500	0.0507	0.0507	101	101	85-115			0.0426	20
Zinc	0.0500	0.0545	0.0526	109	105	85-115			3.45	20

L969311-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L969311-03 02/12/18 22:45 • (MS) R3285839-5 02/12/18 22:52 • (MSD) R3285839-6 02/12/18 22:56

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	0.0500	U	0.0534	0.0523	107	105	1	70-130			2.15	20
Arsenic	0.0500	0.000998	0.0514	0.0504	101	98.8	1	70-130			1.87	20
Beryllium	0.0500	U	0.0472	0.0460	94.4	92	1	70-130			2.52	20
Cadmium	0.0500	U	0.0531	0.0520	106	104	1	70-130			2.06	20
Chromium	0.0500	0.00323	0.0516	0.0528	96.8	99.1	1	70-130			2.25	20
Nickel	0.0500	0.00136	0.0491	0.0496	95.4	96.5	1	70-130			1.04	20
Selenium	0.0500	0.000370	0.0461	0.0524	91.4	104	1	70-130			12.9	20

Metals (ICPMS) by Method 200.8

L969158-01

L969311-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L969311-03 02/12/18 22:45 • (MS) R3285839-5 02/12/18 22:52 • (MSD) R3285839-6 02/12/18 22:56

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Silver	0.0500	U	0.0530	0.0520	106	104	1	70-130			2	20
Thallium	0.0500	U	0.0500	0.0494	100	98.8	1	70-130			1.29	20
Zinc	0.0500	0.0162	0.0675	0.0656	103	98.8	1	70-130			2.9	20

L969480-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L969480-01 02/12/18 23:00 • (MS) R3285839-7 02/12/18 23:04 • (MSD) R3285839-8 02/12/18 23:07

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	0.0500	0.00367	0.0572	0.0566	107	106	1	70-130			1.14	20
Arsenic	0.0500	0.00190	0.0528	0.0517	102	99.6	1	70-130			2.14	20
Beryllium	0.0500	ND	0.0477	0.0469	95.3	93.8	1	70-130			1.62	20
Cadmium	0.0500	ND	0.0530	0.0521	106	104	1	70-130			1.63	20
Chromium	0.0500	ND	0.0505	0.0499	99.2	97.9	1	70-130			1.31	20
Nickel	0.0500	0.00132	0.0501	0.0494	97.6	96.1	1	70-130			1.52	20
Selenium	0.0500	ND	0.0537	0.0518	106	102	1	70-130			3.47	20
Silver	0.0500	ND	0.0530	0.0524	106	105	1	70-130			1.19	20
Thallium	0.0500	ND	0.0514	0.0496	103	99.3	1	70-130			3.42	20
Zinc	0.0500	ND	0.0566	0.0556	102	100	1	70-130			1.66	20

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Metals (ICPMS) by Method 200.8

L969158-01

Method Blank (MB)

(MB) R3286272-1 02/14/18 11:55

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Copper	U		0.00027	0.00100
Lead	U		0.00026	0.00100

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3286272-2 02/14/18 11:59 • (LCSD) R3286272-3 02/14/18 12:02

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Copper	0.0500	0.0526	0.0519	105	104	85-115			1.25	20
Lead	0.0500	0.0523	0.0510	105	102	85-115			2.5	20

L969599-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L969599-01 02/14/18 12:06 • (MS) R3286272-5 02/14/18 12:14 • (MSD) R3286272-6 02/14/18 12:18

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Copper	0.0500	0.00133	0.0520	0.0518	101	101	1	70-130			0.489	20
Lead	0.0500	ND	0.0520	0.0524	103	104	1	70-130			0.806	20

L969792-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L969792-01 02/14/18 12:22 • (MS) R3286272-7 02/14/18 12:26 • (MSD) R3286272-8 02/14/18 12:30

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Copper	0.0500	0.00172	0.0500	0.0488	96.6	94.2	1	70-130			2.42	20
Lead	0.0500	ND	0.0497	0.0479	98.5	94.9	1	70-130			3.7	20

Method Blank (MB)

(MB) R3286653-3 02/10/18 12:31

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acrolein	U		0.00887	0.0500
Acrylonitrile	U		0.00187	0.0100
Benzene	U		0.000331	0.00100
Bromodichloromethane	U		0.000380	0.00100
Bromoform	U		0.000469	0.00100
Bromomethane	U		0.000866	0.00500
Carbon tetrachloride	U		0.000379	0.00100
Chlorobenzene	U		0.000348	0.00100
Chlorodibromomethane	U		0.000327	0.00100
Chloroethane	U		0.000453	0.00500
2-Chloroethyl vinyl ether	U		0.00301	0.0500
Chloroform	U		0.000324	0.00500
Chloromethane	U		0.000276	0.00250
1,1-Dichloroethane	U		0.000259	0.00100
1,2-Dichloroethane	U		0.000361	0.00100
1,1-Dichloroethene	U		0.000398	0.00100
trans-1,2-Dichloroethene	U		0.000396	0.00100
1,2-Dichloropropane	U		0.000306	0.00100
cis-1,3-Dichloropropene	U		0.000418	0.00100
Ethylbenzene	U		0.000384	0.00100
Methylene Chloride	U		0.00100	0.00500
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100
Tetrachloroethene	U		0.000372	0.00100
1,1,1-Trichloroethane	U		0.000319	0.00100
1,1,2-Trichloroethane	U		0.000383	0.00100
Toluene	U		0.000412	0.00100
Trichloroethene	U		0.000398	0.00100
Vinyl chloride	U		0.000259	0.00100
(S) o,a,o-Trifluorotoluene	101			80.0-120
(S) Toluene-d8	110			80.0-120
(S) Dibromofluoromethane	88.3			76.0-123
(S) 4-Bromofluorobenzene	106			80.0-120

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3286653-1 02/10/18 11:28 • (LCSD) R3286653-2 02/10/18 11:49

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acrolein	0.125	0.124	0.123	99.6	98.7	10.0-160			0.857	20
Acrylonitrile	0.125	0.108	0.111	86.6	89.2	60.0-142			2.90	20
Bromodichloromethane	0.0250	0.0237	0.0247	94.9	98.6	76.0-120			3.85	20
Bromoform	0.0250	0.0239	0.0250	95.6	100	67.0-132			4.59	20
Bromomethane	0.0250	0.0173	0.0136	69.2	54.5	18.0-160		J3	23.7	20
Carbon tetrachloride	0.0250	0.0224	0.0231	89.6	92.2	63.0-122			2.86	20
Chlorobenzene	0.0250	0.0274	0.0277	110	111	79.0-121			1.20	20
Chlorodibromomethane	0.0250	0.0247	0.0253	98.9	101	75.0-125			2.25	20
Chloroethane	0.0250	0.0233	0.0224	93.2	89.5	47.0-152			4.05	20
2-Chloroethyl vinyl ether	0.125	0.116	0.120	92.9	96.2	10.0-160			3.49	22
Chloroform	0.0250	0.0214	0.0219	85.4	87.5	72.0-121			2.34	20
Chloromethane	0.0250	0.0153	0.0159	61.1	63.6	48.0-139			4.02	20
Benzene	0.0250	0.0215	0.0218	85.9	87.3	69.0-123			1.53	20
1,1-Dichloroethane	0.0250	0.0214	0.0217	85.7	86.7	70.0-126			1.16	20
1,2-Dichloroethane	0.0250	0.0232	0.0238	93.0	95.1	67.0-126			2.24	20
1,1-Dichloroethene	0.0250	0.0227	0.0231	90.6	92.6	64.0-129			2.15	20
trans-1,2-Dichloroethene	0.0250	0.0215	0.0215	86.1	86.0	71.0-121			0.103	20
1,2-Dichloropropane	0.0250	0.0260	0.0270	104	108	75.0-125			3.72	20
cis-1,3-Dichloropropene	0.0250	0.0258	0.0267	103	107	79.0-123			3.40	20
Methylene Chloride	0.0250	0.0197	0.0203	78.9	81.1	66.0-121			2.84	20
1,1,2,2-Tetrachloroethane	0.0250	0.0277	0.0291	111	116	71.0-122			5.00	20
Ethylbenzene	0.0250	0.0262	0.0262	105	105	77.0-120			0.0505	20
Tetrachloroethene	0.0250	0.0267	0.0270	107	108	70.0-127			0.910	20
1,1,1-Trichloroethane	0.0250	0.0218	0.0221	87.2	88.3	68.0-122			1.26	20
1,1,2-Trichloroethane	0.0250	0.0268	0.0288	107	115	78.0-120			7.16	20
Trichloroethene	0.0250	0.0247	0.0246	98.9	98.4	78.0-120			0.516	20
Vinyl chloride	0.0250	0.0199	0.0205	79.7	81.9	64.0-133			2.65	20
Toluene	0.0250	0.0255	0.0259	102	103	77.0-120			1.33	20
(S) o,o,o-Trifluorotoluene				99.5	98.8	80.0-120				
(S) Toluene-d8				108	106	80.0-120				
(S) Dibromofluoromethane				87.0	87.7	76.0-123				
(S) 4-Bromofluorobenzene				101	103	80.0-120				

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc



## Method Blank (MB)

(MB) R3286263-3 02/13/18 13:02

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acenaphthene	U		0.000316	0.00100
Acenaphthylene	U		0.000309	0.00100
Anthracene	U		0.000291	0.00100
Benzidine	U		0.00432	0.0100
Benzo(a)anthracene	U		0.0000975	0.00100
Benzo(b)fluoranthene	U		0.0000896	0.00100
Benzo(k)fluoranthene	U		0.000355	0.00100
Benzo(g,h,i)perylene	U		0.000161	0.00100
Bis(2-chlorethoxy)methane	U		0.000329	0.0100
Bis(2-chloroethyl)ether	U		0.00162	0.0100
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100
4-Bromophenyl-phenylether	U		0.000335	0.0100
1,2-Dichlorobenzene	U		0.000340	0.0100
1,3-Dichlorobenzene	U		0.000365	0.0100
1,4-Dichlorobenzene	U		0.000322	0.0100
2-Chloronaphthalene	U		0.000330	0.00100
4-Chlorophenyl-phenylether	U		0.000303	0.0100
Chrysene	U		0.000332	0.00100
Dibenz(a,h)anthracene	U		0.000279	0.00100
3,3-Dichlorobenzidine	U		0.00202	0.0100
2,4-Dinitrotoluene	U		0.00165	0.0100
2,6-Dinitrotoluene	U		0.000279	0.0100
Fluoranthene	U		0.000310	0.00100
Fluorene	U		0.000323	0.00100
Hexachlorobenzene	U		0.000341	0.00100
Hexachloro-1,3-butadiene	U		0.000329	0.0100
Hexachlorocyclopentadiene	U		0.00233	0.0100
Hexachloroethane	U		0.000365	0.0100
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100
Isophorone	U		0.000272	0.0100
Naphthalene	U		0.000372	0.00100
Nitrobenzene	U		0.000367	0.0100
n-Nitrosodimethylamine	U		0.00126	0.0100
1,2-Diphenylhydrazine	U		0.000318	0.0100
n-Nitrosodiphenylamine	U		0.000304	0.0100
n-Nitrosodi-n-propylamine	U		0.000403	0.0100
Phenanthrene	U		0.000366	0.00100
Benzylbutyl phthalate	U		0.000275	0.00300
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300
Di-n-butyl phthalate	U		0.000266	0.00300

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3286263-3 02/13/18 13:02

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Diethyl phthalate	U		0.000282	0.00300
Dimethyl phthalate	U		0.000283	0.00300
Di-n-octyl phthalate	U		0.000278	0.00300
Pyrene	U		0.000330	0.00100
1,2,4-Trichlorobenzene	U		0.000355	0.0100
4-Chloro-3-methylphenol	U		0.000263	0.0100
2-Chlorophenol	U		0.000283	0.0100
2,4-Dichlorophenol	U		0.000284	0.0100
2,4-Dimethylphenol	U		0.000624	0.0100
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100
2,4-Dinitrophenol	U		0.00325	0.0100
2-Nitrophenol	U		0.000320	0.0100
4-Nitrophenol	U		0.00201	0.0100
Pentachlorophenol	U		0.000313	0.0100
Phenol	U		0.000334	0.0100
2,4,6-Trichlorophenol	U		0.000297	0.0100
(S) Nitrobenzene-d5	51.1			10.0-126
(S) 2-Fluorobiphenyl	70.0			22.0-127
(S) p-Terphenyl-d14	71.7			29.0-141
(S) Phenol-d5	17.8			10.0-120
(S) 2-Fluorophenol	27.5			10.0-120
(S) 2,4,6-Tribromophenol	71.6			10.0-153

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3286263-1 02/13/18 11:27 • (LCSD) R3286263-2 02/13/18 11:51

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0500	0.0413	0.0404	82.6	80.8	42.0-120			2.14	22
Acenaphthylene	0.0500	0.0431	0.0418	86.2	83.7	43.0-120			2.91	22
Anthracene	0.0500	0.0445	0.0416	89.1	83.1	44.0-120			6.92	20
Benzidine	0.0500	0.0116	0.0136	23.2	27.3	1.00-120			16.2	36
Benzo(a)anthracene	0.0500	0.0490	0.0448	98.1	89.5	44.0-120			9.09	20
Benzo(b)fluoranthene	0.0500	0.0498	0.0457	99.7	91.4	40.0-120			8.64	21
Benzo(k)fluoranthene	0.0500	0.0476	0.0435	95.2	87.0	41.0-120			9.00	22
Benzo(g,h,i)perylene	0.0500	0.0507	0.0466	101	93.1	45.0-121			8.45	20
Bis(2-chlorethoxy)methane	0.0500	0.0304	0.0296	60.9	59.2	36.0-120			2.83	25
Bis(2-chloroethyl)ether	0.0500	0.0276	0.0251	55.3	50.2	24.0-120			9.64	29
Bis(2-chloroisopropyl)ether	0.0500	0.0338	0.0315	67.6	62.9	32.0-120			7.11	29

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3286263-1 02/13/18 11:27 • (LCSD) R3286263-2 02/13/18 11:51

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
4-Bromophenyl-phenylether	0.0500	0.0458	0.0430	91.7	85.9	42.0-121			6.48	21
2-Chloronaphthalene	0.0500	0.0340	0.0346	68.0	69.2	37.0-120			1.79	24
4-Chlorophenyl-phenylether	0.0500	0.0449	0.0432	89.7	86.5	44.0-120			3.68	21
Chrysene	0.0500	0.0492	0.0445	98.4	89.0	45.0-120			9.93	20
1,2-Diphenylhydrazine	0.0500	0.0410	0.0389	82.0	77.9	37.0-125			5.08	20
Dibenz(a,h)anthracene	0.0500	0.0481	0.0444	96.3	88.9	44.0-121			7.96	21
3,3'-Oichlorobenzidine	0.0500	0.0453	0.0426	90.6	85.2	29.0-153			6.13	23
2,4-Dinitrotoluene	0.0500	0.0488	0.0463	97.6	92.5	47.0-127			5.29	21
2,6-Dinitrotoluene	0.0500	0.0494	0.0454	98.7	90.7	42.0-120			8.45	22
Fluoranthene	0.0500	0.0472	0.0444	94.5	88.8	46.0-121			6.17	20
Fluorene	0.0500	0.0452	0.0440	90.3	88.1	45.0-120			2.51	21
Hexachlorobenzene	0.0500	0.0479	0.0454	95.8	90.8	41.0-124			5.34	21
Hexachloro-1,3-butadiene	0.0500	0.0165	0.0183	33.0	36.6	26.0-120			10.2	31
Hexachlorocyclopentadiene	0.0500	0.0194	0.0218	38.7	43.6	10.0-120			11.8	31
Hexachloroethane	0.0500	0.0164	0.0166	32.9	33.2	22.0-120			1.08	34
Indeno(1,2,3-cd)pyrene	0.0500	0.0505	0.0463	101	92.6	45.0-123			8.54	21
Isophorone	0.0500	0.0317	0.0308	63.5	61.6	37.0-120			2.96	24
Naphthalene	0.0500	0.0259	0.0261	51.9	52.2	33.0-120			0.652	28
Nitrobenzene	0.0500	0.0275	0.0262	55.1	52.3	31.0-120			5.09	28
n-Nitrosodimethylamine	0.0500	0.0249	0.0191	49.9	38.2	10.0-120			26.4	34
n-Nitrosodiphenylamine	0.0500	0.0472	0.0444	94.5	88.8	44.0-120			6.25	21
n-Nitrosodi-n-propylamine	0.0500	0.0310	0.0292	61.9	58.4	29.0-120			5.85	27
1,2-Dichlorobenzene	0.0500	0.0222	0.0211	44.4	42.1	27.0-120			5.31	30
Phenanthrene	0.0500	0.0464	0.0427	92.7	85.4	42.0-120			8.15	20
1,3-Dichlorobenzene	0.0500	0.0197	0.0185	39.4	37.0	26.0-120			6.23	31
Benzylbutyl phthalate	0.0500	0.0513	0.0461	103	92.2	36.0-123			10.7	22
1,4-Dichlorobenzene	0.0500	0.0205	0.0196	41.0	39.2	26.0-120			4.47	30
Bis(2-ethylhexyl)phthalate	0.0500	0.0504	0.0455	101	91.1	37.0-121			10.1	21
Di-n-butyl phthalate	0.0500	0.0506	0.0471	101	94.2	43.0-122			7.27	21
Diethyl phthalate	0.0500	0.0494	0.0474	98.9	94.8	48.0-123			4.21	20
Dimethyl phthalate	0.0500	0.0478	0.0448	95.7	89.5	47.0-120			6.63	20
Di-n-octyl phthalate	0.0500	0.0535	0.0489	107	97.7	38.0-120			9.02	22
Pyrene	0.0500	0.0498	0.0449	99.6	89.9	43.0-120			10.2	21
1,2,4-Trichlorobenzene	0.0500	0.0203	0.0212	40.5	42.4	29.0-120			4.65	29
4-Chloro-3-methylphenol	0.0500	0.0367	0.0330	73.4	66.0	39.0-120			10.7	22
2-Chlorophenol	0.0500	0.0344	0.0266	68.8	53.2	28.0-120			25.7	29
2,4-Dichlorophenol	0.0500	0.0368	0.0332	73.7	66.5	37.0-120			10.3	26
2,4-Dimethylphenol	0.0500	0.0312	0.0304	62.4	60.9	35.0-120			2.52	25
4,6-Dinitro-2-methylphenol	0.0500	0.0425	0.0339	85.0	67.7	34.0-125			22.7	27
2,4-Dinitrophenol	0.0500	0.0187	0.0110	37.3	22.0	10.0-120		J3	51.8	40

- Cp
- Tc
- Ss
- Cn
- Sr
- Ge
- Gl
- Al
- Sc

Semi Volatile Organic Compounds (GC/MS) by Method 625

L969158-02

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3286263-1 02/13/18 11:27 • (LCSD) R3286263-2 02/13/18 11:51

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2-Nitrophenol	0.0500	0.0378	0.0345	75.7	68.9	35.0-120			9.30	28
4-Nitrophenol	0.0500	0.0162	0.0106	32.3	21.2	10.0-120		J3	41.4	35
Pentachlorophenol	0.0500	0.0390	0.0358	77.9	71.5	20.0-126			8.53	32
Phenol	0.0500	0.0153	0.0113	30.5	22.7	10.0-120			29.6	34
2,4,6-Trichlorophenol	0.0500	0.0440	0.0406	88.0	81.3	40.0-122			7.89	24
(S) Nitrobenzene-d5				53.3	51.5	10.0-126				
(S) 2-Fluorobiphenyl				76.1	74.3	22.0-127				
(S) p-Terphenyl-d14				77.3	68.3	29.0-141				
(S) Phenol-d5				30.0	22.2	10.0-120				
(S) 2-Fluorophenol				42.7	29.0	10.0-120				
(S) 2,4,6-Tribromophenol				97.6	89.9	10.0-153				

L969158-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L969158-02 02/13/18 23:07 • (MS) R3286300-1 02/13/18 23:30 • (MSD) R3286300-2 02/13/18 23:54

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0500	ND	0.0356	0.0357	71.2	71.4	1	25.0-143			0.342	29
Acenaphthylene	0.0500	ND	0.0365	0.0368	73.0	73.5	1	24.0-149			0.646	29
Anthracene	0.0500	ND	0.0377	0.0386	75.4	77.2	1	27.0-145			2.36	30
1,2-Diphenylhydrazine	0.0500	ND	0.0455	0.0444	90.9	88.8	1	18.0-156			2.39	34
Benzidine	0.0500	ND	0.0143	0.0122	28.6	24.3	1	1.00-120			16.1	40
Benzo(a)anthracene	0.0500	ND	0.0413	0.0417	82.6	83.3	1	30.0-138			0.834	26
Benzo(b)fluoranthene	0.0500	ND	0.0405	0.0400	81.0	80.1	1	28.0-140			1.14	31
Benzo(k)fluoranthene	0.0500	ND	0.0374	0.0383	74.7	76.5	1	28.0-140			2.41	31
Benzo(g,h,i)perylene	0.0500	ND	0.0418	0.0435	83.6	87.0	1	26.0-149			3.89	27
Bis(2-chloroethoxy)methane	0.0500	ND	0.0278	0.0281	55.6	56.2	1	19.0-135			1.04	30
Bis(2-chloroethyl)ether	0.0500	ND	0.0305	0.0332	61.0	66.3	1	10.0-126			8.30	34
Bis(2-chloroisopropyl)ether	0.0500	ND	0.0276	0.0303	55.3	60.5	1	18.0-128			9.02	35
4-Bromophenyl-phenylether	0.0500	ND	0.0404	0.0408	80.7	81.7	1	28.0-146			1.16	30
2-Chloronaphthalene	0.0500	ND	0.0334	0.0332	66.9	66.5	1	23.0-134			0.549	32
4-Chlorophenyl-phenylether	0.0500	ND	0.0378	0.0384	75.6	76.8	1	32.0-142			1.58	29
Chrysene	0.0500	ND	0.0396	0.0396	79.2	79.1	1	32.0-144			0.0368	27
Dibenz(a,h)anthracene	0.0500	ND	0.0402	0.0412	80.4	82.3	1	22.0-149			2.37	29
1,2-Dichlorobenzene	0.0500	ND	0.0213	0.0219	42.7	43.8	1	14.0-125			2.68	24
3,3-Dichlorobenzidine	0.0500	ND	0.0420	0.0411	83.9	82.2	1	10.0-160			2.06	34
1,3-Dichlorobenzene	0.0500	ND	0.0198	0.0198	39.6	39.5	1	12.0-123			0.204	22
2,4-Dinitrotoluene	0.0500	ND	0.0405	0.0401	80.9	80.1	1	30.0-156			0.983	29
1,4-Dichlorobenzene	0.0500	ND	0.0193	0.0205	38.7	41.0	1	12.0-125			5.80	23

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

L969158-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L969158-02 02/13/18 23:07 • (MS) R3286300-1 02/13/18 23:30 • (MSD) R3286300-2 02/13/18 23:54

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
2,6-Dinitrotoluene	0.0500	ND	0.0389	0.0399	77.8	79.9	1	28.0-143			2.66	30
Fluoranthene	0.0500	ND	0.0444	0.0451	88.8	90.2	1	31.0-146			1.64	30
Fluorene	0.0500	ND	0.0388	0.0387	77.7	77.4	1	29.0-143			0.392	31
Hexachlorobenzene	0.0500	ND	0.0436	0.0460	87.2	92.1	1	29.0-144			5.46	33
Hexachloro-1,3-butadiene	0.0500	ND	0.0242	0.0231	48.5	46.2	1	18.0-122			4.88	35
Hexachlorocyclopentadiene	0.0500	ND	0.00835	0.00837	16.7	16.7	1	10.0-146			0.156	34
Hexachloroethane	0.0500	ND	0.0210	0.0204	41.9	40.8	1	12.0-120			2.68	36
Indeno(1,2,3-cd)pyrene	0.0500	ND	0.0421	0.0435	84.1	87.0	1	24.0-151			3.31	28
Isophorone	0.0500	ND	0.0325	0.0335	65.0	67.0	1	22.0-141			3.09	29
Naphthalene	0.0500	ND	0.0236	0.0239	47.2	47.8	1	19.0-125			1.23	32
Nitrobenzene	0.0500	ND	0.0298	0.0320	59.6	64.1	1	14.0-134			7.33	32
n-Nitrosodimethylamine	0.0500	ND	0.0244	0.0264	48.7	52.9	1	10.0-120			8.22	40
n-Nitrosodiphenylamine	0.0500	ND	0.0419	0.0435	83.7	87.0	1	16.0-160			3.81	28
n-Nitrosodi-n-propylamine	0.0500	ND	0.0336	0.0344	67.1	68.7	1	16.0-136			2.35	30
Phenanthrene	0.0500	ND	0.0382	0.0397	76.5	79.5	1	27.0-137			3.86	28
Benzylbutyl phthalate	0.0500	ND	0.0435	0.0445	87.0	89.0	1	30.0-147			2.29	27
Bis(2-ethylhexyl)phthalate	0.0500	ND	0.0449	0.0442	89.8	88.5	1	25.0-140			1.44	26
Di-n-butyl phthalate	0.0500	ND	0.0482	0.0480	95.7	95.3	1	32.0-146			0.421	27
Diethyl phthalate	0.0500	ND	0.0446	0.0445	89.1	89.0	1	34.0-149			0.102	26
Dimethyl phthalate	0.0500	ND	0.0419	0.0425	83.7	85.1	1	29.0-147			1.59	27
Di-n-octyl phthalate	0.0500	ND	0.0475	0.0466	94.9	93.3	1	24.0-146			1.79	29
Pyrene	0.0500	ND	0.0400	0.0416	80.0	83.2	1	34.0-140			3.87	27
1,2,4-Trichlorobenzene	0.0500	ND	0.0218	0.0212	43.7	42.5	1	19.0-120			2.69	33
4-Chloro-3-methylphenol	0.0500	ND	0.0363	0.0368	72.6	73.7	1	20.0-138			1.47	28
2-Chlorophenol	0.0500	ND	0.0285	0.0311	57.1	62.2	1	11.0-120			8.54	33
2,4-Dichlorophenol	0.0500	ND	0.0327	0.0346	65.3	69.2	1	19.0-135			5.83	32
2,4-Dimethylphenol	0.0500	ND	0.0313	0.0311	62.7	62.2	1	18.0-127			0.873	31
4,6-Dinitro-2-methylphenol	0.0500	ND	0.0154	0.0181	30.8	36.3	1	10.0-160			16.2	38
2,4-Dinitrophenol	0.0500	ND	0.0109	0.0131	21.9	26.3	1	10.0-137			18.2	36
2-Nitrophenol	0.0500	ND	0.0287	0.0303	57.5	60.5	1	15.0-143			5.12	33
4-Nitrophenol	0.0500	ND	0.0138	0.0135	27.7	27.1	1	10.0-120			2.26	31
Pentachlorophenol	0.0500	ND	0.0427	0.0464	85.5	92.7	1	10.0-160			8.14	40
Phenol	0.0500	ND	0.0159	0.0178	31.0	34.8	1	10.0-120			11.1	34
2,4,6-Trichlorophenol	0.0500	ND	0.0392	0.0396	78.4	79.2	1	10.0-153			1.01	29
(S) Nitrobenzene-d5					57.2	61.9		10.0-126				
(S) 2-Fluorobiphenyl					68.6	65.1		22.0-127				
(S) p-Terphenyl-d14					64.1	62.5		29.0-141				
(S) Phenol-d5					25.7	27.1		10.0-120				
(S) 2-Fluorophenol					37.1	40.2		10.0-120				
(S) 2,4,6-Tribromophenol					97.7	96.1		10.0-153				

Cp  
2 Tc  
3 Ss  
4 Cn  
5 Sr  
6 Cc  
7 Gl  
8 Al  
9 Sc

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

1 Co

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 GI

8 AI

9 Sc

# ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.



ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.  
 \* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 GI



9 Sc

## State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey-NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina	DW21704
Florida	E87487	North Carolina <sup>2</sup>	41
Georgia	NELAP	North Dakota	R-140
Georgia <sup>1</sup>	923	Ohio-VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky <sup>1</sup>	90010	South Dakota	n/a
Kentucky <sup>2</sup>	16	Tennessee <sup>1,4</sup>	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-05-15-05		

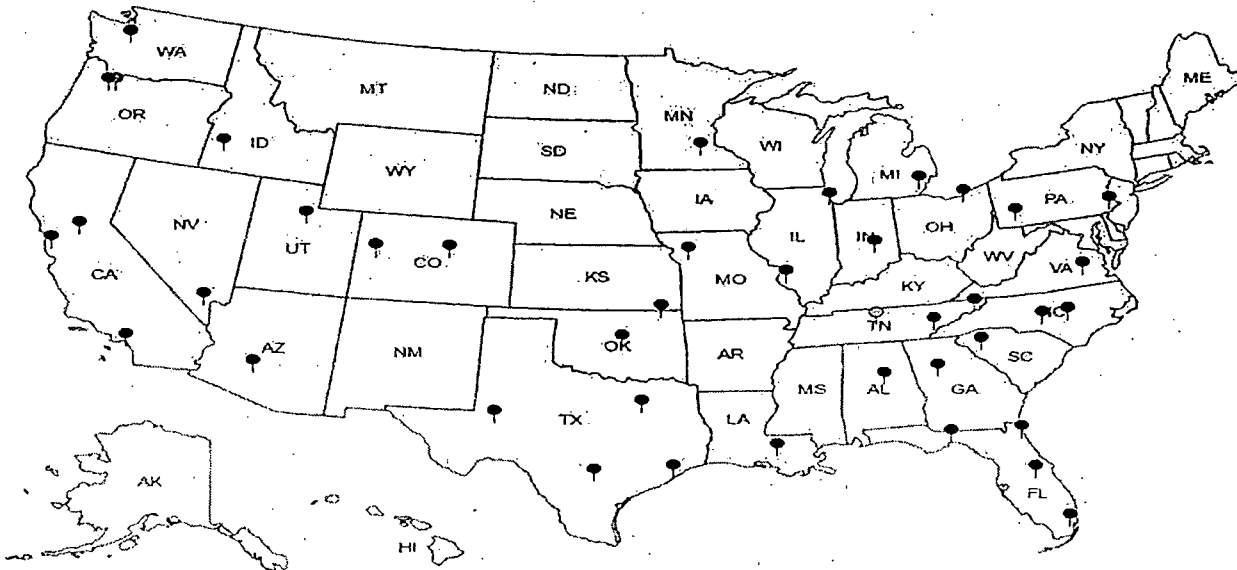
## Third Party Federal Accreditations

A2LA - ISO 17025	1461.01	AIHA-LAP, LLC	100789
A2LA - ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	5-67674
EPA-Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold n/a Accreditation not applicable

## Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. ESC Lab Sciences performs all testing at our central laboratory.



ACCOUNT:  
ESC - Decatur Lab

PROJECT:  
1801786

SDG:  
L969158

DATE/TIME:  
02/16/18 14:42

PAGE:  
23 of 31



# SUBCONTRACT ORDER

### Sending Laboratory:

ESC - Decatur  
 2220 Beltline Road SW  
 Decatur, AL 35601  
 Phone: 256-350-0846  
 Fax: 256-350-0686

### Subcontracted Laboratory:

ESC  
 12065 Lebanon Road  
 Mount Juliet, TN 37122  
 Phone: (615) 758-5858  
 Fax:

Work Order: 1801786

1.17

Analysis Code	Analysis Description	Due	Comments
---------------	----------------------	-----	----------

Sample ID: 1801786-01      Effluent Permit Renewal Comp.      Matrix: *Wastewater*  
*Sampled: 02/07/2018*      *L969158-01*

HG 245.1	Total Mercury	02/14/2018
PB ICPMS TR	Total Recoverable Lead	02/14/2018
AS ICPMS TR	Total Recoverable Arsenic	02/14/2018
BE ICPMS TR	Total Recoverable Beryllium	02/14/2018
CA ICP	Total Calcium	02/14/2018
CD ICPMS TR	Total Recoverable Cadmium	02/14/2018
CR ICPMS TR	Total Recoverable Chromium	02/14/2018
CU ICPMS TR	Total Recoverable Copper	02/14/2018
AG ICPMS TR	Total Recoverable Silver	02/14/2018
NI ICPMS TR	Total Recoverable Nickel	02/14/2018
SB ICPMS TR	Total Recoverable Antimony	02/14/2018
SE ICPMS TR	Total Recoverable Selenium	02/14/2018
TL ICPMS TR	Total Recoverable Thallium	02/14/2018
ZN ICPMS TR	Total Recoverable Zinc	02/14/2018
MG ICP	Total Magnesium	02/14/2018

E219

Containers Supplied:

Sample ID: 1801786-02      Effluent Permit Renewal Grab      Matrix: *Wastewater*  
*Sampled: 02/07/2018*      *02*

SV 625-PERMIT RENEWAL	BN/AE Semivolatiles	02/14/2018
VOA 624 FORM2A	Volatile Organic Analytes	02/14/2018
OG	HEM (Oil and Grease)	02/14/2018
PHENOLICS	Phenolics (4AAP)	02/14/2018

Containers Supplied:

*Please see attached for required EPA Form 2A semivolatiles and volatile analytes.*

*Shouls*  
 Released By

*2/8/18*  
 Date

*W. W. W. 860*  
 Received By

*2/8/18 845*  
 Date

*7714 3477 2061*





**ANALYSIS REQUEST ID CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256) 350-0846

PAGE	1	of	1
Permit Renewal Comp.			

www.enersolv.com

2969158

COMPANY/CLIENT NAME Madison Water and Wastewater		CLIENT P.O. NUMBER		ENERSOLV PROJECT NUMBER		REQUESTED ANALYSES														
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHYSICAL ADDRESS 101 Ray Sanderson Drive			CITY/STATE/ZIP Madison, AL 35758			AG2TR, AS2TR, BE2TR	CD2TR, CR2TR, CU2TR	NI2TR, PB2TR, SB2TR	SE2TR, TL2TR, ZN2TR	CBOD	HARD	HG 245	NO3NO2IC	NH3	P TOTAL	TDS	TKN	TSS
CLIENT EMAIL mbland@madisonutilities.org		PHONE NUMBER 256-461-0845	OTHER INFORMATION																	
SAMPLE COLLECTED BY Slade Sparkman				EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)														
ENERSOLV LAB NUMBER	SAMPLE DESCRIPTION	SAMPLE TRANSFER/GRAB DATE	SAMPLE TRANSFER/GRAB TIME	GRAB	COMP	AG2TR, AS2TR, BE2TR	CD2TR, CR2TR, CU2TR	NI2TR, PB2TR, SB2TR	SE2TR, TL2TR, ZN2TR	CBOD	HARD	HG 245	NO3NO2IC	NH3	P TOTAL	TDS	TKN	TSS		
B017860	Effluent Permit Renewal Comp.	2-7-18	0817		X	X	X	X	X	X	X	X	X	X	X	X	X	X	ol	

Comments:

Collector to complete shaded areas, as applicable

SAMPLE TEMPERATURE RECEIVED @ 2.35

SAMPLER INFORMATION	FIELD INFORMATION								Qty	Type	Parameter		
	SM 4500H+B		SM 4500-Cl D		SM 4500-O G		SM 2550B						
Start Date	2-6-18	pH		TRC		DO		Temp		1	Poly Qrt HNO3	C	Metals
Start Time	0600	su		mg/l		mg/l		deg C		1	1/2 Gal Cool 6c	A	BOD, N/N, TDS, TSS
Stop Date	2-7-18	Date		Date		Date		Date		1	Poly Pint H2SO4 Cool 6c	B	NH3, P, TKN
Stop Time	0500	Time		Time		Time		Time					
		Analyst		Analyst		Analyst		Analyst					

RELINQUISHED BY: (SIGNATURE) Slade Sparkman	DATE 2-7-18	TIME 1150	RELINQUISHED BY: (SIGNATURE) Tom Boss	DATE 2-7-18	TIME 1455	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY: (SIGNATURE) Tom Boss	DATE 2-7-18	TIME 1150	RECEIVED BY: (SIGNATURE) [Signature]	DATE 2-7-18	TIME 845	RECEIVED BY: (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY: (SIGNATURE)			DATE	TIME	SAMPLE STATUS:			
					<input type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception			



**ANALYSIS REQUEST / CHAIN OF CUSTODY RECORD**  
**2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601**  
**(256) 360-0846**

PAGE	1	of	1
Permit Renewal Grab			

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196158

COMPANY/CLIENT NAME Madison Water and Wastewater		CLIENT P.O. NUMBER		ENERSOLV PROJECT NUMBER																	
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHYSICAL ADDRESS 101 Ray Sanderson Drive		CITY/STATE/ZIP Madison, AL 35758																	
CLIENT EMAIL mbland@madisonutilities.org		PHONE NUMBER 256-461-0845	OTHER INFORMATION																		
SAMPLE COLLECTED BY: Slade Sparkman				EXPEDITED REPORT DELIVERY (SURCHARGE)																	
				DATE DUE (REQUIRED)																	
ENERSOLV LAB NUMBER 180170602	SAMPLE DESCRIPTION Effluent Permit Renewal Grab			SAMPLE TRANSFER/GRAB DATE 2-7-18	SAMPLE TRANSFER/GRAB TIME 1004	GRAB	COMP	CN	EC, FC	OG	PHENOLICS	SV 625 PERMIT RENEW	VOA 624 FORM2A								

Comments:

FLOW \_\_\_\_\_  
 Collector to complete shaded areas, as applicable

SAMPLE TEMPERATURE RECEIVED @ 2.3

SAMPLER INFORMATION	FIELD INFORMATION				Qty	Type	Parameter
	SM 4500H+B	SM 4500-Cl D	SM 4500-O G	SM 2550B			
Start Date	pH	TRC	DO	Temp	1	Poly Pint NaOH Cool 6c	CN
Stop Date	su	mg/l	mg/l	deg C	2	Fecal Cup Cool 6c	EC, FC
Start Time	Date	Date	Date	Date	2	Glass WM 1000ml HCL Cool 6c	OG
Stop Time	Time	Time	Time	Time	1	Am Gl 1000ml H2SO4 Cool 6c	Phenolics
Stop Time	Analyst	Analyst	Analyst	Analyst	4	AM Glass 1000ml Cool 6c	625
					3/3	VOA 40ml Vials HCl/Iced Cool 6c	624

RELINQUISHED BY (SIGNATURE) Slade Sparkman	DATE 2-7-18	TIME 1150	RELINQUISHED BY (SIGNATURE) Sam Pass	DATE 2-7-18	TIME 1455	RELINQUISHED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE) Sam Pass	DATE 2-7-18	TIME 1150	RECEIVED BY (SIGNATURE) [Signature]	DATE 2/9/18	TIME 845	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY (SIGNATURE)	DATE	TIME	SAMPLE STATUS:					
			<input type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					

FACILITY NAME AND PERMIT NUMBER:

Form Approved 1/14/99  
OMB Number 2040-0088

Outfall number: \_\_\_\_\_ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
VOLATILE ORGANIC COMPOUNDS											
ACROLEIN											
ACRYLONITRILE											
BENZENE											
BROMOFORM											
CARBON TETRACHLORIDE											
CHLOROBENZENE											
CHLORODIBROMO-METHANE											
CHLOROETHANE											
2-CHLORO-ETHYL VINYL ETHER											
CHLOROFORM											
DICHLORODIBROMO-METHANE											
1,1-DICHLOROETHANE											
1,2-DICHLOROETHANE											
TRANS-1,2-DICHLORO-ETHYLENE											
1,1-DICHLOROETHYLENE											
1,2-DICHLOROPROPANE											
1,3-DICHLORO-PROPYLENE											
ETHYLBENZENE											
METHYL BROMIDE											
METHYL CHLORIDE											
METHYLENE CHLORIDE											
1,1,2,2-TETRACHLORO-ETHANE											
TETRACHLORO-ETHYLENE											
TOLUENE											

FACILITY NAME AND PERMIT NUMBER:

Form Approved 1/14/99  
OMB Number 2040-0086

Outfall number: \_\_\_\_\_ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL	
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples			
1,1,1-TRICHLOROETHANE												
1,1,2-TRICHLOROETHANE												
TRICHLOROETHYLENE												
VINYL CHLORIDE												

Use this space (or a separate sheet) to provide information on other volatile organic compounds requested by the permit writer.

--	--	--	--	--	--	--	--	--	--	--	--	--

**ACID-EXTRACTABLE COMPOUNDS**

P-CHLORO-M-CRESOL												
2-CHLOROPHENOL												
2,4-DICHLOROPHENOL												
2,4-DIMETHYLPHENOL												
4,6-DINITRO-O-CRESOL												
2,4-DINITROPHENOL												
2-NITROPHENOL												
4-NITROPHENOL												
PENTACHLOROPHENOL												
PHENOL												
2,4,6-TRICHLOROPHENOL												

Use this space (or a separate sheet) to provide information on other acid-extractable compounds requested by the permit writer.

--	--	--	--	--	--	--	--	--	--	--	--	--

**BASE-NEUTRAL COMPOUNDS**

ACENAPHTHENE												
ACENAPHTHYLENE												
ANTHRACENE												
BENZIDINE												
BENZO(A)ANTHRACENE												

BENZO(A)PYRENE

FACILITY NAME AND PERMIT NUMBER:

Form Approved 1/14/99  
OMB Number 2040-0088

Outfall number: \_\_\_\_\_ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
3,4 BENZO-FLUORANTHENE											
BENZO(GH)PERYLENE											
BENZO(K)FLUORANTHENE											
BIS (2-CHLOROETHOXY) METHANE											
BIS (2-CHLOROETHYL) ETHER											
BIS (2-CHLOROISO-PROPYL) ETHER											
BIS (2-ETHYLHEXYL) PHTHALATE											
4-BROMOPHENYL PHENYL ETHER											
BUTYL BENZYL PHTHALATE											
2-CHLORONAPHTHALENE											
4-CHLORPHENYL PHENYL ETHER											
CHRYSENE											
DI-N-BUTYL PHTHALATE											
DI-N-OCTYL PHTHALATE											
DIBENZO(A,H) ANTHRACENE											
1,2-DICHLOROBENZENE											
1,3-DICHLOROBENZENE											
1,4-DICHLOROBENZENE											
3,3-DICHLOROBENZDINE											
DIETHYL PHTHALATE											
DIMETHYL PHTHALATE											
2,4-DINITROTOLUENE											
2,6-DINITROTOLUENE											

1,2-DIPHENYLHYDRAZINE

FACILITY NAME AND PERMIT NUMBER:

Form Approved 1/14/89  
OMB Number 2040-0088

Outfall number: \_\_\_\_\_ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MOL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
FLUORANTHENE											
FLUORENE											
HEXACHLOROBENZENE											
HEXACHLOROBUTADIENE											
HEXACHLOROCYCLOPENTADIENE											
HEXACHLOROETHANE											
INDENO(1,2,3-CD)PYRENE											
ISOPHORONE											
NAPHTHALENE											
NITROBENZENE											
N-NITROSOO-N-PROPYLAMINE											
N-NITROSOO-METHYLAMINE											
N-NITROSOO-PHENYLAMINE											
PHENANTHRENE											
PYRENE											
1,2,4-TRICHLOROBENZENE											

Use this space (or a separate sheet) to provide information on other base-neutral compounds requested by the permit writer.

Use this space (or a separate sheet) to provide information on other pollutants (e.g., pesticides) requested by the permit writer.

**END OF PART D.  
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE**

## ESC LAB SCIENCES Cooler Receipt Form

Client:	ENERSOLV	SDG#	L969158	
Cooler Received/Opened On:	02/09/2018	Temperature:	1.1	
Received By:	Christian Kacar			
Signature:	<i>CK</i>			
Receipt Check List		NP	Yes	No
COC Seal Present / Intact?		/		
COC Signed / Accurate?			/	
Bottles arrive intact?			/	
Correct bottles used?			/	
Sufficient volume sent?			/	
If Applicable				
VOA Zero headspace?			/	
Preservation Correct / Checked?			/	



ANALYSIS REQUEST / CHAIN OF CUSTODY RECORD  
 2220 BELTLINE ROAD, W/ DECATUR, ALABAMA 35601  
 (256) 350-0846

www.enersolv.com

COMPANY/CLIENT NAME Madison Water and Wastewater		CLIENT P.O. NUMBER	ENERSOLV PROJECT NUMBER		REQUESTED ANALYSES												
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHYSICAL ADDRESS 101 Ray Sanderson Drive		CITY/STATE/ZIP Madison, AL 35758	AG2TR, AS2TR, BE2TR	CD2TR, CR2TR, CU2TR	NI2TR, PB2TR, SB2TR	SE2TR, TL2TR, ZN2TR	CBOD	HARD	HG 245	NO3NO2IC	NH3	P TOTAL	TDS	TKN	TSS
CLIENT EMAIL mbland@madisonutilities.org		PHONE NUMBER 256-461-0845	OTHER INFORMATION														
SAMPLE COLLECTED BY Slade Sporkman		EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)													
ENERSOLV LAB NUMBER 180178601	SAMPLE DESCRIPTION Effluent Permit Renewal Comp.		SAMPLE TRANSFER/GRAB DATE 2-7-18	SAMPLE TRANSFER/GRAB TIME 0917	GRAB	COMP	X	X	X	X	X	X	X	X	X	X	X

Comments: Collector to complete shaded areas, as applicable

SAMPLE TEMPERATURE RECEIVED @ 2.32

SAMPLER INFORMATION	FIELD INFORMATION				Qty	Type	Parameter
	SM 4500H+B	SM 4500-Cl D	SM 4500-O G	SM 2550B			
Start Date: 2-6-18	pH su	TRC mg/l	DO mg/l	Temp deg C	1	Poly Qrt HNO3	C Metals
Start Time: 0600	Date	Date	Date	Date	1	1/2 Gal Cool 6c	A BOD, N/N, TDS, TSS
Stop Date: 2-7-18	Time	Time	Time	Time	1	Poly Pint H2SO4 Cool 6c	B NH3, P, TKN
Stop Time: 0500	Analyst	Analyst	Analyst	Analyst			

RELINQUISHED BY (SIGNATURE) <i>Slade Sporkman</i>	DATE 2-7-18	TIME 1150	RELINQUISHED BY (SIGNATURE) <i>Tom Ross</i>	DATE 2-7-18	TIME 1455	RELINQUISHED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE) <i>Tom Ross</i>	DATE 2-7-18	TIME 1150	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY (SIGNATURE) <i>Shank</i>	DATE 2-7-18	TIME 1455	SAMPLE STATUS <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					







# ANALYTICAL REPORT

July 24, 2018

## ESC - Decatur Lab

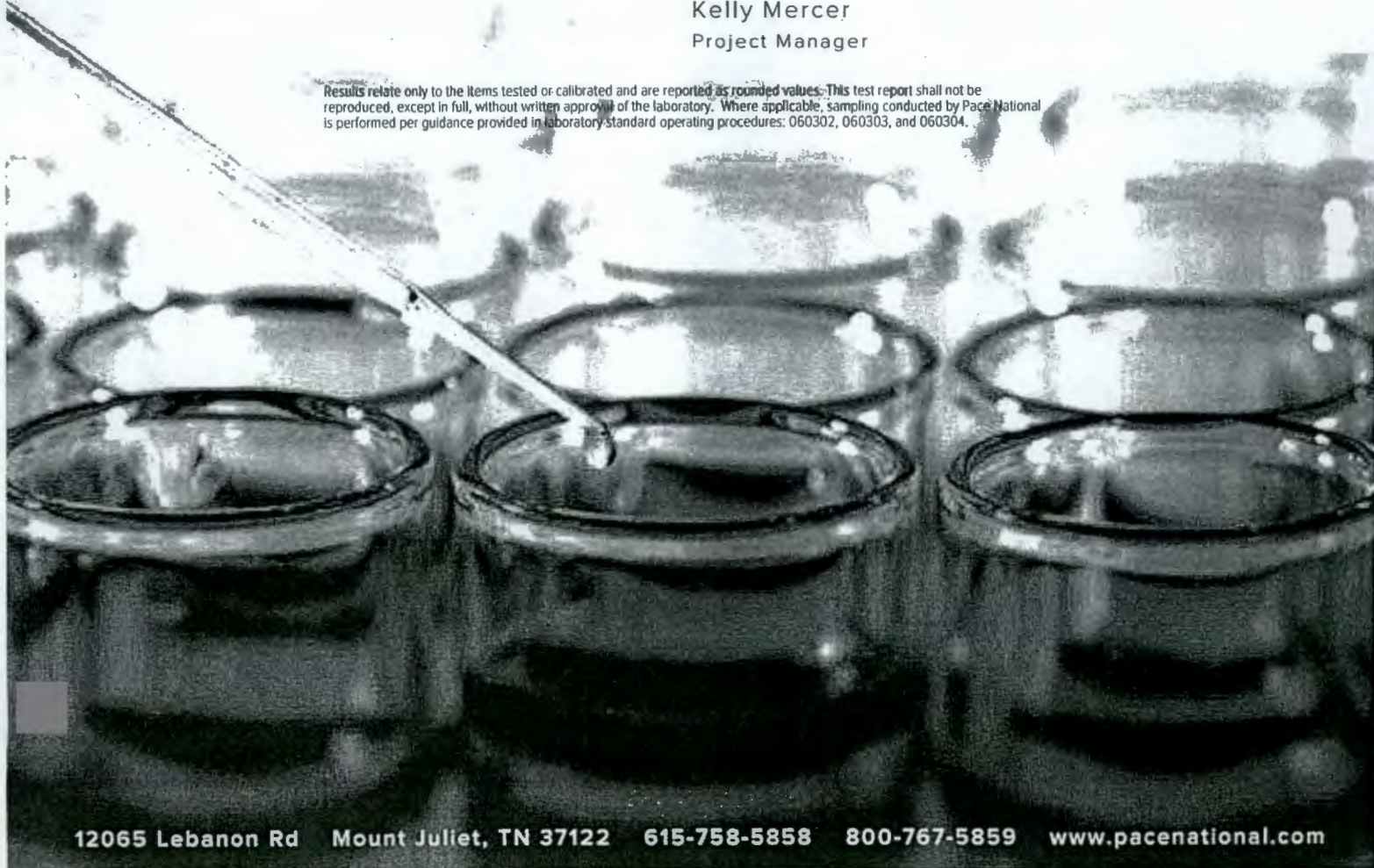
Sample Delivery Group: L1010642  
Samples Received: 07/18/2018  
Project Number: 1809581  
Description:

Report To: ESC Decatur  
2220 Beltline Road SW  
Decatur, AL 35601

Entire Report Reviewed By:

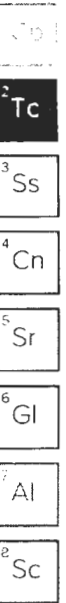
Kelly Mercer  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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# SAMPLE SUMMARY

ONE LAB. NATIONWIDE.

1809581-01 EFFLUENT PERMIT RENEWAL COMP. L1010642-01 WW					
			Collected by	Collected date/time	Received date/time
			JC	07/18/18 09:40	07/18/18 18:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 130.1	WG1140938	1	07/20/18 15:03	07/20/18 15:03	GB
Mercury by Method 245.1	WG1140298	1	07/20/18 04:51	07/20/18 10:17	ABL
Metals (ICP) by Method 200.7	WG1140393	1	07/19/18 20:07	07/20/18 17:29	TRB
Metals (ICP) by Method 200.7	WG1140393	1	07/19/18 20:07	07/21/18 17:14	CCE
Metals (ICPMS) by Method 200.8	WG1140718	1	07/20/18 09:42	07/21/18 14:31	LD

1809581-02 EFFLUENT PERMIT RENEWAL GRAB L1010642-02 WW					
			Collected by	Collected date/time	Received date/time
			JC	07/18/18 12:15	07/18/18 18:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 1664A	WG1140520	1	07/19/18 17:17	07/20/18 16:58	ALA
Wet Chemistry by Method 420.4	WG1141684	1	07/23/18 07:47	07/23/18 11:58	KK
Volatile Organic Compounds (GC/MS) by Method 624	WG1140594	1	07/20/18 00:01	07/20/18 00:01	ACG
Semi Volatile Organic Compounds (GC/MS) by Method 625	WG1140500	1	07/23/18 14:37	07/24/18 08:49	AO

Tc

3 Ss

4 Cn

5 Sr

6 Gl

Al

8 Sc



Collected date/time: 07/18/18 09:40

L1010642

Wet Chemistry by Method 130.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
Hardness (colorimetric) as CaCO3	143		30.0	1	07/20/2018 15:03	WG1140938

Mercury by Method 245.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
Mercury	ND		0.000200	1	07/20/2018 10:17	WG1140298

Metals (ICP) by Method 200.7

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
Calcium	45.8		1.00	1	07/20/2018 17:29	WG1140393
Magnesium	5.36		1.00	1	07/21/2018 17:14	WG1140393

Metals (ICPMS) by Method 200.8

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
Antimony	ND		0.00200	1	07/21/2018 14:31	WG1140718
Arsenic	0.00136		0.00100	1	07/21/2018 14:31	WG1140718
Beryllium	ND		0.00100	1	07/21/2018 14:31	WG1140718
Cadmium	ND		0.00100	1	07/21/2018 14:31	WG1140718
Chromium	ND		0.00100	1	07/21/2018 14:31	WG1140718
Copper	0.00985		0.00100	1	07/21/2018 14:31	WG1140718
Lead	ND		0.00100	1	07/21/2018 14:31	WG1140718
Nickel	0.00187		0.00100	1	07/21/2018 14:31	WG1140718
Selenium	ND		0.00200	1	07/21/2018 14:31	WG1140718
Silver	ND		0.00100	1	07/21/2018 14:31	WG1140718
Thallium	ND		0.00100	1	07/21/2018 14:31	WG1140718
Zinc	0.0275		0.0100	1	07/21/2018 14:31	WG1140718



Collected date/time: 07/18/18 12:15

L1010642

Wet Chemistry by Method 1664A

	Result	Qualifier	RDL	Dilution	Analysis	Batch
alyte	mg/l		mg/l		date / time	
& Grease (Hexane Extr)	ND		5.56	1	07/20/2018 16:58	WG1140520

Wet Chemistry by Method 420.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
Total Phenol by 4AAP	ND		0.0400	1	07/23/2018 11:58	WG1141684

Volatile Organic Compounds (GC/MS) by Method 624

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
Benzene	ND		0.00100	1	07/20/2018 00:01	WG1140594
Bromodichloromethane	ND		0.00100	1	07/20/2018 00:01	WG1140594
Bromoform	ND		0.00100	1	07/20/2018 00:01	WG1140594
Bromomethane	ND		0.00500	1	07/20/2018 00:01	WG1140594
Carbon tetrachloride	ND		0.00100	1	07/20/2018 00:01	WG1140594
Chlorobenzene	ND		0.00100	1	07/20/2018 00:01	WG1140594
Chlorodibromomethane	ND		0.00100	1	07/20/2018 00:01	WG1140594
Chloroethane	ND		0.00500	1	07/20/2018 00:01	WG1140594
2-Chloroethyl vinyl ether	ND		0.0500	1	07/20/2018 00:01	WG1140594
Chloroform	ND		0.00500	1	07/20/2018 00:01	WG1140594
Chloromethane	ND		0.00250	1	07/20/2018 00:01	WG1140594
1,2-Dichlorobenzene	ND		0.00100	1	07/20/2018 00:01	WG1140594
1,3-Dichlorobenzene	ND		0.00100	1	07/20/2018 00:01	WG1140594
1,4-Dichlorobenzene	ND		0.00100	1	07/20/2018 00:01	WG1140594
Dichlorodifluoromethane	ND		0.00500	1	07/20/2018 00:01	WG1140594
Dichloroethane	ND		0.00100	1	07/20/2018 00:01	WG1140594
-Dichloroethane	ND		0.00100	1	07/20/2018 00:01	WG1140594
1,1-Dichloroethene	ND		0.00100	1	07/20/2018 00:01	WG1140594
trans-1,2-Dichloroethene	ND		0.00100	1	07/20/2018 00:01	WG1140594
1,2-Dichloropropane	ND		0.00100	1	07/20/2018 00:01	WG1140594
cis-1,3-Dichloropropene	ND		0.00100	1	07/20/2018 00:01	WG1140594
trans-1,3-Dichloropropene	ND		0.00100	1	07/20/2018 00:01	WG1140594
Ethylbenzene	ND		0.00100	1	07/20/2018 00:01	WG1140594
Methylene Chloride	ND		0.00500	1	07/20/2018 00:01	WG1140594
Methyl tert-butyl ether	ND		0.00500	1	07/20/2018 00:01	WG1140594
Naphthalene	ND		0.00500	1	07/20/2018 00:01	WG1140594
1,1,2,2-Tetrachloroethane	ND		0.00100	1	07/20/2018 00:01	WG1140594
Tetrachloroethene	ND		0.00100	1	07/20/2018 00:01	WG1140594
Toluene	ND		0.00100	1	07/20/2018 00:01	WG1140594
1,1,1-Trichloroethane	ND		0.00100	1	07/20/2018 00:01	WG1140594
1,1,2-Trichloroethane	ND		0.00100	1	07/20/2018 00:01	WG1140594
Trichloroethene	ND		0.00100	1	07/20/2018 00:01	WG1140594
Trichlorofluoromethane	ND		0.00500	1	07/20/2018 00:01	WG1140594
Vinyl chloride	ND		0.00100	1	07/20/2018 00:01	WG1140594
(S) Toluene-d8	95.5		80.0-120		07/20/2018 00:01	WG1140594
(S) Dibromofluoromethane	107		76.0-123		07/20/2018 00:01	WG1140594
(S) o,o,o-Trifluorotoluene	95.9		80.0-120		07/20/2018 00:01	WG1140594
(S) 4-Bromofluorobenzene	101		80.0-120		07/20/2018 00:01	WG1140594



Collected date/time: 07/18/18 12:15

L1010642

Semi Volatile Organic Compounds (GC/MS) by Method 625

alyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
anaphthene	ND		0.00100	1	07/24/2018 08:49	WG1140500
Acenaphthylene	ND		0.00100	1	07/24/2018 08:49	WG1140500
Anthracene	ND		0.00100	1	07/24/2018 08:49	WG1140500
Benzidine	ND		0.0100	1	07/24/2018 08:49	WG1140500
Benzo(a)anthracene	ND		0.00100	1	07/24/2018 08:49	WG1140500
Benzo(b)fluoranthene	ND		0.00100	1	07/24/2018 08:49	WG1140500
Benzo(k)fluoranthene	ND		0.00100	1	07/24/2018 08:49	WG1140500
Benzog(h,i)perylene	ND		0.00100	1	07/24/2018 08:49	WG1140500
Benzo(a)pyrene	ND		0.00100	1	07/24/2018 08:49	WG1140500
Bis(2-chloroethoxy)methane	ND		0.0100	1	07/24/2018 08:49	WG1140500
Bis(2-chloroethyl)ether	ND		0.0100	1	07/24/2018 08:49	WG1140500
Bis(2-chloroisopropyl)ether	ND		0.0100	1	07/24/2018 08:49	WG1140500
4-Bromophenyl-phenylether	ND		0.0100	1	07/24/2018 08:49	WG1140500
2-Chloronaphthalene	ND		0.00100	1	07/24/2018 08:49	WG1140500
4-Chlorophenyl-phenylether	ND		0.0100	1	07/24/2018 08:49	WG1140500
Chrysene	ND		0.00100	1	07/24/2018 08:49	WG1140500
Dibenz(a,h)anthracene	ND		0.00100	1	07/24/2018 08:49	WG1140500
3,3-Dichlorobenzidine	ND		0.0100	1	07/24/2018 08:49	WG1140500
2,4-Dinitrotoluene	ND		0.0100	1	07/24/2018 08:49	WG1140500
2,6-Dinitrotoluene	ND		0.0100	1	07/24/2018 08:49	WG1140500
1,2-Diphenylhydrazine	ND		0.0100	1	07/24/2018 08:49	WG1140500
Fluoranthene	ND		0.00100	1	07/24/2018 08:49	WG1140500
Fluorene	ND		0.00100	1	07/24/2018 08:49	WG1140500
Hexachlorobenzene	ND		0.00100	1	07/24/2018 08:49	WG1140500
Hexachloro-1,3-butadiene	ND		0.0100	1	07/24/2018 08:49	WG1140500
Hexachlorocyclopentadiene	ND		0.0100	1	07/24/2018 08:49	WG1140500
hexachloroethane	ND		0.0100	1	07/24/2018 08:49	WG1140500
...Jeno(1,2,3-cd)pyrene	ND		0.00100	1	07/24/2018 08:49	WG1140500
Isophorone	ND		0.0100	1	07/24/2018 08:49	WG1140500
Naphthalene	ND		0.00100	1	07/24/2018 08:49	WG1140500
Nitrobenzene	ND		0.0100	1	07/24/2018 08:49	WG1140500
n-Nitrosodimethylamine	ND		0.0100	1	07/24/2018 08:49	WG1140500
n-Nitrosodiphenylamine	ND		0.0100	1	07/24/2018 08:49	WG1140500
n-Nitrosodl-n-propylamine	ND		0.0100	1	07/24/2018 08:49	WG1140500
Phenanthrene	ND		0.00100	1	07/24/2018 08:49	WG1140500
Benzylbutyl phthalate	ND		0.00300	1	07/24/2018 08:49	WG1140500
Bis(2-ethylhexyl)phthalate	ND		0.00300	1	07/24/2018 08:49	WG1140500
Di-n-butyl phthalate	ND		0.00300	1	07/24/2018 08:49	WG1140500
Diethyl phthalate	ND		0.00300	1	07/24/2018 08:49	WG1140500
Dimethyl phthalate	ND	J4	0.00300	1	07/24/2018 08:49	WG1140500
Di-n-octyl phthalate	ND		0.00300	1	07/24/2018 08:49	WG1140500
Pyrene	ND		0.00100	1	07/24/2018 08:49	WG1140500
1,2,4-Trichlorobenzene	ND		0.0100	1	07/24/2018 08:49	WG1140500
4-Chloro-3-methylphenol	ND		0.0100	1	07/24/2018 08:49	WG1140500
2-Chlorophenol	ND		0.0100	1	07/24/2018 08:49	WG1140500
2,4-Dichlorophenol	ND		0.0100	1	07/24/2018 08:49	WG1140500
2,4-Dimethylphenol	ND		0.0100	1	07/24/2018 08:49	WG1140500
4,6-Dinitro-2-methylphenol	ND		0.0100	1	07/24/2018 08:49	WG1140500
2,4-Dinitrophenol	ND		0.0100	1	07/24/2018 08:49	WG1140500
2-Nitrophenol	ND		0.0100	1	07/24/2018 08:49	WG1140500
4-Nitrophenol	ND		0.0100	1	07/24/2018 08:49	WG1140500
Pentachlorophenol	ND		0.0100	1	07/24/2018 08:49	WG1140500
Phenol	ND		0.0100	1	07/24/2018 08:49	WG1140500
1,6-Trichlorophenol	ND		0.0100	1	07/24/2018 08:49	WG1140500
(S) Nitrobenzene-d5	61.7		10.0-126		07/24/2018 08:49	WG1140500
(S) 2-Fluorobiphenyl	57.2		22.0-127		07/24/2018 08:49	WG1140500





Collected date/time: 07/18/18 12:15

L1010642

Semi Volatile Organic Compounds (GC/MS) by Method 625

	Result	Qualifier	RDL	Dilution	Analysis	Batch
ilyte	mg/l		mg/l		date / time	
,S) p-Terphenyl-d14	69.6		29.0-141		07/24/2018 08:49	WG1140500
(S) Phenol-d5	25.4		10.0-120		07/24/2018 08:49	WG1140500
(S) 2-Fluorophenol	35.4		10.0-120		07/24/2018 08:49	WG1140500
(S) 2,4,6-Tribromophenol	68.2		10.0-153		07/24/2018 08:49	WG1140500

- 1 Cd
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Gl
- 7 Al
- 8 Sc

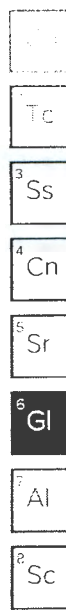


Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample. Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.



Qualifier	Description
J4	The associated batch QC was outside the established quality control range for accuracy.





# SUBCONTRACT ORDER

### Sending Laboratory:

ESC - Decatur  
 2220 Beltline Road SW  
 Decatur, AL 35601  
 Phone: 256-350-0846  
 Fax: 256-350-0686

### Subcontracted Laboratory:

ESC  
 12065 Lebanon Road  
 Mount Juliet, TN 37122  
 Phone: (615) 758-5858  
 Fax:  
 L1010692

Work Order: 1809581

Analysis Code	Analysis Description	Due	Comments
<b>Sample ID: 1809581-01</b>		Effluent Permit Renewal Comp	Matrix: Wastewater
Sampled: 07/18/2018			
HG 245.1	Total Mercury	07/25/2018	<p style="text-align: center;">B096</p> <p style="text-align: center;">← pH</p> <p>Please calculate Hardness</p> <p>Please calculate Hardness</p>
PB ICPMS TR	Total Recoverable Lead	07/25/2018	
AS ICPMS TR	Total Recoverable Arsenic	07/25/2018	
BE ICPMS TR	Total Recoverable Beryllium	07/25/2018	
CA ICP	Total Calcium	07/25/2018	
CD ICPMS TR	Total Recoverable Cadmium	07/25/2018	
CR ICPMS TR	Total Recoverable Chromium	07/25/2018	
CU ICPMS TR	Total Recoverable Copper	07/25/2018	
AG ICPMS TR	Total Recoverable Silver	07/25/2018	
NI ICPMS TR	Total Recoverable Nickel	07/25/2018	
SB ICPMS TR	Total Recoverable Antimony	07/25/2018	
SE ICPMS TR	Total Recoverable Selenium	07/25/2018	
TL ICPMS TR	Total Recoverable Thallium	07/25/2018	
ZN ICPMS TR	Total Recoverable Zinc	07/25/2018	
MG ICP	Total Magnesium	07/25/2018	
Containers Supplied:			

<b>Sample ID: 1809581-02</b>		Effluent Permit Renewal Grab	Matrix: Wastewater
Sampled: 07/18/2018			
SV 625-PERMIT RENEWAL	BN/AE Semivolatiles	07/25/2018	<p style="text-align: right;">OL</p>
VOA 624-FORM2A	Volatile Organic Analytes	07/25/2018	
OG	HEM (Oil and Grease)	07/25/2018	
PHENOLICS	Phenolics (4AAP)	07/25/2018	
Containers Supplied:			

2037

The appropriate credentials and accreditations of the subcontract laboratory have been verified for the analyses to be performed on the samples included in this document as of the date samples were shipped to the subcontract laboratory.

Yes  No

Released By: X Date: 7/18/18 Received By: Colb David Date: 7/18/18



ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256) 350-0845

www.enersolv.com

COMPANY/CLIENT NAME: Madison Water and Wastewater		CLIENT P.O. NUMBER:		ENERSOLV PROJECT NUMBER:		REQUESTED ANALYSES: <u>UO1064L</u>												
CLIENT POINT OF CONTACT: Mark Bland		CLIENT PHYSICAL ADDRESS: 101 Ray Sanderson Drive		CITY/STATE/ZIP: Madison, AL 35758		AG2TR, AS2TR, BE2TR	CD2TR, CR2TR, CU2TR	N12TR, PB2TR, SB2TR	SE2TR, TL2TR, ZN2TR	CBOD	HARD	HG 245	NO3NO2IC	NH3	P TOTAL	TDS	TKN	TSS
CLIENT EMAIL: mbland@madisonutilities.org		PHONE NUMBER: 256-461-0845		OTHER INFORMATION:		GRAB	COMP											
SAMPLE COLLECTED BY: <i>William Carr</i>				EXPEDITED REPORT DELIVERY (SURCHARGE):				DATE DUE (REQUIRED):										
ENERSOLV LAB NUMBER: <u>10581-01</u>	SAMPLE DESCRIPTION: Effluent Permit Renewal Comp.			SAMPLE TRANSFER/GRAB DATE: <u>7-18-18</u>	SAMPLE TRANSFER/GRAB TIME: <u>0940</u>	GRAB	COMP											

Comments:  
 Collector to complete shaded areas, as applicable. 2.33  
 SAMPLE TEMPERATURE RECEIVED @ 3.4

SAMPLER INFORMATION	FIELD INFORMATION							Qty	Type	Parameter
	SM 4500H+B	SM 4500-CI D	SM 4500-O-G	SM 2550B						
Start Date: <u>7-17-18</u>	pH: <u>8.1</u>	TRC: <u>mg/l</u>	DO: <u>mg/l</u>	Temp: <u>deg C</u>			1	Poly Qrt HNO3	Metals	
Start Time: <u>0600</u>	Date	Date	Date	Date			1	1/2 Gal Cool 6c	BOD, N/N, TDS, TSS	
Stop Date: <u>7-18-18</u>	Time	Time	Time	Time			1	Poly Pint. H2SO4 Cool 6c	NH3, P, TKN	
Stop Time: <u>0500</u>	Analyst	Analyst	Analyst	Analyst						

RELINQUISHED BY (SIGNATURE): <i>William Carr</i>	DATE: <u>7/18/18</u>	TIME: <u>12:30</u>	RELINQUISHED BY (SIGNATURE): <i>Tom P... ..</i>	DATE: <u>7/18/18</u>	TIME: <u>1420</u>	RELINQUISHED BY (SIGNATURE):	DATE:	TIME:
RECEIVED BY (SIGNATURE): <i>Tom P... ..</i>	DATE: <u>7/18/18</u>	TIME: <u>1230</u>	RECEIVED BY (SIGNATURE):	DATE:	TIME:	RECEIVED BY (SIGNATURE):	DATE:	TIME:
RECEIVED FOR LABORATORY USE BY (SIGNATURE): <i>Frank</i>	DATE: <u>7/18/18</u>	TIME: <u>1400</u>	SAMPLE STATUS:	<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception				



## Pace Analytical National Center for Testing & Innovation Cooler Receipt Form

Client:	ENERSOLV	6/0/0692	SDG#	
Cooler Received/Opened On:	7/ 19 /18	Temperature:	2.3°C	
Received By:	Colt Daniel			
Signature:	<i>Colt Daniel</i>			
Receipt Check List		NP	Yes	No
COC Seal Present // Intact?			X	
COC Signed // Accurate?			X	
Bottles arrive intact?			X	
Correct bottles used?			X	
Sufficient volume sent?			X	
If Applicable				
VOA Zero headspace?			X	
Preservation Correct // Checked?				







**ANALYSIS REQUEST ) CHAIN OF CUSTODY RECORD**  
**2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601**  
**(256) 350-0846**

www.enersolv.com

COMPANY/CLIENT NAME Madison Water and Wastewater		CLIENT P.O. NUMBER		ENERSOLV PROJECT NUMBER																
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHYSICAL ADDRESS 101 Ray Sanderson Drive		CITY/STATE/ZIP Madison, AL 35758																
CLIENT EMAIL mbland@madisonutilities.org		PHONE NUMBER 256-461-0845	OTHER INFORMATION																	
SAMPLE COLLECTED BY <i>Johann Carls</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)																		
		DATE DUE (REQUIRED)																		
ENERSOLV LAB NUMBER: <i>1909581-02</i>	SAMPLE DESCRIPTION Effluent Permit Renewal Grab			SAMPLE TRANSFER/GRAB DATE <i>7-18-18</i>	SAMPLE TRANSFER/GRAB TIME <i>12:15</i>	GRAB	COMP	CN	EC, FC	OG	PHENOLICS	SV 625 PERMIT RENEW	VOA 624 FORM2A							

**Comments:**  
 FLOW \_\_\_\_\_  
 Collector to complete shaded areas, as applicable

**SAMPLE TEMPERATURE RECEIVED @** *34*

SAMPLER INFORMATION	FIELD INFORMATION						Qty	Type	Parameter
	SM 4500H+B		SM 4500-CI D		SM 4500-O G				
Start Date	pH	TRC	DO	Temp			1	Poly Pint NAOH Cool 6c	CN
	su	mg/l	mg/l	deg C			2	Fecal Cup Cool 6c	EC, FC
Start Time	Date	Date	Date	Date			2	Glass WM 1000ml HCL Cool 6c	OG
Stop Date	Time	Time	Time	Time			1	Am GI 1000ml H2SO4 Cool 6c	Phenolics
Stop Time	Analyst	Analyst	Analyst	Analyst			4	AM Glass 1000ml Cool 6c	625
							3/3	VOA 40ml Vials HCl/Iced Cool 6c	624

RELINQUISHED BY: (SIGNATURE) <i>Johann Carls</i>	DATE 7/18/18	TIME 12:30	RELINQUISHED BY: (SIGNATURE) <i>Sam Ross</i>	DATE 7/18/18	TIME 14:20	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY: (SIGNATURE) <i>Sam Ross</i>	DATE 7/18/18	TIME 12:30	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY: (SIGNATURE) <i>Johann Carls</i>	DATE 7-18-18	TIME 14:20	SAMPLE STATUS					
			<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					



2220 Beltline Road SW  
Decatur, AL 35601  
256.350.0846  
www.esclabsciences.com

February 20, 2018

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>LabNumber</u>	<u>Sample Description</u>	<u>Date/Time Collected</u>	<u>Date Submitted</u>
1801786-01	Effluent Permit Renewal Comp.	2/7/18 05:00	2/7/18
1801786-02	Effluent Permit Renewal Grab	2/7/18 10:04	2/7/18

ESC-Decatur is accredited to ISO/IEC 17025:2005 by ANSI-ASQ National Accreditation Board (ANAB) and to the TNI 2003 Standard by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ESC-Decatur are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed in accordance with ESC-Decatur's Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

This cover page and the attached chain-of-custody record(s) are integral parts of your report. ESC-Decatur considers this report your official record. This information shall remain in ESC-Decatur's active database for a period of one (1) calendar year before archiving. Any replacement of this information after archiving may result in an administrative fee to cover the cost of retrieval.

If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

*Karen Sutton*

Karen Sutton  
Project Manager

**SAMPLE RESULTS REPORT**

Report Date/Time: 02/20/2018 13:08

**REPORT TO**  
Mark Bland  
Water & Wastewater Board City of  
Madison  
101 Ray Sanderson Drive  
Madison, AL 35758



NELAP  
Accredited  
Florida DOH  
#E871078

ESC-Decatur maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ESC-Decatur also maintains ISO/IEC 17025 accreditation through ANSI-ASQ Accreditation Board for the specific tests listed in ANAB Certificate #L2239 scope of accreditation.

Tests within the scope of accreditation are indicated by an asterisk (\*).

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ESC-Decatur.*



Cert# L2239 Testing

ADEM  
Drinking Water  
Certification  
No. 40160

Analyte Name	Result	Units	Qual	Regulatory Limit
--------------	--------	-------	------	------------------

Sample Point: Effluent Permit Renewal Comp.

Sample ID: 1801786-01

Collected: 02/07/2018

Submitted: 02/07/2018

*Anions by IC*

Nitrate plus Nitrite-Nitrogen	9.69	mg/l		
* Nitrate-Nitrogen CAS: 14797-55-8	9.69	mg/l		
* Nitrite-Nitrogen CAS: 14797-65-0	<0.0600	mg/l		

*Inorganics*

* Ammonia-Nitrogen CAS: 8013-59-0	0.328	mg/l		
* Carbonaceous BOD	<3.00	mg/l	D, Q	
Total Dissolved Solids	290	mg/l		
* Total Kjeldahl Nitrogen	2.09	mg/l		
* Total Phosphorus	1.80	mg/l		
* Total Suspended Solids	4.33	mg/l		

Sample Point: Effluent Permit Renewal Grab

Sample ID: 1801786-02

Collected: 02/07/2018

Submitted: 02/07/2018

*Inorganics*

E. coli	40	col/100 ml		
Fecal Coliform	<10	col/100 ml		
Total Cyanide	<0.00500	mg/l		

**SAMPLE RESULTS REPORT**

Report Date/Time: 02/20/2018 13:08

REPORT TO
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758



NELAP  
Accredited  
Florida DOH  
#E871078

ESC-Decatur maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

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Cert# L2239 Testing  
ADEM  
Drinking Water  
Certification  
No. 40160

All calculations are performed prior to rounding per EPA and *Standard Methods* requirements.

**Data Qualifiers:**

- Q** One or more quality control criteria (LCS, continuing calibration, etc) failed. Data may be estimated or biased.
- M** Sample matrix precluded reliable matrix spike/matrix spike duplicate recovery and/or precision. Non-homogeneity of sample or presence of interfering substances may result in spike recoveries outside acceptance limits.
- D** Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
- <** Less than reporting limit

**Analysis Information**

Lab Number	Analysis	SpecificMethod	Analyst	Analysis	Analysis
				Start Date/Time	End Date/Time
1801786-01	Carbonaceous BOD	SM 5210B-2001	JB	02/08/2018 16:26	02/13/2018 10:19
1801786-01	Ammonia-Nitrogen	SM 4500 NH3-C	DS	02/12/2018 08:00	
1801786-01	Nitrite-Nitrogen	EPA 300.0	KW	02/08/2018 17:47	
1801786-01	Nitrate-Nitrogen	EPA 300.0	KW	02/08/2018 17:47	
1801786-01	Nitrate plus Nitrite-Nitrogen	EPA 300.0	KW	02/08/2018 17:47	
1801786-01	Total Phosphorus	EPA 365.3	JW	02/12/2018 14:05	
1801786-01	Total Dissolved Solids	SM 2540C	SH	02/08/2018 10:30	
1801786-01	Total Kjeldahl Nitrogen	SM 4500-Norg C	DS	02/12/2018 08:00	
1801786-01	Total Suspended Solids	USGS I-3765-85	JCS	02/08/2018 13:38	
1801786-02	Total Cyanide	ASTM D7511-09	JW	02/08/2018 10:25	
1801786-02	E. coli	mColiBlue-24	RAC	02/07/2018 15:15	02/08/2018 15:15
1801786-02	Fecal Coliform	SM 9222D-1997	RAC	02/07/2018 15:25	02/08/2018 14:00

The results contained in this report are only representative of the sample(s) received.



2220 Beltline Road SW  
Decatur, AL 35601  
256.350.0846  
www.paccnational.com

July 27, 2018

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>LabNumber</u>	<u>Sample Description</u>	<u>Date/Time Collected</u>	<u>Date Submitted</u>
1809581-01	Effluent Permit Renewal Comp.	7/18/18 05:00	7/18/18
1809581-02	Effluent Permit Renewal Grab	7/18/18 12:15	7/18/18

Pace National-Decatur is accredited to ISO/IEC 17025:2005 by ANSI-ASQ National Accreditation Board (ANAB) and to the TNI 2003 Standard by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ESC-Decatur are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed in accordance with ESC-Decatur's Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

This cover page and the attached chain-of-custody record(s) are integral parts of your report. Pace National-Decatur considers this report your official record. This information shall remain in Pace National-Decatur's active database for a period of one (1) calendar year before archiving. Any replacement of this information after archiving may result in an administrative fee to cover the cost of retrieval.

If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

*Karen Sutton*

Karen Sutton  
Project Manager

## SAMPLE RESULTS REPORT

Report Date/Time: 07/27/2018 12:17

REPORT TO
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758



NELAP  
Accredited  
Florida DOH  
#E871078

Pace National-Decatur maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ESC-Decatur also maintains ISO/IEC 17025 accreditation through ANSI-ASQ Accreditation Board for the specific tests listed in ANAB Certificate #L2239 scope of accreditation.

Tests within the scope of accreditation are indicated by an asterisk (\*).

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ANAB Cert. #L2239 Testing  
ADEM  
Drinking Water  
Certification  
No. 40160

Analyte Name	Result	Units	Qual	Regulatory Limit
--------------	--------	-------	------	------------------

**Sample Point: Effluent Permit Renewal Comp.**

**Sample ID: 1809581-01**

**Collected: 07/18/2018**

**Submitted: 07/18/2018**

**Anions by IC**

Nitrate plus Nitrite-Nitrogen	5.45	mg/l		
* Nitrate-Nitrogen CAS: 14797-55-8	5.45	mg/l		
* Nitrite-Nitrogen CAS: 14797-65-0	<0.0600	mg/l		

**Inorganics**

* Ammonia-Nitrogen CAS: 8013-59-0	<0.100	mg/l		
* Carbonaceous BOD	<2.00	mg/l		
Total Dissolved Solids	260	mg/l		
* Total Kjeldahl Nitrogen	<1.50	mg/l		
* Total Phosphorus	<1.00	mg/l		
* Total Suspended Solids	3.50	mg/l		

**Sample Point: Effluent Permit Renewal Grab**

**Sample ID: 1809581-02**

**Collected: 07/18/2018**

**Submitted: 07/18/2018**

**Inorganics**

E. coli	<10	col/100 ml		
Fecal Coliform	<10	col/100 ml		
Total Cyanide	0.00536	mg/l		

**SAMPLE RESULTS REPORT**

Report Date/Time: 07/27/2018 12:17

REPORT TO
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758



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#E871078

Pace National-Decatur maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ESC-Decatur also maintains ISO/IEC 17025 accreditation through ANSI-ASQ Accreditation Board for the specific tests listed in ANAB Certificate #L2239 scope of accreditation.

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ANAB Cert. #L2239 Testing  
ADEM  
Drinking Water  
Certification  
No. 40160

All calculations are performed prior to rounding per EPA and *Standard Methods* requirements.

**Data Qualifiers:**

< Less than reporting limit

**Analysis Information**

Lab Number	Analysis	SpecificMethod	Analyst	Analysis Start Date/Time	Analysis End Date/Time
* 809581-01	Carbonaceous BOD	SM 5210B-2011	AH	07/19/2018 15:10	07/24/2018 10:00
809581-01	Ammonia-Nitrogen	SM 4500 NH3-C-2011	ED	07/23/2018 08:00	
1809581-01	Nitrite-Nitrogen	EPA 300.0	LLW	07/19/2018 02:07	
1809581-01	Nitrate-Nitrogen	EPA 300.0	LLW	07/19/2018 02:07	
1809581-01	Nitrate plus Nitrite-Nitrogen	EPA 300.0	LLW	07/19/2018 02:07	
1809581-01	Total Phosphorus	EPA 365.3	JW	07/19/2018 13:00	
1809581-01	Total Dissolved Solids	SM 2540C-2011	JW	07/23/2018 14:55	
1809581-01	Total Kjeldahl Nitrogen	SM 4500-Norg C-2011	ED	07/19/2018 06:15	
1809581-01	Total Suspended Solids	USGS 1-3765-85	JRL	07/22/2018 17:30	
1809581-02	Total Cyanide	ASTM D7511-09	JW	07/20/2018 12:05	
1809581-02	E. coli	mColiBlue-24	RAC	07/18/2018 15:00	07/19/2018 15:00
1809581-02	Fecal Coliform	SM 9222D-2006	RAC	07/18/2018 15:10	07/19/2018 13:20

The results contained in this report are only representative of the sample(s) received.



October 24, 2017

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>LabNumber</u>	<u>Sample Description</u>	<u>Date/Time Collected</u>	<u>Date Submitted</u>
1714417-01	Effluent Permit Renewal Comp.	10/13/17 05:00	10/13/17
1714417-02	Effluent Permit Renewal Grab	10/13/17 09:37	10/13/17

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 Standard by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed in accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

This cover page and the attached chain-of-custody record(s) are integral parts of your report. ENERSOLV considers this report your official record. This information shall remain in ENERSOLV's active database for a period of one (1) calendar year before archiving. Any replacement of this information after archiving may result in an administrative fee to cover the cost of retrieval.

If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.



Karen Sutton  
Vice President Client Services





**SAMPLE RESULTS REPORT**

Report Date/Time: 10/24/2017 16:09

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of  
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Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Permit Renewal Comp.

Sample ID: 1714417-01

Collected: 10/13/2017

Submitted: 10/13/2017

*Anions by IC*

Nitrate plus Nitrite-Nitrogen	10.9	mg/l		
* Nitrate-Nitrogen CAS: 14797-55-8	10.9	mg/l		
* Nitrite-Nitrogen CAS: 14797-65-0	<0.0600	mg/l		

*Inorganics*

* Ammonia-Nitrogen CAS: 8013-59-0	<0.100	mg/l		
* Carbonaceous BOD	2.50	mg/l		
Total Dissolved Solids	297	mg/l		
* Total Kjeldahl Nitrogen	1.54	mg/l		
* Total Phosphorus	2.64	mg/l		
* Total Suspended Solids	7.67	mg/l		

*Metals by ICP-MS*

* Total Recoverable Antimony CAS: 7440-36-0	<0.00100	mg/l		
* Total Recoverable Arsenic CAS: 7440-38-2	<0.000500	mg/l		
* Total Recoverable Beryllium CAS: 7440-41-7	<0.00100	mg/l		
* Total Recoverable Cadmium CAS: 7440-43-9	<0.00100	mg/l		
* Total Recoverable Chromium CAS: 7440-47-3	<0.00100	mg/l		
* Total Recoverable Copper CAS: 7440-50-8	0.00668	mg/l		
* Total Recoverable Lead CAS: 7439-92-1	<0.00100	mg/l		
* Total Recoverable Nickel CAS: 7440-02-0	<0.00100	mg/l		
* Total Recoverable Selenium CAS: 7782-49-2	<0.00100	mg/l		



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Report Date/Time: 10/24/2017 16:09

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Cert# L2239 Testing

ADEM  
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 No. 40160

Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Permit Renewal Comp. (Cont'd)

Sample ID: 1714417-01

Collected: 10/13/2017

Submitted: 10/13/2017

*Metals by ICP-MS (Cont'd)*

* Total Recoverable Silver CAS: 7440-22-4	<0.00100	mg/l		
* Total Recoverable Thallium CAS: 7440-28-0	<0.00100	mg/l		
* Total Recoverable Zinc CAS: 7440-66-6	0.0231	mg/l		

*Metals by ICP-OES*

* Total Calcium CAS: 7440-70-2	60.4	mg/l		
Total Hardness	175	mg/l CaCO3		
* Total Magnesium CAS: 7439-95-4	5.91	mg/l		

*Miscellaneous Metals*

* Total Mercury CAS: 7440-42-8	<0.000200	mg/l		
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**SAMPLE RESULTS REPORT**

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Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Permit Renewal Grab

Sample ID: 1714417-02

Collected: 10/13/2017

Submitted: 10/13/2017

**Inorganics**

E. coli	20	col/100 ml		
Fecal Coliform	10	col/100 ml		
* HEM (Oil and Grease)	<5.00	mg/l		
Phenolics (4AAP)	<0.0100	mg/l		
Total Cyanide	<0.00500	mg/l		

**Semivolatiles by EPA 625**

1,2,4-Trichlorobenzene CAS: 120-82-1	<5.00	ug/l		
1,2-Diphenylhydrazine as Azobenzene CAS: 122-66-7	<10.0	ug/l		
2,4,6-Trichlorophenol CAS: 88-06-2	<5.00	ug/l		
2,4-Dichlorophenol CAS: 120-83-2	<5.00	ug/l		
2,4-Dimethylphenol CAS: 105-67-9	<10.0	ug/l		
2,4-Dinitrophenol CAS: 51-28-5	<50.0	ug/l		
2,4-Dinitrotoluene CAS: 121-14-2	<5.00	ug/l		
2,6-Dinitrotoluene CAS: 606-20-2	<5.00	ug/l		
2-Chloronaphthalene CAS: 91-58-7	<5.00	ug/l		
2-Chlorophenol CAS: 95-57-8	<5.00	ug/l		
2-Nitrophenol CAS: 88-75-5	<5.00	ug/l		
3,3'-Dichlorobenzidine CAS: 91-94-1	<10.0	ug/l		
4,6-Dinitro-2-methylphenol CAS: 534-52-1	<50.0	ug/l		



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Report Date/Time: 10/24/2017 16:09

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Cert# L2239 Testing

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 No. 40160

Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Permit Renewal Grab (Cont'd)

Sample ID: 1714417-02

Collected: 10/13/2017

Submitted: 10/13/2017

*Semivolatiles by EPA 625 (Cont'd)*

4-Bromophenyl phenyl ether CAS: 101-55-3	<5.00	ug/l		
4-Chloro-3-methylphenol CAS: 59-50-7	<5.00	ug/l		
4-Chlorophenyl phenyl ether CAS: 7005-72-3	<5.00	ug/l		
4-Nitrophenol CAS: 100-02-7	<10.0	ug/l		
Acenaphthene CAS: 83-32-9	<5.00	ug/l		
Acenaphthylene CAS: 208-96-8	<10.0	ug/l		
Anthracene CAS: 120-12-7	<20.0	ug/l		
Benzidine CAS: 92-87-5	<50.0	ug/l	Q	
Benzo[a]anthracene CAS: 56-55-3	<5.00	ug/l		
Benzo[a]pyrene CAS: 50-32-8	<5.00	ug/l		
Benzo[b]fluoranthene CAS: 205-99-2	<5.00	ug/l		
Benzo[g,h,i]perylene CAS: 191-24-2	<10.0	ug/l		
Benzo[k]fluoranthene CAS: 207-08-9	<5.00	ug/l		
Bis(2-chloroethoxy)methane CAS: 111-91-1	<5.00	ug/l		
Bis(2-chloroethyl)ether CAS: 111-44-4	<5.00	ug/l		
Bis(2-chloroisopropyl)ether CAS: 39638-32-9	<5.00	ug/l		
Bis(2-ethylhexyl)phthalate CAS: 117-81-7	<10.0	ug/l		



**SAMPLE RESULTS REPORT**

Report Date/Time: 10/24/2017 16:09

REPORT TO
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758



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Cert# L2239 Testing

ADEM  
Drinking Water  
Certification  
No. 40160

Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Permit Renewal Grab (Cont'd)

Sample ID: 1714417-02

Collected: 10/13/2017

Submitted: 10/13/2017

*Semivolatiles by EPA 625 (Cont'd)*

Butylbenzylphthalate CAS: 85-68-7	<10.0	ug/l		
Chrysene CAS: 218-01-9	<5.00	ug/l		
Dibenzo[a,h]anthracene CAS: 53-70-3	<10.0	ug/l		
Diethylphthalate CAS: 84-66-2	<10.0	ug/l		
Dimethylphthalate CAS: 131-11-3	<10.0	ug/l		
Di-n-butylphthalate CAS: 84-74-2	<10.0	ug/l		
Di-n-octylphthalate CAS: 117-84-0	<10.0	ug/l		
Fluoranthene CAS: 206-44-0	<5.00	ug/l		
Fluorene CAS: 86-73-7	<5.00	ug/l		
Hexachlorobenzene CAS: 118-74-1	<10.0	ug/l		
Hexachlorobutadiene CAS: 87-68-3	<10.0	ug/l		
Hexachlorocyclopentadiene CAS: 77-47-4	<10.0	ug/l		
Hexachloroethane CAS: 67-72-1	<10.0	ug/l		
Indeno(1,2,3-cd)pyrene CAS: 193-39-5	<10.0	ug/l		
Isophorone CAS: 78-59-1	<5.00	ug/l		
Naphthalene CAS: 91-20-3	<5.00	ug/l		
Nitrobenzene CAS: 98-95-3	<5.00	ug/l		



**SAMPLE RESULTS REPORT**

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ADEM  
 Drinking Water  
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 No. 40160

Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Permit Renewal Grab (Cont'd)

Sample ID: 1714417-02

Collected: 10/13/2017

Submitted: 10/13/2017

*Semivolatiles by EPA 625 (Cont'd)*

N-Nitrosodimethylamine CAS: 62-75-9	<10.0	ug/l		
N-Nitrosodi-n-propylamine CAS: 621-64-7	<10.0	ug/l		
N-Nitrosodiphenylamine CAS: 86-30-6	<5.00	ug/l		
Pentachlorophenol CAS: 87-86-5	<10.0	ug/l		
Phenanthrene CAS: 85-01-8	<5.00	ug/l		
Phenol CAS: 108-95-2	<2.50	ug/l		
Pyrene CAS: 129-00-0	<10.0	ug/l		

*Volatiles by EPA 624*

* 1,1,1-Trichloroethane CAS: 71-55-6	<3.00	ug/l		
* 1,1,2,2-Tetrachloroethane CAS: 79-34-5	<3.00	ug/l		
* 1,1,2-Trichloroethane CAS: 79-00-5	<3.00	ug/l		
* 1,1-Dichloroethane CAS: 75-34-3	<3.00	ug/l		
* 1,1-Dichloroethylene CAS: 75-35-4	<3.00	ug/l		
* 1,2-Dichlorobenzene CAS: 95-50-1	<3.00	ug/l		
* 1,2-Dichloroethane CAS: 107-06-2	<3.00	ug/l		
* 1,2-Dichloropropane CAS: 78-87-5	<3.00	ug/l		
* 1,3-Dichlorobenzene CAS: 541-73-1	<3.00	ug/l		



**SAMPLE RESULTS REPORT**

Report Date/Time: 10/24/2017 16:09

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Cert# L2239 Testing  
 ADEM  
 Drinking Water  
 Certification  
 No. 40160

Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Permit Renewal Grab (Cont'd)

Sample ID: 1714417-02

Collected: 10/13/2017

Submitted: 10/13/2017

*Volatiles by EPA 624 (Cont'd)*

* 1,4-Dichlorobenzene CAS: 106-46-7	<3.00	ug/l		
* 2-Chloroethylvinyl ether CAS: 110-75-8	<3.00	ug/l		
* Acrolein CAS: 107-02-8	<3.00	ug/l		
* Acrylonitrile CAS: 107-13-1	<3.00	ug/l		
* Benzene CAS: 71-43-2	<3.00	ug/l		
* Bromodichloromethane CAS: 75-27-4	<3.00	ug/l		
* Bromoform CAS: 75-25-2	<3.00	ug/l		
* Bromomethane CAS: 74-83-9	<5.00	ug/l		
* Carbon tetrachloride CAS: 56-23-5	<3.00	ug/l		
* Chlorobenzene CAS: 108-90-7	<3.00	ug/l		
* Chloroethane CAS: 75-00-3	<5.00	ug/l		
* Chloroform CAS: 67-66-3	<3.00	ug/l		
* Chloromethane CAS: 74-87-3	<1.50	ug/l		
* cis-1,3-Dichloropropylene CAS: 10061-01-5	<3.00	ug/l		
* Dibromochloromethane CAS: 124-48-1	<3.00	ug/l		
* Ethyl benzene CAS: 100-41-4	<3.00	ug/l		
* m & p-Xylene CAS: 108-38-3/106-42-3	<3.00	ug/l		



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 No. 40160

Analyte Name	Result	Units	Qual	Regulatory Limit
--------------	--------	-------	------	------------------

Sample Point: Effluent Permit Renewal Grab (Cont'd)

Sample ID: 1714417-02

Collected: 10/13/2017

Submitted: 10/13/2017

*Volatiles by EPA 624 (Cont'd)*

* Methylene chloride CAS: 75-09-2	<5.00	ug/l		
* o-Xylene CAS: 95-47-6	<3.00	ug/l		
* Tetrachloroethylene CAS: 127-18-4	<3.00	ug/l		
* Toluene CAS: 108-88-3	<3.00	ug/l		
* trans-1,2-Dichloroethylene CAS: 156-60-5	<3.00	ug/l		
* trans-1,3-Dichloropropylene CAS: 10061-02-6	<3.00	ug/l		
* Trichloroethylene CAS: 79-01-6	<3.00	ug/l		
* Trichlorofluoromethane CAS: 75-69-4	<5.00	ug/l		
* Vinyl chloride CAS: 75-01-4	<1.50	ug/l		





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Cert# L2239 Testing

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All calculations are performed prior to rounding per EPA and Standard Methods requirements.

**Data Qualifiers:**

- Q One or more quality control criteria (LCS, continuing calibration, etc) failed. Data may be estimated or biased.
- < Less than reporting limit

**Analysis Information**

Lab Number	Analysis	Specific Method	Analyst	Analysis	Analysis
				Start Date/Time	End Date/Time
714417-01	Total Recoverable Silver	EPA 200.8/6020A	KW	10/17/2017 16:00	
1714417-01	Total Recoverable Arsenic	EPA 200.8/6020A	KW	10/17/2017 16:00	
1714417-01	Total Recoverable Beryllium	EPA 200.8/6020A	KW	10/17/2017 16:00	
1714417-01	Total Calcium	EPA 200.7/6010C	DJN	10/17/2017 08:00	
1714417-01	Carbonaceous BOD	SM 5210B-2001	JB	10/13/2017 14:57	10/18/2017 09:48
1714417-01	Total Recoverable Cadmium	EPA 200.8/6020A	KW	10/17/2017 16:00	
1714417-01	Total Recoverable Chromium	EPA 200.8/6020A	KW	10/17/2017 16:00	
1714417-01	Total Recoverable Copper	EPA 200.8/6020A	KW	10/17/2017 16:00	
1714417-01	Total Hardness	EPA 200.7	DJN	10/17/2017 08:00	
1714417-01	Total Mercury	EPA 245.1	KW	10/23/2017 08:30	
1714417-01	Total Magnesium	EPA 200.7/6010C	DJN	10/17/2017 08:00	
1714417-01	Ammonia-Nitrogen	SM 4500 NH3-C	DS	10/14/2017 08:00	
1714417-01	Total Recoverable Nickel	EPA 200.8/6020A	KW	10/17/2017 16:00	
1714417-01	Nitrite-Nitrogen	EPA 300.0	KW	10/13/2017 17:42	
1714417-01	Nitrate-Nitrogen	EPA 300.0	KW	10/13/2017 17:42	
1714417-01	Nitrate plus Nitrite-Nitrogen	EPA 300.0	KW	10/13/2017 17:42	
1714417-01	Total Phosphorus	EPA 365.3	JW	10/13/2017 13:20	
1714417-01	Total Recoverable Lead	EPA 200.8/6020A	KW	10/17/2017 16:00	
1714417-01	Total Recoverable Antimony	EPA 200.8/6020A	KW	10/17/2017 16:00	
1714417-01	Total Recoverable Selenium	EPA 200.8/6020A	KW	10/17/2017 16:00	
1714417-01	Total Dissolved Solids	SM 2540C	SH	10/17/2017 14:05	
1714417-01	Total Kjeldahl Nitrogen	SM 4500-Norg C	DS	10/14/2017 08:00	
1714417-01	Total Recoverable Thallium	EPA 200.8/6020A	KW	10/17/2017 16:00	
1714417-01	Total Suspended Solids	USGS I-3765-85	JW	10/16/2017 14:10	
1714417-01	Total Recoverable Zinc	EPA 200.8/6020A	KW	10/17/2017 16:00	
1714417-02	Total Cyanide	ASTM D7511-09	JW	10/17/2017 13:30	
714417-02	E. coli	mColiBlue-24	DS	10/13/2017 12:40	10/14/2017 12:40
714417-02	Fecal Coliform	SM 9222D-1997	DS	10/13/2017 12:50	10/14/2017 12:30



**SAMPLE RESULTS REPORT**

Report Date/Time: 10/24/2017 16:09

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of  
 Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



NELAP  
 Accredited  
 Florida DOH  
 #E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 scope of accreditation.

Tests within the scope of accreditation are indicated by an asterisk (\*).

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*



Cert# L2239 Testing

ADEM  
 Drinking Water  
 Certification  
 No. 40160

1714417-02	HEM (Oil and Grease)	EPA 1664A	JG	10/19/2017 11:41
1714417-02	Phenolics (4AAP)	EPA 420.1	SH	10/17/2017 08:30
1714417-02	BN/AE Semivolatiles	EPA 625	AJL	10/16/2017 08:30
1714417-02	Volatile Organic Analytes	EPA 624	ET	10/13/2017 14:19

The results contained in this report are only representative of the sample(s) received.



**ANALYSIS REQUEST / CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256) 350-0846

www.enersolv.com

COMPANY/CLIENT NAME Madison Water and Wastewater		CLIENT P.O. NUMBER	ENERSOLV PROJECT NUMBER		REQUESTED ANALYSES																			
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHYSICAL ADDRESS 101 Ray Sanderson Drive		CITY/STATE/ZIP Madison, AL 35758	AG2TR, AS2TR, BE2TR CD2TR, CR2TR, CU2TR NI2TR, PB2TR, SB2TR SE2TR, TL2TR, ZN2TR CBOD HARD HG 245 NO3NO2IC NH3 P TOTAL TDS TKN TSS																			
CLIENT EMAIL mbland@madisonutilities.org		PHONE NUMBER 256-461-0845	OTHER INFORMATION																					
SAMPLE COLLECTED BY <i>Chris West</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																				
ENERSOLV LAB NUMBER 1714417-01	SAMPLE DESCRIPTION Effluent Permit Renewal Comp.	SAMPLE TRANSFER/GRAB DATE 10-13-17	SAMPLE TRANSFER/GRAB TIME 0935	GRAB																				COMP

Comments: Collector to complete shaded areas, as applicable

SAMPLE TEMPERATURE RECEIVED @ 41

SAMPLER INFORMATION	FIELD INFORMATION						Qty	Type	Parameter
	SM 4500H+B	SM 4500-CI D		SM 4500-O G		SM 2550B			
Start Date: 10-12-17	pH	TRC	DO	Temp		1	Poly Qrt HNO3	C	Metals
Stop Date: 10-13-17	su	mg/l	mg/l	deg C		1	1/2 Gal Cool 6c	A	BOD, N/N, TDS, TSS
Start Time: 0600	Date	Date	Date	Date		1	Poly Pint H2SO4 Cool 6c	B	NH3, P, TKN
Stop Time: 0500	Analyst	Analyst	Analyst	Analyst					

RELINQUISHED BY (SIGNATURE) <i>Chris West</i>	DATE 10-13-17	TIME 10:30	RELINQUISHED BY (SIGNATURE) <i>Jimmy Sharp</i>	DATE 10-13-17	TIME 11:30	RELINQUISHED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE) <i>Jimmy Sharp</i>	DATE 10-13-17	TIME 10:30	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY (SIGNATURE) <i>Mark</i>	DATE 10-13-17	TIME 11:30	SAMPLE STATUS					
			<input type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					



**ANALYSIS REQUEST / CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256) 350-0846

PAGE	1	of	1
Permit Renewal Grab			

www.enersolv.com

COMPANY/CLIENT NAME Madison Water and Wastewater		CLIENT P.O. NUMBER	ENERSOLV PROJECT NUMBER	
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHYSICAL ADDRESS 101 Ray Sanderson Drive	CITY/STATE/ZIP Madison, AL 35758	
CLIENT EMAIL mbland@madisonutilities.org	PHONE NUMBER 256-461-0845	OTHER INFORMATION		
SAMPLE COLLECTED BY <i>Chris West</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)		
		DATE DUE (REQUIRED)		
ENERSOLV LAB NUMBER 1714417-02	SAMPLE DESCRIPTION Effluent Permit Renewal Grab	SAMPLE TRANSFER/GRAB DATE 10-13-17	SAMPLE TRANSFER/GRAB TIME 0937	GRAB X
				COMP X
				CN X
				EC, FC X
				OG X
				PHENOLICS X
				SV 625 PERMIT RENEW X
				VOA 624 FORM2A X

**Comments:**  
 FLOW \_\_\_\_\_  
 Collector to complete shaded areas, as applicable

SAMPLE TEMPERATURE RECEIVED @ 41°

SAMPLER INFORMATION	FIELD INFORMATION				Qty	Type	Parameter
	SM 4500H+B	SM 4500-CI D	SM 4500-O G	SM 2550B			
Start Date	pH	TRC	DO	Temp	1	Poly Pint NaOH Cool 6c	A CN
Date	su	mg/l	mg/l	deg C	2	Fecal Cup Cool 6c	BC EC, FC
Start Time	Date	Date	Date	Date	2	Glass WM 1000ml HCL Cool 6c	DE OG
Stop Date	Time	Time	Time	Time	1	Am GI 1000ml H2SO4 Cool 6c	F Phenolics
Stop Time	Analyst	Analyst	Analyst	Analyst	4	AM Glass 1000ml Cool 6c	GHIJ 625
					3/3	VOA 40ml Vials HCl/Iced Cool 6c	KLM NOP 624

RELINQUISHED BY (SIGNATURE) <i>Chris West</i>	DATE 10-13-17	TIME 10:30	RELINQUISHED BY (SIGNATURE) <i>Jimmy Sharp</i>	DATE 10-13-17	TIME 11:30	RELINQUISHED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE) <i>Jimmy Sharp</i>	DATE 10-13-17	TIME 10:30	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY (SIGNATURE) <i>Chris West</i>	DATE 10-13-17	TIME 11:30	SAMPLE STATUS: <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	92722		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES										
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER											
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758											
SAMPLE COLLECTED BY <i>Shamir Davis</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)													
		DATE DUE (REQUIRED)													
SAMPLE (USE ONE LINE PER CONTAINER)															
ENERSOLV LAB NO	DESCRIPTION	DATE	TIME	GRAB	COMP	NH3	Fecal / E Coli	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR			
<i>AC75974</i>	MADISON-EFFLUENT-COMP	<i>7-11-14</i>	<i>0844</i>		X	X									
	MADISON-EFFLUENT-COMP				X										
<i>475</i>	MADISON-EFFLUENT-GRAB	<i>7-11-14</i>	<i>10:50</i>	X			X								
<i>476</i>	MADISON-DIGESTER #2	<i>7-11-14</i>	<i>10:55</i>	X							X	X			

**COMMENTS:**

**SAMPLE TEMP.**  
**REC'D @ *1.7***

Field Information									Qty	Type	Vol.	Preserv.	< 2	> 12.5	Parameter
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	1	Plastic	Pint	H2SO4			<i>A</i> NH3, TKN, P
Start Date	su	n/a	mg/l	n/a	mg/l	n/a	deg C	n/a	1	Plastic	Fecal Cup	iced	n/a	n/a	Fecal Coliform
Start Time	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			NO3NO2
Stop Date	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	<i>0500</i>	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B										
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME			DATE	TIME
<i>Shamir Davis</i>		<i>7-11-14</i>	<i>1115</i>	<i>Jimmy Sharp</i>		<i>7-11-14</i>	<i>1200</i>								
RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME			DATE	TIME
<i>Jimmy Sharp</i>		<i>7-11-14</i>	<i>1115</i>												
RECEIVED FOR LABORATORY USE BY (SIGNATURE)		DATE	TIME	SAMPLE STATUS:											
<i>Shamir</i>		<i>7-11-14</i>	<i>1200</i>	<input checked="" type="checkbox"/> Accepted		<input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception									



**SAMPLE RESULTS REPORT**

**REPORT TO**  
Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

NELAP Accredited  
Florida DOH  
#E871078

EPA/ADEM Certification  
No. 40160

Tests within the scope of accreditation are indicated by an asterisk (\*)  
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Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 07/11/2014 Submitted: 07/11/2014

AC75974	* Ammonia-Nitrogen CAS: 7664-41-7	<0.100	mg/l		3.00
---------	--------------------------------------	--------	------	--	------

Sample Point: Effluent Grab

Collected: 07/11/2014 Submitted: 07/11/2014

AC75975	E. coli	<10	colonies/100ml		
AC75975	Fecal Coliform	<10	colonies/100ml		100

Sample Point: Digester 2

Collected: 07/11/2014 Submitted: 07/11/2014

AC75976	Fecal Coliform	10600	mpn/g dry wt.		
AC75976	Specific Oxygen Consumption Rate	0.755	(mg/g)/h (dry wt.)		

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC75974	Ammonia-Nitrogen	SM 4500 NH3-C	DS	07/15/2014	08:00		
AC75975	E. coli	mColiBluc-24	RAC/DS	07/11/2014	13:20	07/12/2014	14:14
AC75975	Fecal Coliform	SM 9222D-1997	RAC/DS	07/11/2014	13:30	07/12/2014	14:11
AC75976	Fecal Coliform	SM 9221E	RAC/DS	07/11/2014	12:40	07/12/2014	14:05
AC75976	Specific Oxygen Consumption Rate	SM 2710B	SH	07/11/2014	12:50		

The results contained in this report are only representative of the sample(s) received.



July 17, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC75974	Effluent Composite	7/11/14	05:00	7/11/14
AC75975	Effluent Grab	7/11/14	10:50	7/11/14
AC75976	Digester 2	7/11/14	10:55	7/11/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

This cover page and the attached chain-of-custody record(s) are integral parts of your report. ENERSOLV considers this report your official record. This information shall remain in ENERSOLV's active database for a period of one (1) calendar year before archiving. Any replacement of this information after archiving may result in an administrative fee to cover the cost of retrieval.

If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

  
\_\_\_\_\_  
Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	9860
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER	AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR										
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																	
SAMPLE COLLECTED BY <i>Chris West</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)																			
DATE DUE (REQUIRED)		SAMPLE (USE ONE LINE PER CONTAINER)																			
ENERSOLV LAB NO	DESCRIPTION	DATE	TIME	GRAB	COMP																
HC74433	MADISON-EFFLUENT-COMP	7-2-14	0836		X	X															
<i>d</i>	MADISON-EFFLUENT-COMP				X																
934	MADISON-EFFLUENT-GRAB	7-2-14	0950	X			X														
935	MADISON-DIGESTER #2	7-2-14	0832	X						X											
936	MADISON Digester #2	7-2-14	0955								X										

COMMENTS: SAMPLE TEMP. REC'D @ 27°

Field Information										Qty	Type	Vol.	Preserv.	< 2	>12.5	Parameter
										1	Plastic	Pint	H2SO4			ANH3, TKN, P
Sampler	pH su	n/a	TRC mg/l	n/a	DO mg/l	n/a	Temp deg C	n/a	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Date	7-1-14	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			B NO3NO2
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a							
Stop Date	7-2-14	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	0500	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B											
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	
<i>Chris West</i>		7-2-14	1005	<i>Greg Jones</i>		7-2-14	1534									
RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	
<i>Greg Jones</i>		7-2-14	1030													
RECEIVED FOR (LABORATORY USE BY (SIGNATURE))		DATE	TIME	SAMPLE STATUS												
<i>Shane</i>		7-2-14	1820	<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception												





**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

NELAP Accredited  
 Florida DOH  
 #E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.  
 ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in I.-A-B Certificate #1.2239 Testing.  
 Tests within the scope of accreditation are indicated by an asterisk (\*).

LABORATORY ACCREDITATION BUREAU  
 #1.2239 Testing  
 EPA/ADEM Certification No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated in any form without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
-----------	--------------	--------	-------	------	------------------

- Data Qualifiers:**
- B:** Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D:** Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G:** Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H:** Sample beyond accepted holding time.
  - J:** Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N:** Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q:** One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T:** Test temperature fell outside method specified range.
  - Y:** Analysis performed from improperly preserved sample.

**Analysis Information**

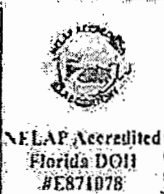
Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC74933	Ammonia-Nitrogen	SM 4500 NH3-C	DS	07/03/2014	06:45		
AC74933	Nitrate plus Nitrite-Nitrogen	EPA 300.0	HGT	07/02/2014	20:14		
AC74933	Nitrate-Nitrogen	EPA 300.0	HGT	07/02/2014	20:14		
AC74933	Nitrite-Nitrogen	EPA 300.0	HGT	07/02/2014	20:14		
AC74933	Total Kjeldahl Nitrogen	SM 4500-Norg C	RAC	07/05/2014	07:00		
AC74933	Total Phosphorus	EPA 365.3	MD	07/03/2014	08:45		
AC74934	Fecal Coliform	SM 9222D-1997	RAC	07/02/2014	13:10	07/03/2014	11:55
AC74935	Fecal Coliform	SM 9221E	RAC	07/02/2014	12:35	07/03/2014	12:45
AC74936	Specific Oxygen Consumption Rate	SM 2710B	SH	07/02/2014	12:50		

The results contained in this report are only representative of the sample(s) received.

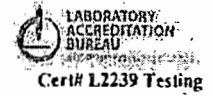


### SAMPLE RESULTS REPORT

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



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ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #12239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*).

EPA/ADEN Certification No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
-----------	--------------	--------	-------	------	------------------

**Sample Point: Effluent Composite**

Collected: 07/02/2014

Submitted: 07/02/2014

AC74933	* Ammonia-Nitrogen CAS: 7664-41-7	<0.100	mg/l		3.00
AC74933	Nitrite-Nitrogen	<0.15	mg/l		
AC74933	Nitrate-Nitrogen CAS: 7697-37-2	3.65	mg/l		
AC74933	Nitrate plus Nitrite-Nitrogen	3.65	mg/l		
AC74933	* Total Phosphorus CAS: 7723-14-0	3.44	mg/l		
AC74933	* Total Kjeldahl Nitrogen	<1.50	mg/l		

**Sample Point: Effluent Grab**

Collected: 07/02/2014

Submitted: 07/02/2014

AC74934	Fecal Coliform	20	colonies/100ml		100
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**Sample Point: Digester**

Collected: 07/02/2014

Submitted: 07/02/2014

AC74935	Fecal Coliform	532000	mpn/g dry wt.		
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**Sample Point: Digester**

Collected: 07/02/2014

Submitted: 07/02/2014

AC74936	Specific Oxygen Consumption Rate	1.63	(mg/g)/h (dry wt.)		
---------	----------------------------------	------	--------------------	--	--



July 10, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC74933	Effluent Composite	7/2/14	05:00	7/2/14
AC74934	Effluent Grab	7/2/14	09:50	7/2/14
AC74935	Digester	7/2/14	08:32	7/2/14
AC74936	Digester	7/2/14	09:55	7/2/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

This cover page and the attached chain-of-custody record(s) are integral parts of your report. ENERSOLV considers this report your official record. This information shall remain in ENERSOLV's active database for a period of one (1) calendar year before archiving. Any replacement of this information after archiving may result in an administrative fee to cover the cost of retrieval.

If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	18279
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHONE 256-461-0845 ext 115	CLIENT P.O. NUMBER	
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758
SAMPLE COLLECTED BY <i>Travis Wilson</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)		
ENERSOLV LAB NO. <i>ACT3574</i>		DATE DUE (REQUIRED)		
SAMPLE (USE ONE LINE PER CONTAINER)				
DESCRIPTION	DATE	TIME	GRAB	COMP
MADISON-EFFLUENT-COMP	6-18-14	0800		X
MADISON-EFFLUENT-COMP				X
MADISON-EFFLUENT-GRAB	6-18-14	305	X	
MADISON-DIGESTER	6-18-14	0750	X	

REQUIRED ANALYSES										
AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR				

**COMMENTS:** **SAMPLE TEMP. REC'D @ 7.6°**

Field Information									Qty	Type	Vol.	Preserv.	<2	>12.5	Parameter
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	1	Plastic	Pint	H2SO4			<i>A</i> NH3, TKN, P
Start Date	6-17-14	Date	n/a	Date	n/a	Date	n/a	Date	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	1	Plastic	Pint	Plain			NO3NO2
Stop Date	6-18-14	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst							
Stop Time	0500	SM 4500H+	SM 4500-Cl D	SM 4500-O G	SM 2550B										

RELINQUISHED BY (SIGNATURE) <i>Travis Wilson</i>	DATE 6-18-14	TIME 1305	RELINQUISHED BY (SIGNATURE) <i>Tom Bon</i>	DATE 6/18/14	TIME 1410	RELINQUISHED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE) <i>Jo Boss</i>	DATE 6/18/14	TIME 1305	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY (SIGNATURE) <i>Mark</i>	DATE 6/18/14	TIME 1410	SAMPLE STATUS					
			<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

NELAP Accredited  
 Florida DOH  
 #E871078

EPA/ADEM Certification  
 No. 40160

Tests within the scope of accreditation are indicated by an asterisk (\*)

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
-----------	--------------	--------	-------	------	------------------

Sample Point: Effluent Composite

Collected: 06/18/2014 Submitted: 06/18/2014

AC73594	* Ammonia-Nitrogen CAS: 7664-41-7	<0.100	mg/l		3.00
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Sample Point: Effluent Grab

Collected: 06/18/2014 Submitted: 06/18/2014

AC73595	Fecal Coliform	60	colonies/100ml		100
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Sample Point: Digester

Collected: 06/18/2014 Submitted: 06/18/2014

AC73596	Fecal Coliform	187000	mpn/g dry wt.		
---------	----------------	--------	---------------	--	--

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis Start Date/Time	BOD/CBOD/Fecal Analysis End Date/Time
AC73594	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	06/20/2014 07:00	
AC73595	Fecal Coliform	SM 9222D-1997	RAC	06/18/2014 14:50	06/19/2014 13:00
AC73596	Fecal Coliform	SM 9221E	RAC	06/19/2014 06:00	06/20/2014 06:25

The results contained in this report are only representative of the sample(s) received.



June 25, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC73594	Effluent Composite	6/18/14	05:00	6/18/14
AC73595	Effluent Grab	6/18/14	13:05	6/18/14
AC73596	Digester	6/18/14	07:50	6/18/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	155734		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																							
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER		AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR																
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																								
SAMPLE COLLECTED BY <i>Travis Wilson</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																								
ENERSOLV LAB NO	DESCRIPTION				DATE	TIME	GRAB	COMP																				
<i>H078001</i>	MADISON-EFFLUENT-COMP				<i>6-11-14</i>	<i>0746</i>		X	X																			
	MADISON-EFFLUENT-COMP							X																				
<i>002</i>	MADISON-EFFLUENT-GRAB				<i>6-11-14</i>	<i>1220</i>	X		X																			
<i>003</i>	MADISON-DIGESTER				<i>6-11-14</i>	<i>0745</i>	X																					

COMMENTS:

SAMPLE TEMP.  
REC'D @ *7.8°C*

Field Information									Qty	Type	Vol.	Preserv.	<2	>12.5	Parameter
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	1	Plastic	Pint	H2SO4			NH3, TKN, P
Start Date	6-10-14	Date	n/a	Date	n/a	Date	n/a	Date	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time							
Stop Date	6-11-14	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst							
Stop Time	0500	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B										
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME
<i>Travis Wilson</i>		6-11-14	1220	<i>Tom Pore</i>		6/11/14	1345								
RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME
<i>Tom Pore</i>		6/11/14	1220												
RECEIVED FOR LABORATORY USE BY (SIGNATURE)		DATE	TIME	SAMPLE STATUS											
<i>Paul G</i>		6/11/14	1345	<input checked="" type="checkbox"/> Accepted											
				<input type="checkbox"/> Rejected											
				<input type="checkbox"/> Accepted with Exception											



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

NELAP Accredited  
 Florida DOI#  
 #E871078

EPA/ADEM Certification  
 No. 40160

Tests within the scope of accreditation are indicated by an asterisk (\*)

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 06/11/2014 Submitted: 06/11/2014

AC72801 \* Ammonia-Nitrogen  
 CAS. 7664-41-7 0.123 mg/l 3.00

Sample Point: Effluent Grab

Collected: 06/11/2014 Submitted: 06/11/2014

AC72802 Fecal Coliform 40 colonies/100ml 100

Sample Point: Digester

Collected: 06/11/2014 Submitted: 06/11/2014

AC72803 Fecal Coliform 131000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC72801	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	06/13/2014	07:15		
AC72802	Fecal Coliform	SM 9222D-1997	RAC	06/11/2014	14:30	06/12/2014	12:30
AC72803	Fecal Coliform	SM 9221E	RAC	06/12/2014	06:00	06/13/2014	06:35

The results contained in this report are only representative of the sample(s) received.





June 18, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC72801	Effluent Composite	6/11/14	05:00	6/11/14
AC72802	Effluent Grab	6/11/14	12:20	6/11/14
AC72803	Digester	6/11/14	07:45	6/11/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

William D. Hollerman, Ph.D.  
Vice President Technical Services

Page 1 of 2  
(Excluding C.O.C.)



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	22674		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER												
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHONE 256-461-0845 ext.115		CLIENT P.O. NUMBER												
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758												
SAMPLE COLLECTED BY <i>Chris West</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)												
REQUIRED ANALYSES																
AMMONIA (3/week)																
FECAL COLIFORM (3/week)																
#TKN (Monthly)																
P-T (Monthly)																
NO3NO2 (Monthly)																
SLUDGE FECAL																
SOUR																
ENERSOLV LAB NO	DESCRIPTION	DATE	TIME	GRAB	COMP											
<i>HC17023</i>	MADISON-EFFLUENT-COMP	<i>6-4-14</i>	<i>0826</i>		X											
	MADISON-EFFLUENT-COMP				X											
<i>024</i>	MADISON-EFFLUENT-GRAB	<i>6-4-14</i>	<i>1210</i>	X												
<i>025</i>	MADISON-DIGESTER #1	<i>6-4-14</i>	<i>0802</i>	X												
COMMENTS:																
SAMPLE TEMP. REC'D @ <u>55</u>																
Field Information										Qty	Type	Vol.	Preserv.	< 2	>12.5	Parameter
Sampler	pH	n/a	TTC	n/a	DO	n/a	Temp	n/a	1	Plastic	Pint	H2SO4			NH3, TKN, P	
Start Date	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform	
Start Time	Time	n/a	Time	n/a	Time	n/a	Time	n/a	1	Plastic	Pint	Plain			NO3NO2	
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												
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME					
<i>Chris West</i>		<i>6-4-14</i>	<i>1215</i>	<i>Tom Ross</i>		<i>6/4/14</i>	<i>1352</i>									
RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME					
<i>Tom Ross</i>		<i>6/4/14</i>	<i>1212</i>													
RECEIVED FOR LABORATORY USE BY (SIGNATURE)		DATE	TIME	SAMPLE STATUS												
<i>J. H. ...</i>		<i>6/4/14</i>	<i>1352</i>	<input checked="" type="checkbox"/> Accepted		<input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception										



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

NELAP Accredited  
 Florida DOI  
 #E.871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E.871078). Some tests included in this report may not be covered by this accreditation.  
 ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239-Testing. Tests within the scope of accreditation are indicated by an asterisk (\*)

LABORATORY ACCREDITATION BUREAU  
 Cert# L2239 Testing  
 EPA/ADEM Certification No. 48160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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**Sample Point: Effluent Composite**      **Collected: 06/04/2014**      **Submitted: 06/04/2014**

AC72023      \* Ammonia-Nitrogen      <0.100      mg/l      3.00  
 CAS: 7804-41-7

**Sample Point: Effluent Grab**      **Collected: 06/04/2014**      **Submitted: 06/04/2014**

AC72024      Fecal Coliform      <10      colonies/100ml      100

**Sample Point: Digester 1**      **Collected: 06/04/2014**      **Submitted: 06/04/2014**

AC72025      Fecal Coliform      277000      mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC72023	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	06/06/2014	08:00		
AC72024	Fecal Coliform	SM 9222D-1997	RAC	06/04/2014	14:18	06/05/2014	12:30
AC72025	Fecal Coliform	SM 9221E	RAC	06/05/2014	06:00	06/06/2014	07:00

The results contained in this report are only representative of the sample(s) received.



June 11, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

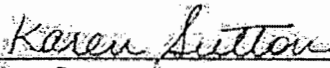
<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC72023	Effluent Composite	6/4/14	05:00	6/4/14
AC72024	Effluent Grab	6/4/14	12:10	6/4/14
AC72025	Digester I	6/4/14	08:02	6/4/14

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

  
Karen Sutton  
Vice President Client Services



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	121878		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME				ACCOUNT NUMBER	QUOTE NUMBER	ENERSOLV PROJECT NUMBER									
Water & W. W. Bd City of Madison				2586											
CLIENT POINT OF CONTACT				CLIENT PHONE	CLIENT P.O. NUMBER										
Mark Bland				256-461-0845 ext 115											
CLIENT ADDRESS				CITY	STATE	ZIP CODE									
701 Landess Circle				Madison	AL	35758									
SAMPLE COLLECTED BY				EXPEDITED REPORT DELIVERY (SURCHARGE)											
<i>Shawn Cain</i>															
				DATE DUE (REQUIRED)											
SAMPLE (USE ONE LINE PER CONTAINER)															
ENERSOLV LAB NO.	DESCRIPTION	DATE	TIME	GRAB	COMP	AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR			
<i>4C7229</i>	MADISON-EFFLUENT-COMP	<i>5/28/14</i>	<i>11:09</i>		X	X									
	MADISON-EFFLUENT-COMP				X										
<i>71230</i>	MADISON-EFFLUENT-GRAB	<i>5/28/14</i>	<i>11:11</i>	X			X								
<i>231</i>	MADISON-DIGESTER	<i>5/28/14</i>	<i>10:48</i>	X							N				
COMMENTS:															
SAMPLE TEMP. REC'D @ <i>3.2c</i>															
Field Information									Qty	Type	Vol	Preserv.	< 2	> 12.5	Parameter
									1	Plastic	Pint	H2SO4			A-NH3, TKN, P
Sampler	pH su	n/a	TRC mg/l	n/a	DO mg/l	n/a	Temp deg C	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Collform
Start Date	<i>5/27/14</i>	Date	n/a	Date	n/a	Date	n/a	Date	1	Plastic	Pint	Plain			NO3NO2
Start Time	<i>0600</i>	Time	n/a	Time	n/a	Time	n/a	Time							
Stop Date	<i>5/28/14</i>	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst							
Stop Time	<i>0500</i>	SM 4500H+	SM 4500-Cl D	SM 4500-O G	SM 2550B										
RELINQUISHED BY (SIGNATURE)			DATE	TIME	RELINQUISHED BY (SIGNATURE)			DATE	TIME	RELINQUISHED BY (SIGNATURE)			DATE	TIME	
<i>Shawn Cain</i>			<i>5/28/14</i>	<i>1250</i>	<i>Jon Bond</i>			<i>5/28/14</i>	<i>1415</i>						
RECEIVED BY (SIGNATURE)			DATE	TIME	RECEIVED BY (SIGNATURE)			DATE	TIME	RECEIVED BY (SIGNATURE)			DATE	TIME	
<i>Jon Bond</i>			<i>5/28/14</i>	<i>1250</i>											
RECEIVED FOR LABORATORY USE BY (SIGNATURE)				DATE	TIME	SAMPLE STATUS									
<i>Shawn</i>				<i>5/28/14</i>	<i>1415</i>	<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception									



**SAMPLE RESULTS REPORT**

**REPORT TO**  
Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

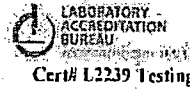


NELAP Accredited  
Florida DOI  
#E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing.

Tests within the scope of accreditation are indicated by an asterisk (\*).



EPA/ADEM Certification  
No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied, retransmitted, or used in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
-----------	--------------	--------	-------	------	------------------

Sample Point: Effluent Composite

Collected: 05/28/2014 Submitted: 05/28/2014

AC71229 \* Ammonia-Nitrogen  
CAS: 7864-41-7

<0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 05/28/2014 Submitted: 05/28/2014

AC71230 Fecal Coliform

40 colonies/100ml 100

Sample Point: Digester

Collected: 05/28/2014 Submitted: 05/28/2014

AC71231 Fecal Coliform

810000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC71229	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	05/29/2014	06:30		
AC71230	Fecal Coliform	SM 9222D-1997	RAC	05/28/2014	15:00	05/29/2014	13:10
AC71231	Fecal Coliform	SM 9221E	RAC	05/29/2014	06:15	05/30/2014	06:40

The results contained in this report are only representative of the sample(s) received.



June 03, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC71229	Effluent Composite	5/28/14	05:00	5/28/14
AC71230	Effluent Grab	5/28/14	11:11	5/28/14
AC71231	Digester	5/28/14	10:48	5/28/14

*ENERSOLV* is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by *ENERSOLV* are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with *ENERSOLV* Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

This cover page and the attached chain-of-custody record(s) are integral parts of your report. *ENERSOLV* considers this report your official record. This information shall remain in *ENERSOLV*'s active database for a period of one (1) calendar year before archiving. Any replacement of this information after archiving may result in an administrative fee to cover the cost of retrieval.

If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	187925		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES:																			
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER																				
CLIENT ADDRESS 701 Landess Circle			CITY Madison	STATE AL	ZIP CODE 35758																			
SAMPLE COLLECTED BY <i>Chris West</i>			EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																			
SAMPLE (USE ONE LINE PER CONTAINER)												AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR						
ENERSOLV LAB NO.	DESCRIPTION	DATE	TIME	GRAB	COMP																			
<i>AE70634</i>	MADISON-EFFLUENT-COMP	<i>5-21-14</i>	<i>0816</i>		X	X																		
	MADISON-EFFLUENT-COMP				X																			
<i>635</i>	MADISON-EFFLUENT-GRAB	<i>5-21-14</i>	<i>1238</i>	X		X																		
<i>636</i>	MADISON-DIGESTER #2	<i>5-21-14</i>	<i>0812</i>	X					X															

COMMENTS: SAMPLE TEMP. REC'D @ *1:52*

Field Information										Qty	Type	Vol.	Preserv	< 2	> 12.5	Parameter			
										1	Plastic	Pint	H2SO4			<i>A</i> NH3, TKN, P			
Sampler	pH	su	n/a	TRC	mg/l	n/a	DO	mg/l	n/a	Temp	deg C	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Collform
Start Date	<i>5-20-14</i>	Date	n/a	Date	n/a	Date	n/a	Date	n/a	Date	n/a	n/a	1	Plastic	Pint	Plain			NO3NO2
Start Time	<i>0600</i>	Time	n/a	Time	n/a	Time	n/a	Time	n/a	Time	n/a	n/a							
Stop Date	<i>5-19-14</i>	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	n/a							
Stop Time	<i>0500</i>	SM 4500H+		SM 4500-CI D		SM 4500-O G		SM 2550B											
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME								
<i>Chris West</i>		<i>5-21-14</i>	<i>1232</i>	<i>Sam Bond</i>		<i>5/21/14</i>	<i>1400</i>												
RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME								
<i>Sam Bond</i>		<i>5/21/14</i>	<i>1232</i>																
RECEIVED FOR LABORATORY USE BY (SIGNATURE)			DATE	TIME	SAMPLE STATUS														
<i>Chris West</i>			<i>5-21-14</i>	<i>1400</i>	<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception														





**SAMPLE RESULTS REPORT**

<b>REPORT TO</b>		ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078) Some tests included in this report may not be covered by this accreditation			
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758		NELAP Accredited Florida DOH #E871078	EPA/ADEM Certification No. 40160		
<small>Tests within the scope of accreditation are indicated by an asterisk (*)          This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation</small>					
Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit

Sample Point: Effluent Composite

Collected: 05/21/2014 Submitted: 05/21/2014

AC70634 \* Ammonia-Nitrogen  
CAS: 7664-41-7

<0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 05/21/2014 Submitted: 05/21/2014

AC70635 Fecal Coliform

10 colonies/100ml 100

Sample Point: Digester 2

Collected: 05/21/2014 Submitted: 05/21/2014

AC70636 Fecal Coliform

172000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC70634	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	05/23/2014	06:45		
AC70635	Fecal Coliform	SM 9222D-1997	RAC	05/21/2014	14:50	05/22/2014	12:50
AC70636	Fecal Coliform	SM 9221E	RAC	05/22/2014	05:45	05/23/2014	07:55

The results contained in this report are only representative of the sample(s) received.





May 27, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC70634	Effluent Composite	5/21/14	05:00	5/21/14
AC70635	Effluent Grab	5/21/14	12:28	5/21/14
AC70636	Digester 2	5/21/14	08:12	5/21/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)





**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	115046		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER		REQUIRED ANALYSES																						
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER		AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR																
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																								
SAMPLE COLLECTED BY <i>Sharon Cain</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																								
ENERSOLV LAB NO. AC69904		DESCRIPTION MADISON-EFFLUENT-COMP		DATE 5/14/14	TIME 08:00								GRAB	COMP														
		MADISON-EFFLUENT-COMP												X														
905		MADISON-EFFLUENT-GRAB		5/14/14	12:10	X		X																				
906		MADISON-DIGESTER		5/14/14	12:00	X																						

COMMENTS: SAMPLE TEMP. REC'D @ 5.4°C

Field Information										Qty	Type	Vol.	Preserv.	< 2	> 12.5	Parameter
										1	Plastic	Pint	H2SO4			NH3, TKN, P
Sampler	pH su	n/a	TRC mg/l	n/a	DO mg/l	n/a	Temp deg C	n/a	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Date	5/13/14	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			NO3NO2
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a							
Stop Date	5/14/14	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	0500	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B											
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	
<i>Sharon Cain</i>		5-14-14	12:5	<i>Tom Ross</i>		5/14/14	14:25									
RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	
<i>Tom Ross</i>		5/14/14	13:25													
RECEIVED FOR LABORATORY USE BY (SIGNATURE)				DATE	TIME	SAMPLE STATUS										
<i>J. Mills</i>				5-14-14	14:25	<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception										



**SAMPLE RESULTS REPORT**

**REPORT TO**  
Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

NELAP Accredited  
Florida DOI  
#E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*)

LABORATORY ACCREDITATION BUREAU  
Cert# L2239 Testing

EPA/ADEM Certification  
No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressed party and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 05/14/2014 Submitted: 05/14/2014

AC69904 \* Ammonia-Nitrogen  
CAS: 7664-41-7

<0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 05/14/2014 Submitted: 05/14/2014

AC69905 Fecal Coliform

30 colonies/100ml 100

Sample Point: Digester

Collected: 05/14/2014 Submitted: 05/14/2014

AC69906 Fecal Coliform

41800 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC69904	Ammonia-Nitrogen	SM 4500 NH3-C	DS	05/15/2014	06:30		
AC69905	Fecal Coliform	SM 9222D-1997	RAC	05/14/2014	14:44	05/15/2014	13:20
AC69906	Fecal Coliform	SM 9221E	RAC	05/15/2014	05:50	05/16/2014	06:35

The results contained in this report are only representative of the sample(s) received.





May 20, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC69904	Effluent Composite	5/14/14	05:00	5/14/14
AC69905	Effluent Grab	5/14/14	12:10	5/14/14
AC69906	Digester	5/14/14	12:00	5/14/14

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

  
Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)



2220 Belrine Road SW • Decatur, Alabama 35601  
P.O. Box 1646 • Decatur, Alabama 35602 • (256) 350-0846 • Fax: (256) 350-0686



ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER 106063  
 PAGE 1 of 1  
 Tri-Weekly Wastewater

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER		REQUIRED ANALYSES																				
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER		AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR														
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																						
SAMPLE COLLECTED BY <i>Chris West</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																						
ENERSOLV LAB NO <i>AC69104</i>	DESCRIPTION			DATE	TIME	GRAB	COMP																			
	MADISON-EFFLUENT-COMP			5-7-14	0750		X	X																		
	MADISON-EFFLUENT-COMP						X																			
<i>105</i>	MADISON-EFFLUENT-GRAB			5-7-14	1210	X		X																		
<i>106</i>	MADISON-DIGESTER #4			5-7-14	0746	X						X														

COMMENTS: *C BOD Sugs* SAMPLE TEMP. REC'D @ *1.1°C*

Field Information										Qty	Type	Vol.	Preserv.	< 2	> 12.5	Parameter
										1	Plastic	Pint	H2SO4			NH3, TKN, P
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a		1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Date	5-6-14	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			NO3NO2
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a							
Stop Date	5-7-14	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	0500	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B											

RELINQUISHED BY (SIGNATURE) <i>Chris West</i>	DATE 5-7-14	TIME 1215	RELINQUISHED BY (SIGNATURE) <i>Jon Bean</i>	DATE 5/7/14	TIME 1405
RECEIVED BY (SIGNATURE) <i>Jon Bean</i>	DATE 5/7/14	TIME 1215	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY (SIGNATURE) <i>Frank</i>	DATE 5-7-14	TIME 1405	SAMPLE STATUS <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception		



**SAMPLE RESULTS REPORT**

**REPORT TO**  
Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758



NEELAP Accredited  
Florida DOH  
#CR71078

EVERSOLV maintains National Environmental Laboratory Accreditation Program (NEELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

EVERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*).



LABORATORY ACCREDITATION BUREAU  
Cert# L2239 Testing

EPA/ADCM Certification  
No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of EVERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 05/07/2014 Submitted: 05/07/2014

AC69104 \* Ammonia-Nitrogen  
CAS: 7664-41-7

0.205 mg/l 3.00

Sample Point: Effluent Grab

Collected: 05/07/2014 Submitted: 05/07/2014

AC69105 Fecal Coliform

<10 colonies/100ml 100

Sample Point: Digester 4

Collected: 05/07/2014 Submitted: 05/07/2014

AC69106 Fecal Coliform

364000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC69104	Ammonia-Nitrogen	SM 4500-NH3-C	RAC	05/09/2014	08:00		
AC69105	Fecal Coliform	SM 9222D-1997	RAC	05/07/2014	14:55	05/08/2014	12:55
AC69106	Fecal Coliform	SM 9221E	RAC	05/08/2014	06:00	05/09/2014	06:45

The results contained in this report are only representative of the sample(s) received.



May 13, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC69104	Effluent Composite	5/7/14	05:00	5/7/14
AC69105	Effluent Grab	5/7/14	12:10	5/7/14
AC69106	Digester 4	5/7/14	07:46	5/7/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

This cover page and the attached chain-of-custody record(s) are integral parts of your report. ENERSOLV considers this report your official record. This information shall remain in ENERSOLV's active database for a period of one (1) calendar year before archiving. Any replacement of this information after archiving may result in an administrative fee to cover the cost of retrieval.

If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services





**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	497353		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES															
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER		AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR								
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																
SAMPLE COLLECTED BY <i>Johann Car</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																
ENERSOLV LAB NO. <i>AC00285</i>	DESCRIPTION				DATE	TIME	GRAB	COMP												
	MADISON-EFFLUENT-COMP				4-30-14	0804		X	X											
	MADISON-EFFLUENT-COMP							X												
<i>286</i>	MADISON-EFFLUENT-GRAB				4-30-14	11:55	X		X											
<i>287</i>	MADISON-DIGESTER				4-30-14	0755	X													

COMMENTS:

SAMPLE TEMP.  
REC'D @ *1.4°C*

Field Information										Qty	Type	Vol.	Preserv.	<2	>2.5	Parameter
										1	Plastic	Pint	H2SO4			<i>A</i> NH3, TKN, P
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a		1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Date	4/29/14	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			NO3NO2
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a							
Stop Date	4-30-14	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	0500	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B											
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME					
<i>Johann Car</i>		4-30-14	12:00	<i>Jimmy Sharp</i>		4-30-14	12:45									
RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME					
<i>Jimmy Sharp</i>		4-30-14	12:00													
RECEIVED FOR LABORATORY USE BY (SIGNATURE)		DATE	TIME	SAMPLE STATUS												
<i>J Sharp</i>		4-30-14	12:45	<input checked="" type="checkbox"/> Accepted												
				<input type="checkbox"/> Rejected												
				<input type="checkbox"/> Accepted with Exception												



**SAMPLE RESULTS REPORT**

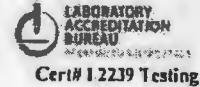
**REPORT TO**  
Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758



NELAP Accredited  
Florida DOI  
#E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*).



Cert# 12239 Testing

EPA/ADEM Certification  
No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
-----------	--------------	--------	-------	------	------------------

Sample Point: Effluent Composite

Collected: 04/30/2014 Submitted: 04/30/2014

AC68285 \* Ammonia-Nitrogen  
CAS: 7664-41-7

<0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 04/30/2014 Submitted: 04/30/2014

AC68286 Fecal Coliform

20 colonies/100ml 100

Sample Point: Digester

Collected: 04/30/2014 Submitted: 04/30/2014

AC68287 Fecal Coliform

80500 mpn/g dry wt.

- Data Qualifiers:
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC68285	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	05/01/2014	07:00		
AC68286	Fecal Coliform	SM 9222D-1997	RAC	04/30/2014	14:53	05/01/2014	14:53
AC68287	Fecal Coliform	SM 9221E	RAC	05/01/2014	06:00	05/02/2014	06:45

The results contained in this report are only representative of the sample(s) received.





May 07, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC68285	Effluent Composite	4/30/14	05:00	4/30/14
AC68286	Effluent Grab	4/30/14	11:55	4/30/14
AC68287	Digester	4/30/14	07:55	4/30/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)



2220 Beltline Road SW • Decatur, Alabama 35601  
P.O. Box 1646 • Decatur, Alabama 35602 • (256) 350-0846 • Fax: (256) 350-0686



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	108371		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																							
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER		AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR																
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																								
SAMPLE COLLECTED BY <i>Chris West</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																								
ENERSOLV LAB NO	DESCRIPTION			DATE	TIME	GRAB	COMP																					
<i>AC67691</i>	MADISON-EFFLUENT-COMP			<i>4-23-14</i>	<i>0816</i>		X	X																				
	MADISON-EFFLUENT-COMP						X																					
<i>692</i>	MADISON-EFFLUENT-GRAB			<i>4-23-14</i>	<i>1210</i>	X		X																				
<i>693</i>	MADISON-DIGESTER #3			<i>4-23-14</i>	<i>0813</i>	X						X																

**COMMENTS:**  
*Please send a couple of CBOD Jugs*

**SAMPLE TEMP.**  
*REC'D @ 5.2 C*

Field Information									Qty	Type	Vol.	Preserv.	< 2	> 12.5	Parameter
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	1	Plastic	Pint	H2SO4			<i>A</i> NH3, TKN, P
Start Date	4-22-14	Date	n/a	Date	n/a	Date	n/a	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	n/a			Pint	Plain			NO3NO2
Stop Date	4-23-14	Analyst	n/a	Analyst	n/a	Analyst	n/a	n/a							
Stop Time	0500	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B										

RELINQUISHED BY (SIGNATURE) <i>Chris West</i>	DATE 4-23-14	TIME 1214	RELINQUISHED BY (SIGNATURE) <i>Sam Roden</i>	DATE 4/23/14	TIME 1325	RELINQUISHED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE) <i>Sam Roden</i>	DATE 4/23/14	TIME 1214	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY (SIGNATURE) <i>J. Mac</i>	DATE 4/23/14	TIME 1325	SAMPLE STATUS: <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					



**SAMPLE RESULTS REPORT**

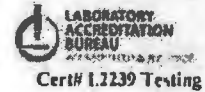
**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



NELAP Accredited  
 Florida DOI  
 #E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#1 871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*).



Cert# 1.2239 Testing

EPA/ADEM Certification  
 No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
-----------	--------------	--------	-------	------	------------------

Sample Point: Effluent Composite

Collected: 04/23/2014 Submitted: 04/23/2014

AC67691 \* Ammonia-Nitrogen  
 CAS 7664-41-7

<0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 04/23/2014 Submitted: 04/23/2014

AC67692 Fecal Coliform

10 colonies/100ml 100

Sample Point: Digester 3

Collected: 04/23/2014 Submitted: 04/23/2014

AC67693 Fecal Coliform

57000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC67691	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	04/26/2014	07:00		
AC67692	Fecal Coliform	SM 9222D-1997	RAC	04/23/2014	14:15	04/24/2014	12:35
AC67693	Fecal Coliform	SM 9221E	RAC	04/24/2014	07:15	04/25/2014	07:40

The results contained in this report are only representative of the sample(s) received.





April 30, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC67691	Effluent Composite	4/23/14	05:00	4/23/14
AC67692	Effluent Grab	4/23/14	12:10	4/23/14
AC67693	Digester 3	4/23/14	08:13	4/23/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

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Reviewed by:

  
Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)



2220 Beldine Road SW • Decatur, Alabama 35601  
P.O. Box 1646 • Decatur, Alabama 35602 • (256) 350-0846 • Fax: (256) 350-0686



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	120588		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER		REQUIRED ANALYSES																						
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER		AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR																
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																								
SAMPLE COLLECTED BY <i>Johanna Law</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																								
ENERSOLV LAB NO.		SAMPLE (USE ONE LINE PER CONTAINER)																										
		DESCRIPTION	DATE	TIME	GRAB	COMP																						
<i>AC6705B</i>		MADISON-EFFLUENT-COMP	<i>4/16/14</i>	<i>0901</i>		X	X																					
		MADISON-EFFLUENT-COMP				X																						
<i>054</i>		MADISON-EFFLUENT-GRAB	<i>4/16/14</i>	<i>1335</i>	X		X																					
<i>060</i>		MADISON-DIGESTER	<i>4/16/14</i>	<i>0845</i>	X																							
COMMENTS:		SAMPLE TEMP. REC'D @ <i>3.6°C</i>																										
Field Information										Qty	Type	Vol.	Preserv.	< 2	> 12.5	Parameter												
										1	Plastic	Pint	H2SO4			<i>A</i> NH3, TKN, P												
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a		1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform												
Start Date	<i>4.15.14</i>	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			NO3NO2												
Start Time	<i>0600</i>	Time	n/a	Time	n/a	Time	n/a	Time	n/a																			
Stop Date	<i>4/16/14</i>	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a																			
Stop Time	<i>0500</i>	SM 4500H+	SM 4500-Cl D	SM 4500-O G	SM 2550B																							
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME																	
<i>Johanna Law</i>		<i>4/16/14</i>	<i>13:38</i>	<i>J. Ross</i>		<i>4/16/14</i>	<i>14:35</i>																					
RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME																	
<i>Ben Ross</i>		<i>4/16/14</i>	<i>1338</i>																									
RECEIVED FOR LABORATORY USE BY: (SIGNATURE)		DATE	TIME	SAMPLE STATUS																								
<i>J. Ross</i>		<i>4/16/14</i>	<i>14:35</i>	<input checked="" type="checkbox"/> Accepted																								



**SAMPLE RESULTS REPORT**

**REPORT TO**  
Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758



NELAP Accredited  
Florida DOH  
#E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*)



LABORATORY ACCREDITATION BUREAU  
Cert# L2239 Testing

EPA/DEM Certification  
No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
-----------	--------------	--------	-------	------	------------------

Sample Point: Effluent Composite

Collected: 04/16/2014 Submitted: 04/16/2014

AC67058 \* Ammonia-Nitrogen  
CAS: 7664-41-7

<0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 04/16/2014 Submitted: 04/16/2014

AC67059 Fecal Coliform

<10 colonies/100ml 100

Sample Point: Digester

Collected: 04/16/2014 Submitted: 04/16/2014

AC67060 Fecal Coliform

920000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC67058	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	04/18/2014	13:30		
AC67059	Fecal Coliform	SM 9222D-1997	RAC	04/16/2014	14:37	04/17/2014	14:37
AC67060	Fecal Coliform	SM 9221E	JW	04/17/2014	07:30	04/18/2014	07:35

The results contained in this report are only representative of the sample(s) received.







April 23, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC67058	Effluent Composite	4/16/14	05:00	4/16/14
AC67059	Effluent Grab	4/16/14	13:35	4/16/14
AC67060	Digester	4/16/14	08:45	4/16/14

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

  
\_\_\_\_\_  
Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)





**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	105029
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																	
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115	CLIENT P.O. NUMBER		AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR											
CLIENT ADDRESS 704 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																		
SAMPLE COLLECTED BY Johann Carr		EXPEDITED REPORT DELIVERY (SURCHARGE) DATE DUE (REQUIRED)																				
ENERSOLV LAB NO.	DESCRIPTION				DATE	TIME	GRAB	COMP														
AC05491	MADISON-EFFLUENT-COMP				4.2.14	0811		X	X													
2	MADISON-EFFLUENT-COMP				4.2.14	0811		X				X										
492	MADISON-EFFLUENT-GRAB				4.2.14	1315	X		X													
493	MADISON-DIGESTER				4.2.14	0755	X						X									
494					4.2.14	1310								X								

COMMENTS: SAMPLE TEMP. REC'D @ 3.6°C

Field Information									Qty	Type	Vol.	Preserv.	< 2	> 12.5	Parameter
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	1	Plastic	Pint	H2SO4			A NH3, TKN, P
Start Date	4.1.14	Date	n/a	Date	n/a	Date	n/a	Date	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time							
Stop Date	4.2.14	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst							B NO3NO2
Stop Time	0500	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B										
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY (SIGNATURE)	DATE	TIME	RELINQUISHED BY (SIGNATURE)	DATE	TIME							
Johann Carr	4.2.14	13:20	Jon Ross	4.2.14	14:50										
RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME							
Jon Ross	4.2.14	13:20													
RECEIVED FOR LABORATORY USE BY (SIGNATURE)	DATE	TIME	SAMPLE STATUS												
Johann Carr	4.2.14	14:50	<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception												



**SAMPLE RESULTS REPORT**

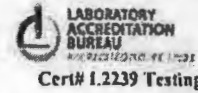
**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



NELAP Accredited  
 Florida DOI  
 #E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*).



EPA/ADEM Certification  
 No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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- Data Qualifiers:**
- B:** Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D:** Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G:** Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H:** Sample beyond accepted holding time.
  - J:** Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N:** Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q:** One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T:** Test temperature fell outside method specified range.
  - Y:** Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	End Date/Time	End Date/Time
AC65491	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	04/04/2014	06:45		
AC65491	Nitrate plus Nitrite-Nitrogen	EPA 300.0	HGT	04/02/2014	21:30		
AC65491	Nitrate-Nitrogen	EPA 300.0	HGT	04/02/2014	21:30		
AC65491	Nitrite-Nitrogen	EPA 300.0	HGT	04/02/2014	21:30		
AC65491	Total Kjeldahl Nitrogen	SM 4500-Norg C	RAC	04/04/2014	06:45		
AC65491	Total Phosphorus	EPA 365.3	JW	04/04/2014	16:20		
AC65492	Fecal Coliform	SM 9222D-1997	RAC	04/02/2014	15:27	04/03/2014	15:27
AC65493	Fecal Coliform	SM 9221E	RAC	04/03/2014	10:00	04/04/2014	11:10
AC65494	Specific Oxygen Consumption Rate	SM 2710B	JW	04/02/2014	15:15		

The results contained in this report are only representative of the sample(s) received.





### SAMPLE RESULTS REPORT

<b>REPORT TO</b>			ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.		 Cert# L2239 Testing
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758			ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (*).		
<i>This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.</i>					
Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit

**Sample Point: Effluent Composite**

Collected: 04/02/2014

Submitted: 04/02/2014

AC65491	* Ammonia-Nitrogen CAS: 7664-41-7	<0.100	mg/l		3.00
AC65491	Nitrite-Nitrogen	<0.15	mg/l		
AC65491	Nitrate-Nitrogen CAS: 7697-37-2	11.4	mg/l		
AC65491	Nitrate plus Nitrite-Nitrogen	11.4	mg/l		
AC65491	* Total Phosphorus CAS: 7723-14-0	1.48	mg/l		
AC65491	* Total Kjeldahl Nitrogen	<1.50	mg/l		

**Sample Point: Effluent Grab**

Collected: 04/02/2014

Submitted: 04/02/2014

AC65492	Fecal Coliform	20	colonies/100ml		100
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**Sample Point: Digester**

Collected: 04/02/2014

Submitted: 04/02/2014

AC65493	Fecal Coliform	228000	mpn/g dry wt.		
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**Sample Point: Digester**

Collected: 04/02/2014

Submitted: 04/02/2014

AC65494	Specific Oxygen Consumption Rate	1.13	(mg/g)/h (dry wt.)		
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April 10, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC65491	Effluent Composite	4/2/14	05:00	4/2/14
AC65492	Effluent Grab	4/2/14	13:15	4/2/14
AC65493	Digester	4/2/14	07:55	4/2/14
AC65494	Digester	4/2/14	13:10	4/2/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 3  
(excluding C.O.C)



March 12, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC62535	Effluent Composite	3/5/14	05:00	3/5/14
AC62536	Effluent Grab	3/5/14	09:40	3/5/14
AC62537	Digester	3/5/14	09:35	3/5/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

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Reviewed by:



Karen Sutton  
Vice President Client Services





**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	247239		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME		ACCOUNT NUMBER	QUOTE NUMBER	ENERSOLV PROJECT NUMBER		REQUIRED ANALYSES																						
Water & W.W. Bd City of Madison		2586				AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR																
CLIENT POINT OF CONTACT		CLIENT PHONE		CLIENT P.O. NUMBER																								
Jeff Taylor		256-461-0845 ext 115																										
CLIENT ADDRESS		CITY	STATE	ZIP CODE																								
701 Landess Circle		Madison	AL	35758																								
SAMPLE COLLECTED BY		EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																								
Bryce McClellan																												
ENERSOLV LAB NO		DESCRIPTION		DATE	TIME	GRAB	COMP																					
AC61808		MADISON-EFFLUENT-COMP		2/26/14	0835		X	X																				
		MADISON-EFFLUENT-COMP					X																					
009		MADISON-EFFLUENT-GRAB		2/26/14	1225	X			X																			
010		MADISON-DIGESTER		2/26/14	0850	X																						
COMMENTS:																												
SAMPLE TEMP. REC'D @ 2.9°C																												
Field Information										Qty	Type	Vol.	Preserv.	<2	>12.5	Parameter												
										1	Plastic	Pint	H2SO4			NH3, TKN, P												
Sampler	pH su	n/a	YRC mg/l	n/a	DO mg/l	n/a	Temp deg C	n/a	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform												
Start Date	Date	n/a	Date	n/a	Date	n/a	Date	n/a	n/a	1	Plastic	Pint	Plain			NO3NO2												
Start Time	Time	n/a	Time	n/a	Time	n/a	Time	n/a	n/a																			
Stop Date	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	n/a																			
Stop Time	SM 4500H+		SM 4500-C/D		SM 4500-O/G		SM 2550B																					
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME													
B. Mills		2/26/14	1228	S. Bon		2/26/14	1400																					
RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME													
S. Bon		2/26/14	1228																									
RECEIVED FOR LABORATORY USE BY (SIGNATURE)		DATE	TIME	SAMPLE STATUS																								
L. Hous		2/26/14	1400	<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception																								



### SAMPLE RESULTS REPORT

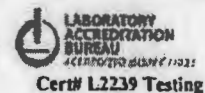
**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

NELAP Accredited  
 Florida DOH  
 #E871078

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ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing.

Tests within the scope of accreditation are indicated by an asterisk (\*).



EPA/ADEM Certification  
 No. 40160

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Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 02/26/2014 Submitted: 02/26/2014

AC61808	* Ammonia-Nitrogen CAS: 7664-41-7	<0.100	mg/l		3.00
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Sample Point: Effluent Grab

Collected: 02/26/2014 Submitted: 02/26/2014

AC61809	Fecal Coliform	<10	colonies/100ml		100
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Sample Point: Digester

Collected: 02/26/2014 Submitted: 02/26/2014

AC61810	Fecal Coliform	83600	mpn/g dry wt.		
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- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

#### Analysis Information

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	End Date/Time	End Date/Time
AC61808	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	02/27/2014	07:30		
AC61809	Fecal Coliform	SM 9222D-1997	RAC	02/26/2014	14:30	02/27/2014	14:03
AC61810	Fecal Coliform	SM 9221E	RAC	02/27/2014	06:10	02/28/2014	06:30

The results contained in this report are only representative of the sample(s) received.







March 04, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC61808	Effluent Composite	2/26/14	08:55	2/26/14
AC61809	Effluent Grab	2/26/14	12:25	2/26/14
AC61810	Digester	2/26/14	08:50	2/26/14

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services





**ANALYSIS REQUEST ID CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	80790		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																							
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER	AMMONIA (3/week)	FECAL COLIFORM (3/wk)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR																	
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																								
SAMPLE COLLECTED BY <i>B. M. Chiles</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)																										
		DATE DUE (REQUIRED)																										
ENERSOLV LAB NO		DESCRIPTION			DATE	TIME	GRAB	COMP																				
ALC 60208		MADISON-EFFLUENT-COMP			2/12/14	0830		X	X																			
		MADISON-EFFLUENT-COMP						X																				
209		MADISON-EFFLUENT-GRAB			2/12/14	1230	X		X																			
210		MADISON-DIGESTER			2/12/14	0818	X																					

**COMMENTS:** **SAMPLE TEMP. REC'D @ 1.6°C**

Field Information										Qty	Type	Vol.	Preserv.	< 2	>12.5	Parameter	
										1	Plastic	Pint	H2SO4			A NH3, TKN, P	
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform	
Start Date	2/11/14	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			NO3NO2	
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a								
Stop Date	2/12/14	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a								
Stop Time	0500	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B												
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME		
<i>B. M. Chiles</i>		2/12/14	1132	<i>Jimmy Ray</i>		2-12-14	1220										
RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME		
<i>Jimmy Ray</i>		2-12-14	1132	<i>J. Smith</i>		2-12-14	1220										
RECEIVED FOR LABORATORY USE BY (SIGNATURE)		DATE	TIME	RECEIVED FOR LABORATORY USE BY (SIGNATURE)		DATE	TIME	RECEIVED FOR LABORATORY USE BY (SIGNATURE)		DATE	TIME	RECEIVED FOR LABORATORY USE BY (SIGNATURE)		DATE	TIME		
<i>J. Smith</i>		2/12/14	1220	<i>J. Smith</i>		2/12/14	1220										
										SAMPLE STATUS							
										<input checked="" type="checkbox"/> Accepted		<input type="checkbox"/> Rejected		<input type="checkbox"/> Accepted with Exception			



**SAMPLE RESULTS REPORT**

<b>REPORT TO</b>		<p>ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.</p> <p>ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (*)</p>	<p>Cert # L2239 Testing</p>
<p>Mark Bland Water &amp; Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758</p>			

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 02/12/2014 Submitted: 02/12/2014

AC60208	* Ammonia-Nitrogen CAS: 7664-41-7	<0.100	mg/l		3.00
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Sample Point: Effluent Grab

Collected: 02/12/2014 Submitted: 02/12/2014

AC60209	Fecal Coliform	10	colonies/100ml		100
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Sample Point: Digester

Collected: 02/12/2014 Submitted: 02/12/2014

AC60210	Fecal Coliform	211000	mpn/g dry wt.		
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- Data Qualifiers:**
- B:** Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D:** Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G:** Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H:** Sample beyond accepted holding time.
  - J:** Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N:** Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q:** One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T:** Test temperature fell outside method specified range.
  - Y:** Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC60208	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	02/13/2014	11:00		
AC60209	Fecal Coliform	SM 9222D-1997	RAC	02/12/2014	12:50	02/13/2014	11:50
AC60210	Fecal Coliform	SM 9221E	RAC / JLP	02/13/2014	08:00	02/14/2014	09:30

The results contained in this report are only representative of the sample(s) received.





February 19, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC60208	Effluent Composite	2/12/14	05:00	2/12/14
AC60209	Effluent Grab	2/12/14	11:30	2/12/14
AC60210	Digester	2/12/14	08:18	2/12/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

  
Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)



2220 Beltline Road SW • Decatur, Alabama 35601  
P.O. Box 1646 • Decatur, Alabama 35602 • (256) 350-0846 • Fax: (256) 350-0686



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	154194		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES											
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P O NUMBER												
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758												
SAMPLE COLLECTED BY		EXPEDITED REPORT DELIVERY (SURCHARGE)														
		DATE DUE (REQUIRED)														
ENERSOLV LAB NO		SAMPLE (USE ONE LINE PER CONTAINER)				AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR				
DESCRIPTION		DATE	TIME	GRAB	COMP											
A054605 MADISON-EFFLUENT-COMP		2-5-14	0757		X	X		X								
MADISON-EFFLUENT-COMP		2-5-14	0755		X				X							
606 MADISON-EFFLUENT-GRAB		2-5-14	1232	X			X									
607 MADISON-DIGESTER #2		2-5-14	1220	X												

**COMMENTS:** **SAMPLE TEMP. REC'D @ 1.2**

Field Information									Qty	Type	Vol	Preserv.	< 2	>12.5	Parameter
									1	Plastic	Pint	H2SO4			A NH3, TKN, P
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Date	2-4-14	Date	n/a	Date	n/a	Date	n/a	Date	1	Plastic	Pint	Plain			B NO3NO2
Start Time	0700	Time	n/a	Time	n/a	Time	n/a	Time							
Stop Date	2-5-14	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst							
Stop Time	0600	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B										
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME				
Tim Moody		2-5-14	1235	Tom Poon		2/5/14	1435								
RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME				
Tom Poon		2-5-14	1235												
RECEIVED FOR LABORATORY USE BY (SIGNATURE)		DATE	TIME	SAMPLE STATUS											
Tom Poon		2-5-14	1435	<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception											



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



NELAP Accredited  
 Florida DOH  
 #E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in I-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*).



EPA/ADEM Certification  
 No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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- Data Qualifiers:**
- B:** Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D:** Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G:** Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H:** Sample beyond accepted holding time.
  - J:** Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N:** Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q:** One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T:** Test temperature fell outside method specified range.
  - Y:** Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC59605	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	02/06/2014	09:30		
AC59605	Nitrate plus Nitrite-Nitrogen	EPA 300.0	HGT	02/05/2014	21:45		
AC59605	Nitrate-Nitrogen	EPA 300.0	HGT	02/05/2014	21:45		
AC59605	Nitrite-Nitrogen	EPA 300.0	HGT	02/05/2014	21:45		
AC59605	Total Kjeldahl Nitrogen	SM 4500-Norg C	LDM	02/06/2014	06:00		
AC59605	Total Phosphorus	EPA 365.3	SH	02/06/2014	16:10		
AC59606	Fecal Coliform	SM 9222D-1997	LDM	02/05/2014	14:53	02/06/2014	14:15
AC59607	Fecal Coliform	SM 9221E	LDM	02/06/2014	06:55	02/07/2014	07:00

The results contained in this report are only representative of the sample(s) received.



### SAMPLE RESULTS REPORT

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



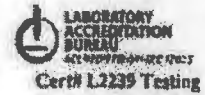
NELAP Accredited  
 Florida DOH  
 #E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing.

Tests within the scope of accreditation are indicated by an asterisk (\*).

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Cert# L2239 Testing

EPA/ADEM Certification  
 No. 48160

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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**Sample Point: Effluent Composite**

Collected: 02/05/2014 Submitted: 02/05/2014

AC59605	* Ammonia-Nitrogen CAS: 7664-41-7	<0.100	mg/l		3.00
AC59605	Nitrite-Nitrogen	<0.15	mg/l		
AC59605	Nitrate-Nitrogen CAS: 7697-37-2	8.19	mg/l		
AC59605	Nitrate plus Nitrite-Nitrogen	8.19	mg/l		
AC59605	* Total Phosphorus CAS: 7723-14-0	1.11	mg/l		
AC59605	* Total Kjeldahl Nitrogen	1.60	mg/l		

**Sample Point: Effluent Grab**

Collected: 02/05/2014 Submitted: 02/05/2014

AC59606	Fecal Coliform	10	colonies/100ml		100
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**Sample Point: Digester 2**

Collected: 02/05/2014 Submitted: 02/05/2014

AC59607	Fecal Coliform	866000	mpn/g dry wt.		
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February 12, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC59605	Effluent Composite	2/5/14	06:00	2/5/14
AC59606	Effluent Grab	2/5/14	12:32	2/5/14
AC59607	Digester 2	2/5/14	12:20	2/5/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

  
Karen Sutton  
Vice President Client Services

Page 1 of 3  
(excluding C.O.C)





**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	330841		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER		ENERSOLV PROJECT NUMBER			REQUIRED ANALYSES														
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P O NUMBER			AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR									
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																		
SAMPLE COLLECTED BY <i>By: M. P. ...</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)			DATE DUE (REQUIRED)																	
ENERSOLV LAB NO	DESCRIPTION			DATE	TIME	GRAB																COMP
AC 5860Z	MADISON-EFFLUENT-COMP			1/29/14	0820		X	X														
	MADISON-EFFLUENT-COMP						X															
603	MADISON-EFFLUENT-GRAB			1-29-14	1135	X		X														
604	MADISON-DIGESTER			1/29/14	0817	X							X									
COMMENTS:																						
																		SAMPLE TEMP. REC'D @ 1-3 <sup>rd</sup>				
Field Information									Qty	Type	Vol.	Preserv.	< 2	> 12.5	Parameter							
									1	Plastic	Pint	H2SO4			A NH3, TKN, P							
Sampler	pH su	n/a	TRC mg/l	n/a	DO mg/l	n/a	Temp deg C	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform							
Start Date	1-28-14	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			NO3NO2						
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a													
Stop Date	1-29-14	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a													
Stop Time	0500	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B																	
RELINQUISHED BY: (SIGNATURE)			DATE	TIME	RELINQUISHED BY: (SIGNATURE)			DATE	TIME	RELINQUISHED BY: (SIGNATURE)			DATE	TIME								
<i>Chris West</i>			1-29-14	1140	<i>J. ...</i>			1-29-14	1305													
RECEIVED BY: (SIGNATURE)			DATE	TIME	RECEIVED BY: (SIGNATURE)			DATE	TIME	RECEIVED BY: (SIGNATURE)			DATE	TIME								
<i>Jon ...</i>			1-29-14	1140																		
RECEIVED FOR LABORATORY USE BY: (SIGNATURE)				DATE	TIME	SAMPLE STATUS																
<i>Shaw</i>				1-29-14	1305	<input checked="" type="checkbox"/> Accepted		<input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception														



**SAMPLE RESULTS REPORT**

<b>REPORT TO</b>			ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.		
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758			ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (*)		
<i>This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.</i>					
Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit

Sample Point: Effluent Composite

Collected: 01/29/2014 Submitted: 01/29/2014

AC58682 \* Ammonia-Nitrogen  
 CAS: 7664-41-7 <0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 01/29/2014 Submitted: 01/29/2014

AC58683 Fecal Coliform 10 colonies/100ml 100

Sample Point: Digester

Collected: 01/29/2014 Submitted: 01/29/2014

AC58684 Fecal Coliform 310000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC58682	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	01/30/2014	07:30		
AC58683	Fecal Coliform	SM 9222D-1997	RAC	01/29/2014	13:35	01/30/2014	12:45
AC58684	Fecal Coliform	SM 9221E	RAC	01/30/2014	06:15	01/31/2014	06:30

The results contained in this report are only representative of the sample(s) received.





February 05, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC58682	Effluent Composite	1/29/14	05:00	1/29/14
AC58683	Effluent Grab	1/29/14	11:35	1/29/14
AC58684	Digester	1/29/14	08:17	1/29/14

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)



2220 Beltline Road SW • Decatur, Alabama 35601  
P.O. Box 1646 • Decatur, Alabama 35602 • (256) 350-0846 • Fax: (256) 350-0686



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	51763
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison	ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER
CLIENT POINT OF CONTACT Jeff Taylor	CLIENT PHONE 256-461-0845 ext 115	CLIENT P.O. NUMBER	
CLIENT ADDRESS 701 Landess Circle	CITY Madison	STATE AL	ZIP CODE 35758
SAMPLE COLLECTED BY <i>Johanna Law</i>	EXPEDITED REPORT DELIVERY (SURCHARGE) DATE DUE (REQUIRED)		

ENERSOLV LAB NO.	DESCRIPTION	DATE	TIME	GRAB	COMP	AMMONIA (3/week)	REQUIRED ANALYSES								
							FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR			
<i>1150/121</i>	MADISON-EFFLUENT-COMP	1-22-14	0830		X	X									
	MADISON-EFFLUENT-COMP				X										
<i>122</i>	MADISON-EFFLUENT-GRAB	1-22-14	1248	X			X								
<i>123</i>	MADISON-DIGESTER # 1	1-22-14	0834	X									X		

COMMENTS:

SAMPLE TEMP.  
REC'D @ *12-*

Field Information										Qty	Type	Vol.	Preserv	< 2	≥ 12.5	Parameter
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	n/a	1	Plastic	Pint	H2SO4			NH3, TKN, P
Start Date	Date	n/a	Date	n/a	Date	n/a	Date	n/a	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	Time	n/a	Time	n/a	Time	n/a	Time	n/a	n/a	1	Plastic	Pint	Plain			NO3NO2
Stop Date	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	n/a							
Stop Time	SM 4500H+	SM 4500-Cl D	SM 4500-O G	SM 2550B												

RELINQUISHED BY (SIGNATURE) <i>Johanna Law</i>	DATE 1-22-14	TIME 12:50	RELINQUISHED BY (SIGNATURE) <i>Jon Dan</i>	DATE 1-22-14	TIME 1410	RELINQUISHED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE) <i>So...</i>	DATE 1-22-14	TIME 12:50	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY (SIGNATURE) <i>Mark</i>	DATE 1-22-14	TIME 1410	SAMPLE STATUS					

Accepted     
  Rejected     
  Accepted with Exception



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

NELAP Accredited  
 Florida DOH  
 #E871078

EPA/ADEM Certification  
 No. 40160

Tests within the scope of accreditation are indicated by an asterisk (\*)

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 01/22/2014 Submitted: 01/22/2014

AC58121 \* Ammonia-Nitrogen  
 CAS: 7664-41-7

<0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 01/22/2014 Submitted: 01/22/2014

AC58122 Fecal Coliform

10 colonies/100ml 100

Sample Point: Digester 1

Collected: 01/22/2014 Submitted: 01/22/2014

AC58123 Fecal Coliform

742000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	End Date/Time	End Date/Time
AC58121	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	01/24/2014	11:00		
AC58122	Fecal Coliform	SM 9222D-1997	RAC/LDM	01/22/2014	15:10	01/23/2014	15:10
AC58123	Fecal Coliform	SM 9221E	RAC/LDM	01/22/2014	15:05	01/23/2014	15:05

The results contained in this report are only representative of the sample(s) received.





January 29, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC58121	Effluent Composite	1/22/14	05:00	1/22/14
AC58122	Effluent Grab	1/22/14	12:48	1/22/14
AC58123	Digester 1	1/22/14	08:34	1/22/14

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services





**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	141451		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P O NUMBER	AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR										
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																	
SAMPLE COLLECTED BY		EXPEDITED REPORT DELIVERY (SURCHARGE)																			
		DATE DUE (REQUIRED)																			
SAMPLE (USE ONE LINE PER CONTAINER)																					
ENERSOLV LAB NO	DESCRIPTION			DATE	TIME	GRAB	COMP														
A057360	MADISON-EFFLUENT-COMP			1-15-14	0825		X	X													
	MADISON-EFFLUENT-COMP						X														
361	MADISON-EFFLUENT-GRAB			1-15-14	1235	X		X													
362	MADISON-DIGESTER			1-15-14	0820	X															

COMMENTS: SAMPLE TEMP. REC'D @ 7.9°C

Field Information										Qty	Type	Vol.	Preserv.	< 2	> 12.5	Parameter
										1	Plastic	Pint	H2SO4			NH3, TKN, P
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a		1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Date	Date	n/a	Date	n/a	Date	n/a	Date	n/a		1	Plastic	Pint	Plain			NO3NO2
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-CI D		SM 4500-O G		SM 2550B									
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	
[Signature]		1-15-14	1240	[Signature]		1-15-14	1415									
RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	
[Signature]		1-15-14	1240													
RECEIVED FOR LABORATORY USE BY (SIGNATURE)				DATE	TIME	SAMPLE STATUS										
[Signature]				1-15-14	1415	<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception										



**SAMPLE RESULTS REPORT**

<b>REPORT TO</b>			ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation. ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (*) <i>This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.</i>		Cert# L2239 Testing EPA/ADEM Certification No. 40160
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758					
Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit

Sample Point: Effluent Composite

Collected: 01/15/2014 Submitted: 01/15/2014

AC57360 \* Ammonia-Nitrogen  
CAS: 7664-41-7

<0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 01/15/2014 Submitted: 01/15/2014

AC57361 Fecal Coliform

<10 colonies/100ml 100

Sample Point: Digester

Collected: 01/15/2014 Submitted: 01/15/2014

AC57362 Fecal Coliform

644000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC57360	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	01/16/2014	08:00		
AC57361	Fecal Coliform	SM 9222D-1997	RAC	01/15/2014	14:20	01/16/2014	12:48
AC57362	Fecal Coliform	SM 9221E	RAC	01/16/2014	06:30	01/17/2014	07:30

The results contained in this report are only representative of the sample(s) received.







January 21, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC57360	Effluent Composite	1/15/14	08:25	1/15/14
AC57361	Effluent Grab	1/15/14	12:35	1/15/14
AC57362	Digester	1/15/14	08:20	1/15/14

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:



Karen Sutton  
Vice President Client Services





ANALYSIS REQUEST ID CHAIN OF CUSTODY RECORD  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846


COC NUMBER	224709
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES												
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER													
CLIENT ADDRESS 701 Landess Circle			CITY Madison	STATE AL	ZIP CODE 35758												
SAMPLE COLLECTED BY Johann Caris			EXPEDITED REPORT DELIVERY (SURCHARGE)														
			DATE DUE (REQUIRED)														
SAMPLE (USE ONE LINE PER CONTAINER)																	
ENERSOLV LAB NO.	DESCRIPTION			DATE	TIME	GRAB	COMP	AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR			
AC56480	MADISON-EFFLUENT-COMP			1-8-14	0916		X	X									
4	MADISON-EFFLUENT-COMP			1-8-14	0916		X										
491	MADISON-EFFLUENT-GRAB			1-8-14	12:30	X		X									
492	MADISON-DIGESTER #4 Fecal			1-8-14	0900	X											
493	DIGESTER #4 SOUR			1-8-14	12:25												
COMMENTS: SAMPLE FOR RECD 4.1																	
Field Information										Qty	Type	Vol	Preserv	<2	>12.5	Parameter	
Sampler	pH	su	n/a	TRC	mg/l	n/a	DO	mg/l	n/a	Temp	deg C	n/a	1	Plastic	Pint	H2SO4	A NH3, TKN, P
Start Date	1-7-14	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	B NO3NO2	
Start Time	06:00	Time	n/a	Time	n/a	Time	n/a	Time	n/a								
Stop Date	1-8-14	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a								
Stop Time	0500	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B												
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME		
Johann Caris		1-8-14	12:40	J. Caris		1-8-14	1400										
RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME		
Sam Ross		1-8-14	12:40														
RECEIVED FOR LABORATORY USE BY (SIGNATURE)				DATE	TIME	SAMPLE STATUS											
J. Caris				1-8-14	1400	Accepted											




# SAMPLE RESULTS REPORT

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

  
 NELAP Accredited  
 Florida DOH  
 #E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.  
 ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing.  
 Tests within the scope of accreditation are indicated by an asterisk (\*).  
*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

  
 LABORATORY ACCREDITATION BUREAU  
 CERT# L2239 Testing  
 EPA/ADEM Certification No. 40160

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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- Data Qualifiers:**
- B:** Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D:** Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G:** Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H:** Sample beyond accepted holding time.
  - J:** Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N:** Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q:** One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T:** Test temperature fell outside method specified range.
  - Y:** Analysis performed from improperly preserved sample.

### Analysis Information

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC56490	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	01/09/2014	10:15		
AC56490	Nitrate plus Nitrite-Nitrogen	EPA 300.0	HGT	01/08/2014	21:08		
AC56490	Nitrate-Nitrogen	EPA 300.0	HGT	01/08/2014	21:08		
AC56490	Nitrite-Nitrogen	EPA 300.0	HGT	01/08/2014	21:08		
AC56490	Total Kjeldahl Nitrogen	SM 4500-Norg C	LDM	01/09/2014	06:00		
AC56490	Total Phosphorus	EPA 365.3	SH	01/09/2014	11:20		
AC56491	Fecal Coliform	SM 9222D-1997	LDM	01/08/2014	14:26	01/09/2014	14:30
AC56492	Fecal Coliform	SM 9221E	LDM	01/09/2014	07:00	01/10/2014	07:00
AC56493	Specific Oxygen Consumption Rate	SM 2710B	JLP	01/08/2014	14:08		

The results contained in this report are only representative of the sample(s) received.





**SAMPLE RESULTS REPORT**

**REPORT TO**  
Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758



NELAP Accredited  
Florida DOH  
#E871078

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LABORATORY ACCREDITATION BUREAU

Cert# L2239 Testing

EPA/ADEM Certification  
No. 40160

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Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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**Sample Point: Effluent Composite**

Collected: 01/08/2014

Submitted: 01/08/2014

AC56490	* Ammonia-Nitrogen CAS: 7664-41-7	0.106	mg/l		3.00
AC56490	Nitrite-Nitrogen	<0.15	mg/l		
AC56490	Nitrate-Nitrogen CAS: 7697-37-2	5.51	mg/l		
AC56490	Nitrate plus Nitrite-Nitrogen	5.51	mg/l		
AC56490	* Total Phosphorus CAS: 7723-14-0	2.76	mg/l		
AC56490	* Total Kjeldahl Nitrogen	<1.50	mg/l		

**Sample Point: Effluent Grab**

Collected: 01/08/2014

Submitted: 01/08/2014

AC56491	Fecal Coliform	10	colonies/100ml		100
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**Sample Point: Digester 4**

Collected: 01/08/2014

Submitted: 01/08/2014

AC56492	Fecal Coliform	632000	mpn/g dry wt.		
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**Sample Point: Digester 4**

Collected: 01/08/2014

Submitted: 01/08/2014

AC56493	Specific Oxygen Consumption Rate	0.588	(mg/g)/h (dry wt.)		
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January 15, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC56490	Effluent Composite	1/8/14	05:00	1/8/14
AC56491	Effluent Grab	1/8/14	12:30	1/8/14
AC56492	Digester 4	1/8/14	09:00	1/8/14
AC56493	Digester 4	1/8/14	12:25	1/8/14

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services





**ANALYSIS REQUEST ID CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	68862
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																					
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER		AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR														
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																						
SAMPLE COLLECTED BY <i>Chris West</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																						
ENERSOLV LAB NO.	DESCRIPTION			DATE	TIME	GRAB	COMP																			
AC55851	MADISON-EFFLUENT-COMP			1-1-14	0850		X	X																		
	MADISON-EFFLUENT-COMP						X																			
852	MADISON-EFFLUENT-GRAB			1-1-14	1037	X		X																		
853	MADISON-DIGESTER #4			1-1-14	0846	X						X														

COMMENTS: SAMPLE TEMP. REC'D @ 7.7C

Field Information										Qty	Type	Vol.	Preserv.	< 2	> 12.5	Parameter
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	1	Plastic	Pint	H2SO4				NH3, TKN, P
Start Date	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a		Fecal Coliform
Start Time	Time	n/a	Time	n/a	Time	n/a	Time	n/a								NO3NO2
Stop Date	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a								
Stop Time	0500	SM 4500H+	SM 4500-Cl D	SM 4500-O G	SM 2550B											
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME								
<i>Chris West</i>	1-1-14	1037	<i>[Signature]</i>	1-1-14	1130											
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME								
<i>[Signature]</i>	1-1-14	1037	<i>[Signature]</i>													
RECEIVED FOR LABORATORY USE BY: (SIGNATURE)	DATE	TIME	SAMPLE STATUS:													
<i>[Signature]</i>	1-1-14	1130	<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception													



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

NELAP Accredited  
 Florida DOH  
 #E871078

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 Tests within the scope of accreditation are indicated by an asterisk (\*)

Cert# 1.2239 Testing  
 EPA/ADEM Certification No. 40160

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Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 01/01/2014 Submitted: 01/01/2014

AC55851 \* Ammonia-Nitrogen  
 CAS: 7664-41-7

<0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 01/01/2014 Submitted: 01/01/2014

AC55852 Fecal Coliform

10 colonies/100ml 100

Sample Point: Digester 4

Collected: 01/01/2014 Submitted: 01/01/2014

AC55853 Fecal Coliform

702000 mpn/g dry wt.

- Data Qualifiers:**  
 B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.  
 D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.  
 G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.  
 H: Sample beyond accepted holding time.  
 J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).  
 N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)  
 Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.  
 T: Test temperature fell outside method specified range.  
 Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis Start Date/Time	BOD/CBOD/Fecal Analysis End Date/Time
AC55851	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	01/02/2014 07:15	
AC55852	Fecal Coliform	SM 9222D-1997	RAC	01/01/2014 12:55	01/02/2014 11:35
AC55853	Fecal Coliform	SM 9221E	RAC	01/01/2014 11:50	01/02/2014 12:00

The results contained in this report are only representative of the sample(s) received.





January 08, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC55851	Effluent Composite	1/1/14	05:00	1/1/14
AC55852	Effluent Grab	1/1/14	10:33	1/1/14
AC55853	Digester 4	1/1/14	08:46	1/1/14

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Reviewed by:

Karen Sutton  
Vice President Client Services





**Pathogen Reduction and  
Vector Attraction Reduction  
Information**

## CERTIFICATION

"I certify, under penalty of law, that the information that will be used to determine compliance with the Class B pathogen requirements in §503.32(b) and the vector attraction reduction requirement in §503.33(b)(4) was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Project(s): City of Madison, AL WWTP Cake

Reporting Period: October - December 2014

Name: Mark Bland

Title: Plants Superintendent

Signature: Mark Bland

Date: 03-02-15

The Class B pathogen requirements were met through §503.32(b)(2). Seven samples of the biosolids were collected at the time of biosolids use and the geometric mean of the density of fecal coliform in the samples was less than 2,000,000 MPN or CFU per gram of total solids (dry weight basis).

The vector attraction reduction requirement was met through §503.33(b)(4). The specific oxygen uptake rate (SOUR) for the biosolids treated in an aerobic process was less than or equal to 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius.

TYPE 42: CB PR FC VAR SOUR

## CERTIFICATION

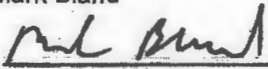
"I certify, under penalty of law, that the information that will be used to determine compliance with the Class B pathogen requirements in §503.32(b) and the vector attraction reduction requirement in §503.33(b)(4) was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Project(s): City of Madison, AL WWTP Cake

Reporting Period: July - September 2014

Name: Mark Bland

Title: Plants Superintendent

Signature: 

Date: 03-02-15

The Class B pathogen requirements were met through §503.32(b)(2). Seven samples of the biosolids were collected at the time of biosolids use and the geometric mean of the density of fecal coliform in the samples was less than 2,000,000 MPN or CFU per gram of total solids (dry weight basis).

The vector attraction reduction requirement was met through §503.33(b)(4). The specific oxygen uptake rate (SOUR) for the biosolids treated in an aerobic process was less than or equal to 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius.

TYPE 42: CB PR FC VAR SOUR

## CERTIFICATION

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Project(s): City of Madison, AL WWTP Cake

Reporting Period: April - June 2014

Name: Mark Bland

Title: Plants Superintendent

Signature: Mark Bland

Date: 03-02-15

The Class B pathogen requirements were met through §503.32(b)(2). Seven samples of the biosolids were collected at the time of biosolids use and the geometric mean of the density of fecal coliform in the samples was less than 2,000,000 MPN or CFU per gram of total solids (dry weight basis).

The vector attraction reduction requirement was met through §503.33(b)(4). The specific oxygen uptake rate (SOUR) for the biosolids treated in an aerobic process was less than or equal to 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius.

TYPE 42: CB PR FC VAR SOUR

## CERTIFICATION

"I certify, under penalty of law, that the information that will be used to determine compliance with the Class B pathogen requirements in §503.32(b) and the vector attraction reduction requirement in §503.33(b)(4) was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Project(s): City of Madison, AL WWTP Cake

Reporting Period: January - March 2014

Name: Mark Bland

Title: Plants Superintendent

Signature: 

Date: 03-02-15

The Class B pathogen requirements were met through §503.32(b)(2). Seven samples of the biosolids were collected at the time of biosolids use and the geometric mean of the density of fecal coliform in the samples was less than 2,000,000 MPN or CFU per gram of total solids (dry weight basis).

The vector attraction reduction requirement was met through §503.33(b)(4). The specific oxygen uptake rate (SOUR) for the biosolids treated in an aerobic process was less than or equal to 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius.

TYPE 42: CB PR FC VAR SOUR

## **Certification Statements**



Essential Management Solutions

BIG SOLIDS TRANSMITTAL FORM/CHAIN OF CUSTODY

PROJECT Madison, AL (2921) SAMPLED BY Jeff Petre

SHIPPED TO As L Eastern SHIPPING DATE 9/30/14

SUBMITTED BY Jeff Petre SAMPLE LOCATION Pad

COMMENTS 4th Period 2014



14-275-0208  
90031  
10-02-2014  
10:15:00

SAMPLE(S) ICED

SYNACRO SW/MADISON  
MADISON, AL

SEND RESULTS TO: CORPORATE OFFICE/REGIONAL OFFICE

Sample Identification	Date Collected	Time Collected	C O M P	G R A R	Container Info			Analysis Requested
					#	Type G=Glass P=Plastic	Volume	
<u>57907</u> <u>4th Period 2014</u>	<u>9/30/14</u>	<u>7:30</u>	<u>X</u>		<u>1</u>	<u>P</u>	<u>Pint</u>	<u>Standard Composite</u>

Relinquished by (Signature/Affiliation) <u>[Signature]</u>	Date	<u>9/30/14</u>	Received by (Signature/Affiliation) <u>[Signature]</u>	Date	
	Time	<u>14:30</u>		Time	
Relinquished by (Signature/Affiliation) <u>False</u> <u>771-331-722757</u>	Date	<u>10/2/14</u>	Received by: (Signature/Affiliation) <u>[Signature]</u>	Date	
	Time	<u>10:20</u>		Time	
Relinquished by (Signature/Affiliation)	Date		Received by (Signature/Affiliation)	Date	
	Time			Time	

White - With Sample

Yellow - Regional Office

Pink - Originator

Report Number: 14-275-0206

Account Number: 90031

Submitted By: JEFF RETZKE



www.aleastern.com

# A&L Eastern Laboratories, Inc.

7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6446

Send To: SYNAGRO SW/MADISON  
C SIMMONS - #56-2921  
501 WOODALL RD  
DECATUR, AL 35601

Project : MADISON,AL

Lab Number : 57907  
Sample Id : 4TH PERIOD 2014

## REPORT OF ANALYSIS

Date Sampled: 9/30/2014 07:30:00

Date Received: 10/02/2014 00:00

Date Reported: 10/07/2014

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Nickel		18	5	KM	10/03/2014 11:41	SW 6010C
Total Lead		10	5	KM	10/03/2014 11:41	SW 6010C
Total Arsenic		5.0	3.0	KM	10/03/2014 11:41	SW 6010C
Total Mercury		0.9	0.4	KM	10/03/2014 09:00	SW-7471B
Total Selenium		8.0	5.0	KM	10/03/2014 11:41	SW 6010C
pH (Standard Units) *	7.46		2.00	JM	10/03/2014 08:50	SW-9045D
Calcium Carbonate Equivalent	<0.01	<100	100	JM	10/03/2014 14:15	AOAC 955.01
Total Volatile Solids	76.84	768400	100.0	JM	10/02/2014 14:30	SM-2540G
Total Molybdenum		42	5	KM	10/03/2014 11:41	SW 6010C

### Comments:

QUALIFIER: THE MATRIX SPIKE WAS OUT OF LIMITS FOR "Cu", "K", AND "S". ALL OTHER QC DATA IS ACCEPTABLE.

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

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Debbie Holt



Report Number: 14-275-0206  
 Account Number: 90031  
 Submitted By: JEFF RETZKE



## A&L Eastern Laboratories, Inc.

7621 Whitepine Road Richmond, Virginia 23237 (804) 743-3401 Fax (804) 271-5446

Send To: SYNAGRO SW/MADISON  
 C SIMMONS - #56-2921  
 501 WOODALL RD  
 DECATUR, AL 35601

Project : MADISON,AL

Lab Number : 57907  
 Sample Id : 4TH PERIOD 2014

### REPORT OF ANALYSIS

Date Sampled: 9/30/2014 07:30:00  
 Date Received: 10/02/2014 00:00  
 Date Reported: 10/07/2014

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	17.08	170800	100.0	JM	10/02/2014 14:30	SM-2540G
Moisture *	82.92		100.0	JM	10/02/2014 14:30	SM-2540G
Total Kjeldahl Nitrogen	5.77	57700	10.0	JM	10/03/2014 08:50	SM-4500-NH3C-TKN
Total Phosphorus	2.08	20800	100	KM	10/03/2014 11:41	SW 6010C
Total Potassium	0.27	2670	100	KM	10/03/2014 11:41	SW 6010C
Total Sulfur	0.80	8010	100	KM	10/03/2014 11:41	SW 6010C
Total Calcium	2.56	25600	100	KM	10/03/2014 11:41	SW 6010C
Total Magnesium	0.28	2800	100	KM	10/03/2014 11:41	SW 6010C
Total Sodium	0.06	551	100	KM	10/03/2014 11:41	SW 6010C
Total Iron		7810	100	KM	10/03/2014 11:41	SW 6010C
Total Manganese		1170	5	KM	10/03/2014 11:41	SW 6010C
Total Copper		627	5	KM	10/03/2014 11:41	SW 6010C
Total Zinc		686	5	KM	10/03/2014 11:41	SW 6010C
Ammonia Nitrogen	0.48	4800	10.0	JM	10/03/2014 08:50	SM-4500-NH3C
Organic N	5.29	52900	10.0		10/03/2014 08:50	CALCULATION
Nitrate+Nitrite-N		20.5	2.00	JM	10/03/2014 08:50	SM-4500NO3F
Total Cadmium		2.0	2.0	KM	10/03/2014 11:41	SW 6010C
Total Chromium		29	5	KM	10/03/2014 11:41	SW 6010C

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

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*Debbie Holt*

Debbie Holt

# RESIDUALS SAMPLING SUMMARY FORM

From Date Sampled 1/1/2014

To 12/31/2014

Facility Name: MADISON UTILITIES, AL  
NPDES#: AL0071897  
WWTP NAME: MADISON, AL WWTP

Laboratory  
A&L Eastern Laboratories Inc.

## Residuals Analysis Data

Product Type	CAK	CAK	CAK	CAK	Minimum	Average	Maximum
Date Sampled (grab) or	01/09/14	04/01/14	07/02/14	09/30/14			
Date Composited							
Percent Solids	15.34	15.78	19.14	17.08	15.34	16.84	19.14

## PARAMETERS(mg/kg dry weight)

Arsenic	6	4	4	5	4	5	6
Cadmium	<2	<2	<2	2	2	2	2
Chromium	31	27	33	29	27	30	33
Copper	544	498	602	627	498	568	627
Lead	9	8	9	10	8	9	10
Mercury	0.7	<0.4	0.8	0.9	0.4	0.7	0.9
Molybdenum	34	30	44	42	30	38	44
Nickel	17	16	21	18	16	18	21
Selenium	8	6	8	8	6	8	8
Zinc	683	544	611	686	544	631	686
TKN	67100	66500	67400	57700	57700	64675	67400
Ammonia-Nitrogen	8800	7800	14900	4800	4800	9075	14900
Nitrate-Nitrogen	7.17	12.7	5.75	20.5	5.75	11.53	20.5
Total Phosphorus	22900	19300	20700	20800	19300	20925	22900

**2014 ANNUAL REPORT**

Facility: City of Madison WWTP  
701 Landess Circle  
Madison, AL 35757  
(256) 774-3542

NPDES Permit No.: AL0071897

Responsible Official: Mark Bland  
Water and Wastewater Board of the City of Madison  
P.O. Box 197  
Madison, AL 35758  
(256) 461-0845

Facility Operator: Mark Bland  
Water and Wastewater Board of the City of Madison  
P.O. Box 197  
Madison, AL 35758  
(256) 461-0845

Land Applier: Synagro  
501 Woodall Road  
Decatur, AL 35601  
(256) 351-0959

Dry Metric Tons of Biosolids Used or Disposed:

Land Applied:	<u>575.66</u>
Landfilled:	<u>0</u>

Metals Analysis: See Attached.

Description of Pathogen Reduction  
Alternative and Vector Attraction  
Reduction Option: See Attached Certification Statements.

Signed Certification Statements: See Attached.

Pathogen Reduction and Vector  
Attraction Reduction Test Results  
or Sample Operational Data: See Attached.

**MADISON, ALABAMA**

**U.S. EPA REGION 4  
2014 ANNUAL REPORT**

**NPDES PERMIT NO. AL0071897**





ANALYSIS REQUEST... ID CHAIN OF CUSTODY RECORD  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256) 350-0846

COC NUMBER	14886724
PAGE	1 of 1
Outfall 0012	

www.enersolv.com

COMPANY/CLIENT NAME Water & WW Bd City of Madison		ACCOUNT NUMBER 1373	CLIENT P.O. NUMBER	ENERSOLV PROJECT NUMBER		REQUESTED ANALYSES									
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHYSICAL ADDRESS 701 Landess Circle		CITY/STATE/ZIP Madison, AL 35756		3/WEEK			MONTHLY						
CLIENT EMAIL mbland@madisonutilities.org		PHONE NUMBER 256-461-0845	OTHER INFORMATION AL0071897 Expires 9/30/2019			#NH3	EC	IPICKUP	#NO3NO2IC	#P-T	#TKN				
SAMPLE COLLECTED BY <i>Johann Caris</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)				DATE DUE (REQUIRED)									
ENERSOLV LAB NUMBER	ENERSOLV LOCATION CODE	SAMPLE DESCRIPTION	SAMPLE TRANSFER/GRAB DATE	SAMPLE TRANSFER/GRAB TIME	GRAB	COMP	#NH3	EC	IPICKUP	#NO3NO2IC	#P-T	#TKN			
AC93871	Madison-Eff-C	Outfall 0012	12-24-14	0935		X	X		X						
W 872	Madison-Eff-G	Outfall 0012	12-24-14	11:00	X			X							
Comments:												SAMPLE TEMPERATURE RECEIVED @ 3.5			
Collector to complete shaded areas, as applicable															
SAMPLER INFORMATION		FIELD INFORMATION					Qty	Type	Vol.	Preserv.	Parameter				
Start Date	12-23-14	pH mg/l	TRC mg/l	DO mg/l	Temp deg C	1	Plastic	Pint	H2SO4	NH3, P, TKN					
Start Time	0600	Date	Date	Date	Date	1	Plastic	Pint	Iced	NO3NO2					
Stop Date	12-24-14	Time	Time	Time	Time			Fecal Cup	Iced	EC					
Stop Time	0500	Analyst	Analyst	Analyst	Analyst										
SM 4500H+B		SM 4500-C1 D		SM 4500-OR E		SM 2550B									
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME				
<i>Johann Caris</i>		12-24-14	11:45	<i>[Signature]</i>		12-24-14	12:30	<i>[Signature]</i>							
RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME				
<i>[Signature]</i>		12-24-14	11:45	<i>[Signature]</i>				<i>[Signature]</i>							
RECEIVED FOR LABORATORY USE BY (SIGNATURE)		DATE	TIME	SAMPLE STATUS											
<i>An. Baker</i>		12/24/14	1230	<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception											



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

NELAP Accredited  
 Florida DOH  
 #E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.  
 ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*).

LABORATORY ACCREDITATION BUREAU  
 #L2239 Testing  
 EPA/ADEM Certification No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
-----------	--------------	--------	-------	------	------------------

Sample Point: Outfall 0012

Collected: 12/24/2014 Submitted: 12/24/2014

AC93871 \* Ammonia-Nitrogen  
 CAS: 7884-41-7

0.239 mg/l 3.00

Sample Point: Outfall 0012

Collected: 12/24/2014 Submitted: 12/24/2014

AC93872 E. coli

260 colonies/100ml

Sample Point: Digester 2

Collected: 12/24/2014 Submitted: 12/24/2014

AC93873 Fecal Coliform

1140000 mpn/g dry wt.

- Data Qualifier Definitions:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified, the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC93871	Ammonia-Nitrogen	SM 4500 NH3-C	DS	12/26/2014	07:30		
AC93872	E. coli	mColiBlue-24	RAC	12/24/2014	14:23	12/25/2014	14:23
AC93873	Fecal Coliform	SM 9221E	RAC	12/25/2014	06:30	12/26/2014	07:00

The results contained in this report are only representative of the sample(s) received.



December 31, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC93871	Outfall 0012	12/24/14	05:00	12/24/14
AC93872	Outfall 0012	12/24/14	11:00	12/24/14
AC93873	Digester 2	12/24/14	10:30	12/24/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

This cover page and the attached chain-of-custody record(s) are integral parts of your report. ENERSOLV considers this report your official record. This information shall remain in ENERSOLV's active database for a period of one (1) calendar year before archiving. Any replacement of this information after archiving may result in an administrative fee to cover the cost of retrieval.

If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)









**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078) Some tests included in this report may not be covered by this accreditation.

NELAP Accredited  
 Florida DOH  
 #E871078

EPA/ADEM Certification  
 No. 40160

Tests within the scope of accreditation are indicated by an asterisk (\*)  
 This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
-----------	--------------	--------	-------	------	------------------

Sample Point: Digester 1

Collected: 12/10/2014 Submitted: 12/10/2014

AC92490 Fecal Coliform 485000 mpn/g dry wt.

- Data Qualifier**  
**Defintions:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis Start Date/Time	BOD/CBOD/Fecal Analysis End Date/Time
AC92490	Fecal Coliform	SM 9221E	RAC	12/11/2014 06:45	12/12/2014 07:35

The results contained in this report are only representative of the sample(s) received.



December 16, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC92490	Digester 1	12/10/14	09:20	12/10/14

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

  
Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)





**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256) 350-0846

COC NUMBER	442089		
PAGE	1	of	1
Digester			

www.enersolv.com

COMPANY/CLIENT NAME Water & WW Bd City of Madison		ACCOUNT NUMBER 1373	CLIENT P.O. NUMBER	ENERSOLV PROJECT NUMBER	REQUESTED ANALYSES																
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHYSICAL ADDRESS 701 Landess Circle		CITY/STATE/ZIP Madison, AL 35756																	
CLIENT EMAIL mbland@madisonutilities.org		PHONE NUMBER 256-461-0845	OTHER INFORMATION																		
SAMPLE COLLECTED BY Slade Sparkman		EXPEDITED REPORT DELIVERY (SURCHARGE) DATE DUE (REQUIRED)																			
ENERSOLV LAB NUMBER	ENERSOLV LOCATION CODE	SAMPLE DESCRIPTION	SAMPLE TRANSFER/GRAB DATE	SAMPLE TRANSFER/GRAB TIME	GRAB	COMP	#FC-SLUDGE	SOUR													
A091073	Madison-Digester	Digester	12-3-14	07:43	X		X														

**Comments:**  
 Collector to complete shaded areas, as applicable

**SAMPLE TEMPERATURE RECEIVED @** *N/A*

SAMPLER INFORMATION	FIELD INFORMATION					Qty	Type	Vol.	Preserv.	Parameter
	Start Date	pH	TRC	DO	Temp	1	Plastic	Fecal Cup	Iced	Sludge Fecal
Stop Date	su	mg/l	mg/l	deg C	1		Thermos	None	Sour	
Start Time	Date	Date	Date	Date						
Stop Time	Time	Time	Time	Time						
Analyst	Analyst	Analyst	Analyst	Analyst						
	SM 4500H+B	SM 4500-C1 D	SM 4500-O G	SM 2550B						

RELINQUISHED BY (SIGNATURE) <i>Slade Sparkman</i>	DATE 12-3-14	TIME 11:56	RELINQUISHED BY (SIGNATURE) <i>Tom Bon</i>	DATE 12/3/14	TIME 1355	RELINQUISHED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE) <i>Tom Bon</i>	DATE 12/3/14	TIME 1156	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY (SIGNATURE) <i>Phan</i>	DATE 12/3/14	TIME 1355	SAMPLE STATUS					
			<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					





December 10, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC91673	Digester	12/3/14	07:43	12/3/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

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Reviewed by:

Karen Sutton  
Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	17182
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER							
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext. 115		CLIENT P.O. NUMBER							
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758							
SAMPLE COLLECTED BY <i>Orlando Paris</i>		EXPEDITED REPORT DELIVERY (SURCHARGE) DATE DUE (REQUIRED)									
ENERSOLV LAB NO	SAMPLE (USE ONE LINE PER CONTAINER)				AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR
	DESCRIPTION	DATE	TIME	GRAB							
<i>AC9086 Z</i>	MADISON-EFFLUENT-COMP	<i>11-26-14</i>	<i>09:16</i>		X	X					
	MADISON-EFFLUENT-COMP	<del><i>11-26-14</i></del>			X						
<i>963</i>	MADISON-EFFLUENT-GRAB	<i>11-26-14</i>	<i>10:40</i>	X		X					
<i>964</i>	MADISON-DIGESTER #4	<i>11-26-14</i>	<i>10:35</i>	X							

COMMENTS: SAMPLE TEMP.  
REC'D @ *2.7°C*

Field Information										Qty	Type	Vol.	Preserv.	<2	>12.5	Parameter	
Sampler	pH	su	n/a	TRC	mg/l	n/a	DO	mg/l	n/a	Temp	deg C	n/a	1	Plastic	Pint	H2SO4	NH3, TKN, P
Start Date	<i>11-25-14</i>	Date	n/a	Date	n/a	Date	n/a	Date	n/a	Date	n/a	n/a	1	Plastic	Fecal Cup	Iced	Fecal Coliform
Start Time	<i>0600</i>	Time	n/a	Time	n/a	Time	n/a	Time	n/a	Time	n/a	n/a	1	Plastic	Pint	Plain	NO3NO2
Stop Date	<i>11-26-14</i>	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	n/a					
Stop Time	<i>0500</i>	SM 4500H+		SM 4500-C1 D		SM 4500-O G		SM 2550B									
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME		
<i>Orlando Paris</i>		<i>11-26-14</i>	<i>10:48</i>	<i>Jerry Shurt</i>		<i>11-26-14</i>	<i>11:45</i>										
RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME		
<i>Jerry Shurt</i>		<i>11-26-14</i>	<i>10:48</i>	<i>Jerry Shurt</i>		<i>11-26-14</i>	<i>10:48</i>										
RECEIVED FOR LABORATORY USE BY (SIGNATURE)		DATE	TIME	RECEIVED FOR LABORATORY USE BY (SIGNATURE)		DATE	TIME	RECEIVED FOR LABORATORY USE BY (SIGNATURE)		DATE	TIME	RECEIVED FOR LABORATORY USE BY (SIGNATURE)		DATE	TIME		
<i>Jerry Shurt</i>		<i>11-26-14</i>	<i>11:45</i>	<i>Jerry Shurt</i>		<i>11-26-14</i>	<i>11:45</i>										
SAMPLE STATUS										<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception							





**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



NELAP Accredited  
 Florida DOI  
 #E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in I.-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*)



Cert# L2239 Testing

EPA/ADEM Certification No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated in any form without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
-----------	--------------	--------	-------	------	------------------

Sample Point: Outfall 0012

Collected: 11/26/2014 Submitted: 11/26/2014

AC90862 \* Ammonia-Nitrogen  
 CAS: 7664-41-7 <0.100 mg/l 3.00

Sample Point: Outfall 0012

Collected: 11/26/2014 Submitted: 11/26/2014

AC90863 E. coli <10 colonies/100ml

Sample Point: Digester 4

Collected: 11/26/2014 Submitted: 11/26/2014

AC90864 Fecal Coliform 933000 mpn/g dry wt.

- Data Qualifier Definitions:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC90862	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	11/27/2014	13:10		
AC90863	E. coli	mColiBlue-24	RAC	11/26/2014	13:40	11/27/2014	13:40
AC90864	Fecal Coliform	SM 9221E	RAC	11/26/2014	11:45	11/27/2014	12:00

The results contained in this report are only representative of the sample(s) received.



December 03, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758.

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC90862	Outfall 0012	11/26/14	05:00	11/26/14
AC90863	Outfall 0012	11/26/14	10:40	11/26/14
AC90864	Digester 4	11/26/14	10:35	11/26/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

This cover page and the attached chain-of-custody record(s) are integral parts of your report. ENERSOLV considers this report your official record. This information shall remain in ENERSOLV's active database for a period of one (1) calendar year before archiving. Any replacement of this information after archiving may result in an administrative fee to cover the cost of retrieval.

If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256) 350-0846

COC NUMBER	127975		
PAGE	1	of	1
Digester			

www.enersolv.com

COMPANY/CLIENT NAME Water & WW Bd City of Madison		ACCOUNT NUMBER 1373	CLIENT P.O. NUMBER	ENERSOLV PROJECT NUMBER	REQUESTED ANALYSES																
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHYSICAL ADDRESS 701 Landess Circle		CITY/STATE/ZIP Madison, AL 35756	#FC-SLUDGE	SOUR															
CLIENT EMAIL mbland@madisonutilities.org		PHONE NUMBER 256-461-0845	OTHER INFORMATION																		
SAMPLE COLLECTED BY Slade Sparkman		EXPEDITED REPORT DELIVERY (SURCHARGE)																			
		DATE DUE (REQUIRED)																			
ENERSOLV LAB NUMBER <i>AL90169</i>	ENERSOLV LOCATION CODE Madison-Digester	SAMPLE DESCRIPTION Digester #4	SAMPLE TRANSFER/GRAB DATE 11-19-14	SAMPLE TRANSFER/GRAB TIME 07:38	GRAB	COMP	X														
Comments:																					
Collector to complete shaded areas, as applicable																		SAMPLE TEMPERATURE RECEIVED @ <i>N/A</i>			
SAMPLER INFORMATION		FIELD INFORMATION								Qty	Type	Vol	Preserv.	Parameter							
Start Date	pH su	TRC mg/l	DO mg/l	Temp deg C					1	Plastic	Fecal Cup	Iced	Sludge Fecal								
Start Time	Date	Date	Date	Date					1		Thermos	None	Sour								
Stop Date	Time	Time	Time	Time																	
Stop Time	Analyst	Analyst	Analyst	Analyst																	
SM 4500H+B		SM 4500-CI D		SM 4500-O G		SM 2550B															
RELINQUISHED BY (SIGNATURE) <i>Slade Sparkman</i>		DATE 11-19-14	TIME 13:07	RELINQUISHED BY (SIGNATURE) <i>Tom Boss</i>		DATE 11/19/14	TIME 1400	RELINQUISHED BY (SIGNATURE)		DATE	TIME										
RECEIVED BY (SIGNATURE) <i>Tom Boss</i>		DATE 11/19/14	TIME 1307	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME										
RECEIVED FOR LABORATORY USE BY (SIGNATURE) <i>Shank</i>				DATE 11/19/14	TIME 1400	SAMPLE STATUS <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception															



### SAMPLE RESULTS REPORT

<b>REPORT TO</b>		ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.			
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758		NELAP Accredited Florida DOI #E871078	EPA/ADEM Certification No. 40160		
<small>Tests within the scope of accreditation are indicated by an asterisk (*).          This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated without the written consent of ENERSOLV Corporation.</small>					
Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit

Sample Point: Digester 4

Collected: 11/19/2014 Submitted: 11/19/2014

AC90169 Fecal Coliform 551000 mpn/g dry wt.

- Data Qualifier**  
**Defintions:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of prcsence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis Start Date/Time	BOD/CBOD/Fecal Analysis End Date/Time
AC90169	Fecal Coliform	SM 9221E	RAC	11/20/2014 06:30	11/21/2014 08:00

The results contained in this report are only representative of the sample(s) received.



November 25, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC90169	Digester 4	11/19/14	07:38	11/19/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	907312
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER		REQUIRED ANALYSES															
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER		AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR									
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																	
SAMPLE COLLECTED BY <i>Johann Carr</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																	
ENERSOLV LAB NO. <i>ACT04248</i>		DESCRIPTION		DATE	TIME																
		MADISON-EFFLUENT-COMP		11.12.14	0937		X	X													
		MADISON-EFFLUENT-COMP					X														
<i>246</i>		MADISON-EFFLUENT-GRAB		11.12.14	12:05	X		X													
<i>250</i>		MADISON-DIGESTER #1		11.12.14	12:30	X															
COMMENTS:										SAMPLE TEMP. REC'D @ <i>4.7°C</i>											
Field Information										Qty	Type	Vol.	Preserv.	<2	>12.5	Parameter					
										1	Plastic	Pint	H2SO4			NH3, TKN, P					
Sampler	pH su	n/a	TRC mg/l	n/a	DO mg/l	n/a	Temp deg C	n/a		1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform					
Start Date	11/11/14	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			NO3NO2					
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a												
Stop Date	11/12/14	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a												
Stop Time	0500	SM 4500H+	SM 4500-Cl D	SM 4500-O G	SM 2550B																
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME						
<i>Johann Carr</i>		11.12.14	1230	<i>Johann Carr</i>		11/12/14	1355														
RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME						
<i>Johann Carr</i>		11/12/14	1230	<i>Johann Carr</i>																	
RECEIVED FOR LABORATORY USE BY (SIGNATURE)				DATE	TIME	SAMPLE STATUS:															
<i>Johann Carr</i>				11.12.14	1355	<input checked="" type="checkbox"/> Accepted		<input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception													



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

NELAP Accredited  
 Florida DOH  
 #E871078

EPA/ADEM Certification  
 No. 40160

Tests within the scope of accreditation are indicated by an asterisk (\*)

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Outfall 0012

Collected: 11/12/2014 Submitted: 11/12/2014

AC89248 \* Ammonia-Nitrogen  
 CAS: 7664-41-7

<0.100 mg/l 3.00

Sample Point: Outfall 0012

Collected: 11/12/2014 Submitted: 11/12/2014

AC89249 E. coli

<10 colonies/100ml

Sample Point: Digester 1

Collected: 11/12/2014 Submitted: 11/12/2014

AC89250 Fecal Coliform

853000 mpn/g dry wt.

**Data Qualifier Definitions:**

- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
- D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
- G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
- H: Sample beyond accepted holding time.
- J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
- N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
- Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
- T: Test temperature fell outside method specified range.
- Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC89248	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	11/13/2014	07:00		
AC89249	E. coli	mColiBlue-24	RAC	11/12/2014	14:46	11/13/2014	14:46
AC89250	Fecal Coliform	SM 9221E	RAC	11/13/2014	06:00	11/14/2014	08:10

The results contained in this report are only representative of the sample(s) received.





November 19, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC89248	Outfall 0012	11/12/14	05:00	11/12/14
AC89249	Outfall 0012	11/12/14	12:05	11/12/14
AC89250	Digester 1	11/12/14	12:20	11/12/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

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Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)







**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	81364		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES									
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER										
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758										
SAMPLE COLLECTED BY Slade Sparkman		EXPEDITED REPORT DELIVERY (SURCHARGE)												
		DATE DUE (REQUIRED)												
SAMPLE (USE ONE LINE PER CONTAINER)														
ENERSOLV LAB NO	DESCRIPTION	DATE	TIME	GRAB	COMP	#NH3	Fecal / E Coll	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR		
469	MADISON-EFFLUENT-COMP	11-5-14	08:11		X	X		X	X					
470	MADISON-EFFLUENT-COMP	11-5-14	08:11		X					X				
469	MADISON-EFFLUENT-GRAB	11-5-14	12:45	X			X							
470	MADISON-DIGESTER #3	11-5-14	07:41	X							X			

COMMENTS: SAMPLE TEMP. REC'D @ 2.9

Field Information									Qty	Type	Vol.	Preserv.	< 2	> 12.5	Parameter
Sampler	pH su	n/a	TRC mg/l	n/a	DO mg/l	n/a	Temp deg C	n/a	1	Plastic	Pint	H2SO4			NH3, TKN, <i>A</i>
Start Date	11-4-14	Date	n/a	Date	n/a	Date	n/a	Date	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	06:06	Time	n/a	Time	n/a	Time	n/a	Time	1	Plastic	Pint	Plain			<i>B</i> NO3NO2
Stop Date	11-5-14	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst							
Stop Time	05:00	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B										
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	LAB	RELINQUISHED BY (SIGNATURE)		DATE	TIME			
<i>Slade Sparkman</i>		11-5-14	13:03	<i>Tom Ross</i>		11/5/14	1435								
RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME				
<i>Tom Ross</i>		11/5/14	1303												
RECEIVED FOR LABORATORY USE BY (SIGNATURE)				DATE	TIME	SAMPLE STATUS									
<i>Slade</i>				11/5/14	1435	<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception									



### SAMPLE RESULTS REPORT

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



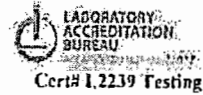
NELAP Accredited  
 Florida DOH  
 #E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing.

\*Tests within the scope of accreditation are indicated by an asterisk (\*)

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated without the written consent of ENERSOLV Corporation.*



Cert# L2239 Testing

EPA/ADEM Certification  
 No. 40160

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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- Data Qualifier Definitions:**
- B:** Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D:** Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G:** Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H:** Sample beyond accepted holding time.
  - J:** Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N:** Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q:** One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T:** Test temperature fell outside method specified range.
  - Y:** Analysis performed from improperly preserved sample.

#### Analysis Information

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC88468	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	11/07/2014	07:15		
AC88468	Nitrate plus Nitrite-Nitrogen	EPA 300.0	HGT	11/05/2014	19:57		
AC88468	Nitrate-Nitrogen	EPA 300.0	HGT	11/05/2014	19:57		
AC88468	Nitrite-Nitrogen	EPA 300.0	HGT	11/05/2014	19:57		
AC88468	Total Kjeldahl Nitrogen	SM 4500-Norg C	RAC	11/07/2014	07:15		
AC88468	Total Phosphorus	EPA 365.3	MD	11/07/2014	09:55		
AC88469	E. coli	mColiBlus-24	RAC	11/05/2014	15:00	11/06/2014	15:00
AC88470	Fecal Coliform	SM 9221E	RAC	11/06/2014	06:00	11/07/2014	07:50

The results contained in this report are only representative of the sample(s) received.



**SAMPLE RESULTS REPORT**

REPORT TO	
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758	

NELAP Accredited  
Florida DOI  
#E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing.

Tests within the scope of accreditation are indicated by an asterisk (\*)

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

LABORATORY ACCREDITATION BUREAU  
CERT# 1.2239 Testing  
EPA/ADEMI Certification No. 40160

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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**Sample Point: Outfall 0012**

Collected: 11/05/2014 Submitted: 11/05/2014

AC88468	* Ammonia-Nitrogen CAS: 7664-41-7	<0.100	mg/l		3.00
AC88468	Nitrite-Nitrogen	<0.15	mg/l		
AC88468	Nitrate-Nitrogen CAS: 7697-37-2	5.68	mg/l		
AC88468	Nitrate plus Nitrite-Nitrogen	5.68	mg/l		
AC88468	* Total Phosphorus CAS: 7723-14-0	<1.00	mg/l		
AC88468	* Total Kjeldahl Nitrogen	<1.50	mg/l		

**Sample Point: Outfall 0012**

Collected: 11/05/2014 Submitted: 11/05/2014

AC88469	E. coli	<10	colonies/100ml		
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**Sample Point: Digester 3**

Collected: 11/05/2014 Submitted: 11/05/2014

AC88470	Fecal Coliform	822000	mpn/g dry wt.		
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November 12, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC88468	Outfall 0012	11/5/14	05:00	11/5/14
AC88469	Outfall 0012	11/5/14	12:45	11/5/14
AC88470	Digester 3	11/5/14	07:41	11/5/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

This cover page and the attached chain-of-custody record(s) are integral parts of your report. ENERSOLV considers this report your official record. This information shall remain in ENERSOLV's active database for a period of one (1) calendar year before archiving. Any replacement of this information after archiving may result in an administrative fee to cover the cost of retrieval.

If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 3  
(excluding C.O.C)



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	86435
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME		ACCOUNT NUMBER	QUOTE NUMBER	ENERSOLV PROJECT NUMBER		REQUIRED ANALYSES													
Water & W.W. Bd City of Madison		2586				#NH3 Fecal / E Coli #TKN (Monthly) P-T (Monthly) NO3NO2 (Monthly) SLUDGE FECAL SOUR													
CLIENT POINT OF CONTACT		CLIENT PHONE		CLIENT P.O. NUMBER															
Mark Bland		256-461-0845 ext 115																	
CLIENT ADDRESS		CITY	STATE	ZIP CODE															
701 Landess Circle		Madison	AL	35758															
SAMPLE COLLECTED BY		EXPEDITED REPORT DELIVERY (SURCHARGE)																	
Johann Cario		DATE DUE (REQUIRED)																	
ENERSOLV LAB NO		SAMPLE (USE ONE LINE PER CONTAINER)																	
AC07667		DESCRIPTION	DATE	TIME	GRAB	COMP													
		MADISON-EFFLUENT-COMP	10-27-14	0841		X	X												
		MADISON-EFFLUENT-COMP				X													
669		MADISON-EFFLUENT-GRAB	10-29-14	11:47	X			X											
669		MADISON-DIGESTER #2	10-29-14	0815	X														

COMMENTS: SAMPLE TEMP. REC'D @ 3-7<sup>c</sup>

Field Information									Qty	Type	Vol.	Preserv.	< 2	>12.5	Parameter	
									1	Plastic	Pint	H2SO4				NH3, TKN, P
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform	
Start Date	10-28-14	Date	n/a	Date	n/a	Date	n/a	Date	1	Plastic	Pint	Plain			NO3NO2	
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time								
Stop Date	10-29-14	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst								
Stop Time	0500	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B											
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	
Johann Cario		10-29-14	1230	J. Cario		10/29/14	1345									
RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	
J. Cario		10/29/14	1230													
RECEIVED FOR LABORATORY USE BY (SIGNATURE)		DATE	TIME	SAMPLE STATUS												
J. Cario		10/29/14	1345	Accepted		<input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception										



# SAMPLE RESULTS REPORT

<b>REPORT TO</b>		<i>ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.</i>			
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758		NELAP Accredited Florida DOH #E871078		EPA/ADEM Certification No. 40160	
Tests within the scope of accreditation are indicated by an asterisk (*). <i>This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.</i>					
Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit

Sample Point: Outfall 0012

Collected: 10/29/2014 Submitted: 10/29/2014

AC87667 \* Ammonia-Nitrogen  
CAS: 7664-41-7

<0.100 mg/l 3.00

Sample Point: Outfall 0012

Collected: 10/29/2014 Submitted: 10/29/2014

AC87668 E. coli

<10 colonies/100ml

Sample Point: Digester 2

Collected: 10/29/2014 Submitted: 10/29/2014

AC87669 Fecal Coliform

678000 mpn/g dry wt.

- Data Qualifier** B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.  
**Defintions:** D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.  
 G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.  
 H: Sample beyond accepted holding time.  
 J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).  
 N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)  
 Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.  
 T: Test temperature fell outside method specified range.  
 Y: Analysis performed from improperly preserved sample.

### Analysis Information

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC87667	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	10/31/2014	07:15		
AC87668	E. coli	mColiBlue-24	RAC	10/29/2014	14:20	10/30/2014	14:20
AC87669	Fecal Coliform	SM 9221E	RAC	10/30/2014	06:30	10/31/2014	07:40

The results contained in this report are only representative of the sample(s) received.





November 05, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC87667	Outfall 0012	10/29/14	05:00	10/29/14
AC87668	Outfall 0012	10/29/14	11:47	10/29/14
AC87669	Digester 2	10/29/14	08:15	10/29/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)





**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	92585	
PAGE	1	of 1
Tri-Weekly Wastewater		

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES													
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER														
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758														
SAMPLE COLLECTED BY Slade Sparkman		EXPEDITED REPORT DELIVERY (SURCHARGE)										#NH3	Fecal / E Coli	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR
ENERSOLV LAB NO. A106402		DESCRIPTION			DATE	TIME	GRAB	COMP										
		MADISON-EFFLUENT-COMP			10-22-14	08:08		X	X									
		MADISON-EFFLUENT-COMP						X										
99.9		MADISON-EFFLUENT-GRAB			10-22-14	12:59	X		X									
99.0		MADISON-DIGESTER #2			10-22-14	07:45	X						X					
COMMENTS:																		
SAMPLE TEMP. REC'D @ 3.1																		
Field Information										Qty	Type	Vol.	Preserv.	<2	>12.5	Parameter		
										1	Plastic	Pint	H2SO4			NH3, TKN, P		
Sampler	pH su	n/a	TRC mg/l	n/a	DO mg/l	n/a	Temp deg C	n/a		1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform		
Start Date	10-21-14	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			NO3NO2		
Start Time	06:00	Time	n/a	Time	n/a	Time	n/a	Time	n/a									
Stop Date	10-22-14	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a									
Stop Time	05:00	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B													
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME							
Slade Sparkman		10-22-14	13:01	Tom Ross		10/22/14	1415											
RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME							
Tom Ross		10/22/14	1301															
RECEIVED FOR LABORATORY USE BY: (SIGNATURE)				DATE	TIME	SAMPLE STATUS:												
J. Mal				10/22/14	1415	<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception												





**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



NELAP Accredited  
 Florida DOH  
 #E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*).



LABORATORY ACCREDITATION BUREAU  
 ACCREDITED TO ISO/IEC 17025

L-A-B Accredited  
 ISO/IEC 17025  
 Cert# L2239 Testing  
 EPA/ADEM Certification  
 No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 10/22/2014 Submitted: 10/22/2014

AC86988 \* Ammonia-Nitrogen  
 CAS: 7664-41-7 <0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 10/22/2014 Submitted: 10/22/2014

AC86989 E. coli <10 colonies/100ml

Sample Point: Digester 2

Collected: 10/22/2014 Submitted: 10/22/2014

AC86990 Fecal Coliform 557000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC86988	Ammonia-Nitrogen	SM 4500 NH3-C	DS	10/27/2014	08:00		
AC86989	E. coli	mColiBlue-24	RAC	10/22/2014	14:45	10/23/2014	14:45
AC86990	Fecal Coliform	SM 9221E	RAC/SH	10/23/2014	06:50	10/24/2014	07:50

The results contained in this report are only representative of the sample(s) received.





October 29, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC86988	Effluent Composite	10/22/14	05:00	10/22/14
AC86989	Effluent Grab	10/22/14	12:58	10/22/14
AC86990	Digester 2	10/22/14	07:45	10/22/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

William D. Hollerman, Ph.D.  
Vice President Technical Services

Page 1 of 2  
(Excluding C.O.C.)







### SAMPLE RESULTS REPORT

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

NELAP Accredited  
 Florida DOH  
 #E871078

EPA/ADEM Certification  
 No. 40160

Tests within the scope of accreditation are indicated by an asterisk (\*).  
*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
-----------	--------------	--------	-------	------	------------------

Sample Point: Effluent Composite

Collected: 10/15/2014 Submitted: 10/15/2014

AC86249 \* Ammonia-Nitrogen  
 CAS: 7664-41-7

0.810 mg/l 3.00

Sample Point: Effluent Grab

Collected: 10/15/2014 Submitted: 10/15/2014

AC86250 E. coli

10 colonies/100ml

Sample Point: Digester 1

Collected: 10/15/2014 Submitted: 10/15/2014

AC86251 Fecal Coliform

302000 mpn/g dry wt.

- Data Qualifiers:**
- B:** Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D:** Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G:** Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H:** Sample beyond accepted holding time.
  - J:** Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N:** Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q:** One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T:** Test temperature fell outside method specified range.
  - Y:** Analysis performed from improperly preserved sample.

#### Analysis Information

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC86249	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	10/17/2014	07:00		
AC86250	E. coli	mColiBlue-24	RAC	10/15/2014	14:40	10/16/2014	14:40
AC86251	Fecal Coliform	SM 9221E	RAC	10/16/2014	06:30	10/17/2014	08:45

The results contained in this report are only representative of the sample(s) received.





October 22, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC86249	Effluent Composite	10/15/14	05:00	10/15/14
AC86250	Effluent Grab	10/15/14	12:48	10/15/14
AC86251	Digester 1	10/15/14	09:45	10/15/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:



Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	374296		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																		
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER																			
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																			
SAMPLE COLLECTED BY Slade Sparkman		EXPEDITED REPORT DELIVERY (SURCHARGE)			DATE DUE (REQUIRED)																		
SAMPLE (USE ONE LINE PER CONTAINER)												#NH3	Fecal / E Coli	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR					
ENERSOLV LAB NO	DESCRIPTION		DATE	TIME	GRAB	COMP																	
1095721	MADISON-EFFLUENT-COMP		10-9-14	09:15		X	X					X	X	X									
2	MADISON-EFFLUENT-COMP		10-9-14	09:15		X								X									
492	MADISON-EFFLUENT-GRAB		10-9-14	12:47	X							X											
483	MADISON-DIGESTER Digester #4		10-9-14	12:51	X										X	X							

**COMMENTS:** SAMPLE TEMP. REC'D @ 1.9

Field Information										Qty	Type	Vol.	Preserv.	< 2	>12.5	Parameter
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a		1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Date	10-7-14	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			NO3NO2
Start Time	06:00	Time	n/a	Time	n/a	Time	n/a	Time	n/a							
Stop Date	10-9-14	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	05:00	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B											

RELINQUISHED BY (SIGNATURE) <i>Slade Sparkman</i>	DATE 10-9-14	TIME 12:57	RELINQUISHED BY (SIGNATURE) <i>Tom Boss</i>	DATE 10/8/14	TIME 14:30	RELINQUISHED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE) <i>Tom Boss</i>	DATE 10/8/14	TIME 12:57	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY (SIGNATURE) <i>Slade</i>	DATE 10-8-14	TIME 14:30	SAMPLE STATUS					
			<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078) Some tests included in this report may not be covered by this accreditation.

NELAP Accredited  
 Florida DOH  
 #E871078

EPA/ADEM Certification  
 No. 40160

Tests within the scope of accreditation are indicated by an asterisk (\*)

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
-----------	--------------	--------	-------	------	------------------

- Data Qualifiers:**
- B:** Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D:** Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G:** Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H:** Sample beyond accepted holding time.
  - J:** Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N:** Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q:** One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T:** Test temperature fell outside method specified range.
  - Y:** Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC85421	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	10/10/2014	08:00		
AC85421	Nitrate plus Nitrite-Nitrogen	EPA 300.0	HGT	10/08/2014	22:48		
AC85421	Nitrate-Nitrogen	EPA 300.0	HGT	10/08/2014	22:48		
AC85421	Nitrite-Nitrogen	EPA 300.0	HGT	10/08/2014	22:48		
AC85421	Total Kjeldahl Nitrogen	SM 4500-Norg C	RAC	10/10/2014	06:00		
AC85421	Total Phosphorus	EPA 365.3	MD	10/09/2014	08:15		
AC85422	E. coli	mColiBlue-24	RAC	10/08/2014	14:45	10/09/2014	14:45
AC85423	Fecal Coliform	SM 9221E	RAC	10/09/2014	06:00	10/10/2014	07:05
AC85423	Specific Oxygen Consumption Rate	SM 2710B	SH	10/08/2014	15:00		

The results contained in this report are only representative of the sample(s) received.





**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

NELAP Accredited  
 Florida DOI  
 #E871078

EPA/ADEM Certification  
 No. 40160

Tests within the scope of accreditation are indicated by an asterisk (\*)

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Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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**Sample Point: Effluent Composite**

**Collected: 10/08/2014**

**Submitted: 10/08/2014**

AC85421	* Ammonia-Nitrogen CAS: 7664-41-7	<0.100	mg/l		3.00
AC85421	Nitrite-Nitrogen	<0.15	mg/l		
AC85421	Nitrate-Nitrogen CAS: 7697-37-2	15.4	mg/l		
AC85421	Nitrate plus Nitrite-Nitrogen	15.4	mg/l		
AC85421	* Total Phosphorus CAS: 7723-14-0	2.58	mg/l		
AC85421	* Total Kjeldahl Nitrogen	<1.50	mg/l		

**Sample Point: Effluent Grab**

**Collected: 10/08/2014**

**Submitted: 10/08/2014**

AC85422	E. coli	<10	colonies/100ml		
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**Sample Point: Digester 4**

**Collected: 10/08/2014**

**Submitted: 10/08/2014**

AC85423	Fecal Coliform	8440	mpn/g dry wt.		
AC85423	Specific Oxygen Consumption Rate	0.312	(mg/g)/h (dry wt.)		







October 15, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC85421	Effluent Composite	10/8/14	05:00	10/8/14
AC85422	Effluent Grab	10/8/14	12:47	10/8/14
AC85423	Digester 4	10/8/14	12:51	10/8/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 3  
(excluding C.O.C)










**SAMPLE RESULTS REPORT**

REPORT TO	
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758	


**ENERSOLV** maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.


**LABORATORY ACCREDITATION BUREAU**  
 Cert# L2239 Testing


**EPA/ADEM Certification No. 40160**

**ENERSOLV** also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*).

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Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 10/01/2014 Submitted: 10/01/2014

AC84597	* Ammonia-Nitrogen CAS: 7664-41-7	<0.100	mg/l		3.00
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Sample Point: Effluent Grab

Collected: 10/01/2014 Submitted: 10/01/2014

AC84598	E. coli	30	colonies/100ml		
AC84598	Fecal Coliform	10	colonies/100ml		100

Sample Point: Digester 4

Collected: 10/01/2014 Submitted: 10/01/2014

AC84599	Fecal Coliform	42500	mpn/g dry wt.		
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- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC84597	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	10/03/2014	07:15		
AC84598	E. coli	mColiBlue-24	RAC	10/01/2014	14:22	10/02/2014	14:22
AC84598	Fecal Coliform	SM 9222D-1997	RAC	10/01/2014	14:28	10/02/2014	13:34
AC84599	Fecal Coliform	SM 9221E	RAC	10/02/2014	06:30	10/03/2014	07:50

The results contained in this report are only representative of the sample(s) received.





October 07, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC84597	Effluent Composite	10/1/14	05:00	10/1/14
AC84598	Effluent Grab	10/1/14	12:00	10/1/14
AC84599	Digester 4	10/1/14	08:05	10/1/14

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)





**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.  
 ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*)  
 EPA/ADEM Certification No. 40160  
 LABORATORY ACCREDITATION BUREAU ACCREDITED ISO/IEC 17025 Cert# L2239 Testing  
 This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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**Sample Point: Effluent Composite**

Collected: 09/24/2014 Submitted: 09/24/2014

AC83930 \* Ammonia-Nitrogen <0.100 mg/l 3.00  
 CAS: 7664-41-7

**Sample Point: Effluent Grab**

Collected: 09/24/2014 Submitted: 09/24/2014

AC83931 E. coli 20 colonies/100ml  
 AC83931 Fecal Coliform 10 colonies/100ml 100

**Sample Point: Digester 4**

Collected: 09/24/2014 Submitted: 09/24/2014

AC83932 Fecal Coliform 59700 mpn/g dry wt.

- Data Qualifiers:**  
 B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.  
 D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.  
 G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.  
 H: Sample beyond accepted holding time.  
 J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).  
 N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)  
 Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.  
 T: Test temperature fell outside method specified range.  
 Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC83930	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	09/25/2014	07:00		
AC83931	E. coli	mColiBlue-24	RAC	09/24/2014	13:40	09/25/2014	13:40
AC83931	Fecal Coliform	SM 9222D-1997	RAC	09/24/2014	13:55	09/25/2014	13:00
AC83932	Fecal Coliform	SM 9221E	RAC	09/25/2014	06:00	09/26/2014	06:55

The results contained in this report are only representative of the sample(s) received.





October 01, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC83930	Effluent Composite	9/24/14	05:00	9/24/14
AC83931	Effluent Grab	9/24/14	12:01	9/24/14
AC83932	Digester 4	9/24/14	07:38	9/24/14

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Reviewed by:

  
Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)



2220 Belcline Road SW • Decatur, Alabama 35601  
P.O. Box 1646 • Decatur, Alabama 35602 • (256) 350-0846 • Fax: (256) 350-0686



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	142041		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES															
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER	Fecal / E Coli	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR										
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																
SAMPLE COLLECTED BY Stade Sparkman		EXPEDITED REPORT DELIVERY (SURCHARGE)																		
ENERSOLV LAB NO. AUG 3703		DESCRIPTION MADISON-EFFLUENT-COMP			DATE 9-17-14	TIME 8:43 AM	GRAB	COMP	#NH3											
		MADISON-EFFLUENT-COMP						X	X											
204		MADISON-EFFLUENT-GRAB			9-17-14	11:38 AM	X			X										
205		MADISON-DIGESTER #1			9-17-14	8:34 AM	X													

COMMENTS: SAMPLE TEMP. REC'D @ 2:30

Field Information										Qty	Type	Vol.	Preserv.	< 2	>12.5	Parameter
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a		1	Plastic	Pint	H2SO4			NH3, TKN, P
Start Date	9-16-14	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a			Pint	Plain			NO3NO2
Stop Date	9-17-14	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	0500	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B											
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME					
Stade Sparkman	9-17-14	1143	London	9/17/14	1330											
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME					
London	9/17/14	1143														
RECEIVED FOR LABORATORY USE BY: (SIGNATURE)	DATE	TIME	SAMPLE STATUS:													
London	9/17/14	1330	<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception													





**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

NELAP Accredited  
 Florida DOI  
 #E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.  
 ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*).

LABORATORY ACCREDITATION BUREAU  
 ACCREDITED ISO/IEC 17025  
 Cert# L2239 Testing  
 EPA/ADEM Certification No. 40160

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Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite Collected: 09/17/2014 Submitted: 09/17/2014

AC83203 \* Ammonia-Nitrogen 0,694 mg/l 3.00  
 CAS: 7664-41-7

Sample Point: Effluent Grab Collected: 09/17/2014 Submitted: 09/17/2014

AC83204 E. coli 60 colonies/100ml

AC83204 Fecal Coliform 80 colonies/100ml 100

Sample Point: Digester 1 Collected: 09/17/2014 Submitted: 09/17/2014

AC83205 Fecal Coliform 135000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC83203	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	09/19/2014	07:00		
AC83204	E. coli	mColiBlue-24	RAC	09/17/2014	14:35	09/18/2014	14:35
AC83204	Fecal Coliform	SM 9222D-1997	RAC	09/17/2014	14:40	09/18/2014	13:20
AC83205	Fecal Coliform	SM 9221E	RAC	09/18/2014	05:30	09/19/2014	07:45

The results contained in this report are only representative of the sample(s) received.





September 24, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC83203	Effluent Composite	9/17/14	05:00	9/17/14
AC83204	Effluent Grab	9/17/14	11:38	9/17/14
AC83205	Digester 1	9/17/14	08:34	9/17/14

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Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)





**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
**2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601**  
**(256)-350-0846**

COC NUMBER	56067
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES												
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER													
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758													
SAMPLE COLLECTED BY Slade Sparkman		EXPEDITED REPORT DELIVERY (SURCHARGE)			DATE DUE (REQUIRED)												
ENERSOLV LAB NO.	SAMPLE (USE ONE LINE PER CONTAINER)				#NH3	Fecal / E Coli	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR						
	DESCRIPTION	DATE	TIME	GRAB								COMP					
HC62464	MADISON-EFFLUENT-COMP	9-10-14	0751		X	X											
	MADISON-EFFLUENT-COMP				X												
470	MADISON-EFFLUENT-GRAB	9-10-14	1103	X		X											
471	MADISON-DIGESTER #3	9-10-14	0747	X													
COMMENTS:												SAMPLE TEMP. REC'D @ 3.4					
Field Information										Qty	Type	Vol.	Preserv.	< 2	> 12.5	Parameter	
										1	Plastic	Pint	H2SO4			A NH3, TKN, P	
Sampler	pH su	n/a	TRC mg/l	n/a	DO mg/l	n/a	Temp deg C	n/a	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform	
Start Date	9-9-14	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			NO3NO2	
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a								
Stop Date	9-10-14	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a								
Stop Time	0500	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B												
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME						
Slade Sparkman		9-10-14	1225	Tom Ross		9/10/14	1340										
RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME						
Tom Ross		9/10/14	1225														
RECEIVED FOR LABORATORY USE BY (SIGNATURE)		DATE	TIME	SAMPLE STATUS													
Slade		9/10/14	1340	Accepted													
												<input type="checkbox"/> Rejected		<input type="checkbox"/> Accepted with Exception			



**SAMPLE RESULTS REPORT**

<b>REPORT TO</b>			ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.		
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758			ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (*)		
<i>This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.</i>					
Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit

Sample Point: Effluent Composite

Collected: 09/10/2014 Submitted: 09/10/2014

AC82469 \* Ammonia-Nitrogen CAS:7664-41-7 <0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 09/10/2014 Submitted: 09/10/2014

AC82470 E. coli <10 colonies/100ml  
 AC82470 Fecal Coliform 20 colonies/100ml 100

Sample Point: Digester 3

Collected: 09/10/2014 Submitted: 09/10/2014

AC82471 Fecal Coliform 610000 mpn/g dry wt.

- Data Qualifiers:
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC82469	Ammonia-Nitrogen	SM 4500 NH3-C	DS	09/15/2014	06:30		
AC82470	E. coli	mColiBlue-24	RAC	09/10/2014	14:20	09/11/2014	14:20
AC82470	Fecal Coliform	SM 9222D-1997	RAC	09/10/2014	14:35	09/11/2014	12:45
AC82471	Fecal Coliform	SM 9221F	RAC/JW	09/11/2014	06:30	09/12/2014	08:55

The results contained in this report are only representative of the sample(s) received.





September 17, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC82469	Effluent Composite	9/10/14	05:00	9/10/14
AC82470	Effluent Grab	9/10/14	11:03	9/10/14
AC82471	Digester 3	9/10/14	07:47	9/10/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

This cover page and the attached chain-of-custody record(s) are integral parts of your report. ENERSOLV considers this report your official record. This information shall remain in ENERSOLV's active database for a period of one (1) calendar year before archiving. Any replacement of this information after archiving may result in an administrative fee to cover the cost of retrieval.

If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

  
\_\_\_\_\_  
Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)





**ANALYSIS REQUEST ID CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	52173
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																					
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER																						
CLIENT ADDRESS 701 Landess Circle			CITY Madison	STATE AL	ZIP CODE 35758																					
SAMPLE COLLECTED BY <i>Channah Paris</i>			EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																					
SAMPLE (USE ONE LINE PER CONTAINER)												AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR	Fecal							
ENERSOLV LAB NO.	DESCRIPTION	DATE	TIME	GRAB	COMP																					
<i>1081044</i>	MADISON-EFFLUENT-COMP	<i>9-3-14</i>	<i>0831</i>		X	X																				
<i>650</i>	MADISON-EFFLUENT-COMP	<i>9-3-14</i>	<i>0831</i>		X																					
<i>650</i>	MADISON-EFFLUENT-GRAB	<i>9-3-14</i>	<i>13:40</i>	X																						
<i>651</i>	MADISON-DIGESTER #	<i>9-3-14</i>	<i>0800</i>	X																						
COMMENTS:												SAMPLE TEMP. REC'D @ <i>33</i>														
Field Information										Qty	Type	Vol.	Preserv.	< 2	>12.5	Parameter										
										1	Plastic	Pint	H2SO4			A NH3, TKN, P										
Sampler	pH	su	n/a	TRC	mg/l	n/a	DO	mg/l	n/a	Temp	deg C	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	B	NO3NO2						
Start Date	<i>9-2-14</i>	Date	n/a	Date	n/a	Date	n/a	Date	n/a	Date	n/a	n/a	1	Plastic	Pint	Plain										
Start Time	<i>0600</i>	Time	n/a	Time	n/a	Time	n/a	Time	n/a	Time	n/a	n/a														
Stop Date	<i>9-3-14</i>	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	n/a														
Stop Time	<i>0500</i>	SM 4500H+		SM 4500-CI D		SM 4500-O G		SM 2550B																		
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME											
<i>Channah Paris</i>		<i>9-3-14</i>	<i>12:43</i>	<i>Tom Paris</i>		<i>9/3/14</i>	<i>1425</i>																			
RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME											
<i>Tom Paris</i>		<i>9/3/14</i>	<i>1243</i>	<i>Tom Paris</i>		<i>9/3/14</i>	<i>1243</i>																			
RECEIVED FOR LABORATORY USE BY: (SIGNATURE)				DATE	TIME	SAMPLE STATUS																				
<i>Tom Paris</i>				<i>9-3-14</i>	<i>1435</i>	<input checked="" type="checkbox"/> Accepted		<input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception																		



**SAMPLE RESULTS REPORT**

<b>REPORT TO</b>		ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.			
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758		NELAP Accredited Florida DOH #E871078	EPA/ADEM Certification No. 40160		
Tests within the scope of accreditation are indicated by an asterisk (*) <i>This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.</i>					
Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit

- Data Qualifiers:**
- B:** Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D:** Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G:** Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H:** Sample beyond accepted holding time.
  - J:** Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N:** Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q:** One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T:** Test temperature fell outside method specified range.
  - Y:** Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	End Date/Time	End Date/Time
AC81649	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	09/05/2014	07:15		
AC81649	Nitrate plus Nitrite-Nitrogen	EPA 300.0	HGT	09/03/2014	22:30		
AC81649	Nitrate-Nitrogen	EPA 300.0	HGT	09/03/2014	22:30		
AC81649	Nitrite-Nitrogen	EPA 300.0	HGT	09/03/2014	22:30		
AC81649	Total Kjeldahl Nitrogen	SM 4500-Norg C	RAC	09/05/2014	07:15		
AC81649	Total Phosphorus	EPA 365.3	JW	09/04/2014	09:05		
AC81650	E. coli	mColiBlue-24	RAC	09/03/2014	14:45	09/04/2014	14:45
AC81650	Fecal Coliform	SM 9222D-1997	RAC/DS	09/03/2014	14:55	09/04/2014	14:55
AC81651	Fecal Coliform	SM 9221E	RAC	09/04/2014	06:30	09/05/2014	07:50

The results contained in this report are only representative of the sample(s) received.





**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

NELAP Accredited  
 Florida DOH  
 #E871078

EPA/ADEM Certification  
 No. 40160

Tests within the scope of accreditation are indicated by an asterisk (\*)

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Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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**Sample Point: Effluent Composite**

Collected: 09/03/2014

Submitted: 09/03/2014

AC81649	* Ammonia-Nitrogen CAS: 7664-41-7	<0.100	mg/l		3.00
AC81649	Nitrite-Nitrogen	<0.15	mg/l		
AC81649	Nitrate-Nitrogen CAS: 7697-37-2	8.68	mg/l		
AC81649	Nitrate plus Nitrite-Nitrogen	8.68	mg/l		
AC81649	* Total Phosphorus CAS: 7723-14-0	3.67	mg/l		
AC81649	* Total Kjeldahl Nitrogen	<1.50	mg/l		

**Sample Point: Effluent Grab**

Collected: 09/03/2014

Submitted: 09/03/2014

AC81650	E. coli	<10	colonies/100ml		
AC81650	Fecal Coliform	30	colonies/100ml		100

**Sample Point: Digester 1**

Collected: 09/03/2014

Submitted: 09/03/2014

AC81651	Fecal Coliform	31600	mpn/g dry wt.		
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September 10, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC81649	Effluent Composite	9/3/14	05:00	9/3/14
AC81650	Effluent Grab	9/3/14	12:40	9/3/14
AC81651	Digester 1	9/3/14	08:20	9/3/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

  
Karen Sutton  
Vice President Client Services

Page 1 of 3  
(excluding C.O.C)



2220 Beltline Road SW • Decatur, Alabama 35601  
P.O. Box 1646 • Decatur, Alabama 35602 • (256) 350-0846 • Fax: (256) 350-0686



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	40104		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER		REQUIRED ANALYSES																
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER		#NH3 Fecal / E Coli #TKN (Monthly) P-T (Monthly) NO3NO2 (Monthly) SLUDGE FECAL SOUR																
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																		
SAMPLE COLLECTED BY <i>Chris West</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																		
ENERSOLV LAB NO. <i>AC90097</i>		DESCRIPTION MADISON-EFFLUENT-COMP		DATE <i>8-27-14</i>	TIME <i>0811</i>		GRAB	COMP														
			MADISON-EFFLUENT-COMP				X															
<i>8916</i>			MADISON-EFFLUENT-GRAB	<i>8-27-14</i>	<i>1135</i>	X		X														
<i>899</i>			MADISON-DIGESTER #1	<i>8-27-14</i>	<i>0908</i>	X												X				
COMMENTS: <span style="float: right;">SAMPLE TEMP. <i>3.4 C</i></span> <span style="float: right;">REC'D @</span>																						
Field Information										Qty	Type	Vol.	Preserv.	< 2	>12.5	Parameter						
										1	Plastic	Pint	H2SO4			NH3, TKN, <i>A</i>						
Sampler	pH su	n/a	TRC mg/l	n/a	DO mg/l	n/a	Temp deg C	n/a	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform						
Start Date <i>8-26-14</i>	Date	n/a	Date	n/a	Date	n/a	Date	n/a	n/a	1	Plastic	Pint	Plain			NO3NO2						
Start Time <i>0600</i>	Time	n/a	Time	n/a	Time	n/a	Time	n/a	n/a													
Stop Date <i>8-27-14</i>	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	n/a													
Stop Time <i>0500</i>	SM 4500H+		SM 4500-CI D		SM 4500-O G		SM 2550B															
RELINQUISHED BY: (SIGNATURE) <i>Chris West</i>		DATE <i>8-27-14</i>	TIME <i>1138</i>	RELINQUISHED BY: (SIGNATURE) <i>Tom Boman</i>		DATE <i>8/27/14</i>	TIME <i>1300</i>	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME							
RECEIVED BY: (SIGNATURE) <i>Tom Boman</i>		DATE <i>8/27/14</i>	TIME <i>1138</i>	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME							
RECEIVED FOR LABORATORY USE BY: (SIGNATURE) <i>Phal</i>		DATE <i>8-27-14</i>	TIME <i>1300</i>	SAMPLE STATUS:		<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception																



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



NELAP Accredited  
 Florida DOH  
 #E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*)



LABORATORY ACCREDITATION BUREAU  
 ACCREDITED TO ISO/IEC 17025  
 L-A-B Accredited  
 ISO/IEC 17025  
 Cert# L2239 Testing  
 EPA/ADEM Certification  
 No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 08/27/2014 Submitted: 08/27/2014

AC80897	* Ammonia-Nitrogen CAS: 7664-41-7	<0.100	mg/l		3.00
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Sample Point: Effluent Grab

Collected: 08/27/2014 Submitted: 08/27/2014

AC80898	E. coli	120	colonies/100ml		
AC80898	Fecal Coliform	240	colonies/100ml		100

Sample Point: Digester 1

Collected: 08/27/2014 Submitted: 08/27/2014

AC80899	Fecal Coliform	<9250	mpn/g dry wt.		
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- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC80897	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	08/28/2014	08:00		
AC80898	E. coli	mColiBlue-24	RAC	08/27/2014	14:00	08/28/2014	14:00
AC80898	Fecal Coliform	SM 9222D-1997	RAC	08/27/2014	14:40	08/28/2014	14:05
AC80899	Fecal Coliform	SM 9221E	RAC	08/28/2014	06:00	08/29/2014	08:00

The results contained in this report are only representative of the sample(s) received.





September 03, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC80897	Effluent Composite	8/27/14	05:00	8/27/14
AC80898	Effluent Grab	8/27/14	11:35	8/27/14
AC80899	Digester 1	8/27/14	08:08	8/27/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

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Reviewed by:

William D. Hollerman, Ph.D.  
Vice President Technical Services

Page 1 of 2  
(Excluding C.O.C.)





**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	716706		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME		ACCOUNT NUMBER	QUOTE NUMBER	ENERSOLV PROJECT NUMBER		REQUIRED ANALYSES														
Water & W.W. Bd City of Madison		2586				#NH3 Fecal / E Coli #TKN (Monthly) P-T (Monthly) NO3NO2 (Monthly) SLUDGE FECAL SOUR														
CLIENT POINT OF CONTACT		CLIENT PHONE		CLIENT P.O. NUMBER																
Mark Bland		256-461-0845 ext 115																		
CLIENT ADDRESS		CITY	STATE	ZIP CODE																
701 Langess Circle		Madison	AL	35758																
SAMPLE COLLECTED BY		EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																
Sham Cas																				
ENERSOLV LAB NO		DESCRIPTION		DATE	TIME	GRAB	COMP													
129		MADISON-EFFLUENT-COMP		8-20-14	09:10		X	X												
130		MADISON-EFFLUENT-COMP					X													
		MADISON-EFFLUENT-GRAB		8-20-14	11:40	X			X											
		MADISON-DIGESTER		8-20-14	08:50	X														


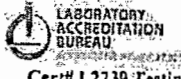
COMMENTS:

SAMPLE TEMP.  
REC'D @ 7.9C

Field Information										Qty	Type	Vol.	Preserv.	< 2	>12.5	Parameter
										1	Plastic	Pint	H2SO4			NH3, TKN, P
Sampler	pH su	n/a	TRC mg/l	n/a	DO mg/l	n/a	Temp deg C	n/a		1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Date	8/19/14	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			NO3NO2
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a							
Stop Date	8-20-14	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	0500	SM 4500H+	SM 4500-Cl D	SM 4500-O G	SM 2550B											
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	
Sham Cas		8-20-14	1215	Tom Ross		8/20/14	1500									
RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	
Tom Ross		8/20/14	1215													
RECEIVED FOR LABORATORY USE BY: (SIGNATURE)		DATE	TIME	SAMPLE STATUS												
Sham Cas		8-20-14	1500	<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception												



**SAMPLE RESULTS REPORT**

<b>REPORT TO</b>		 NELAP Accredited Florida DOH #E871078	ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation. ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (*)	 Cert# L2239 Testing	EPA/ADEM Certification No. 40160
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758					
<b>Sample ID</b>	<b>Analyte Name</b>	<b>Result</b>	<b>Units</b>	<b>Qual</b>	<b>Regulatory Limit</b>

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied, distributed, or disseminated, in full or in part, without the written consent of ENERSOLV Corporation.*

<b>Sample Point: Effluent Composite</b>		<b>Collected: 08/20/2014</b>	<b>Submitted: 08/20/2014</b>
AC80128	* Ammonia-Nitrogen CAS: 7664-41-7	<0.100	mg/l
<b>Sample Point: Effluent Grab</b>		<b>Collected: 08/20/2014</b>	<b>Submitted: 08/20/2014</b>
AC80129	E. coli	10	colonies/100ml
AC80129	Fecal Coliform	30	colonies/100ml
<b>Sample Point: Digester</b>		<b>Collected: 08/20/2014</b>	<b>Submitted: 08/20/2014</b>
AC80130	Fecal Coliform	83700	mpn/g dry wt.

**Data Qualifiers:**  
 B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.  
 D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.  
 G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.  
 H: Sample beyond accepted holding time.  
 J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).  
 N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)  
 Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.  
 T: Test temperature fell outside method specified range.  
 Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC80128	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	08/22/2014	07:30		
AC80129	E. coli	mColiBlue-24	RAC	08/20/2014	15:36	08/21/2014	15:46
AC80129	Fecal Coliform	SM 9222D-1997	RAC	08/20/2014	13:43	08/21/2014	15:57
AC80130	Fecal Coliform	SM 9221E	RAC/DS	08/21/2014	07:30	08/22/2014	07:30

The results contained in this report are only representative of the sample(s) received.





August 26, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC80128	Effluent Composite	8/20/14	05:00	8/20/14
AC80129	Effluent Grab	8/20/14	11:40	8/20/14
AC80130	Digester	8/20/14	08:50	8/20/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

This cover page and the attached chain-of-custody record(s) are integral parts of your report. ENERSOLV considers this report your official record. This information shall remain in ENERSOLV's active database for a period of one (1) calendar year before archiving. Any replacement of this information after archiving may result in an administrative fee to cover the cost of retrieval.

If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
**2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601**  
**(256)-350-0846**

COC NUMBER	39132
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME		ACCOUNT NUMBER	QUOTE NUMBER	ENERSOLV PROJECT NUMBER		REQUIRED ANALYSES								
Water & W.W. Bd City of Madison		2586				#NH3 Fecal / E Coli #TKN (Monthly) P-T (Monthly) NO3NO2 (Monthly) SLUDGE FECAL SOUR								
CLIENT POINT OF CONTACT		CLIENT PHONE		CLIENT P.O. NUMBER										
Mark Bland		256-461-0845 ext 115												
CLIENT ADDRESS:		CITY:	STATE	ZIP CODE										
701 Landess Circle		Madison	AL	35758										
SAMPLE COLLECTED BY		EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)										
Chris West														
SAMPLE (USE ONE LINE PER CONTAINER)														
ENERSOLV LAB NO.	DESCRIPTION		DATE	TIME	GRAB	COMP	#NH3	Fecal / E Coli	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR	
AC79337	MADISON-EFFLUENT-COMP		8-13-14	0755		X	X							
	MADISON-EFFLUENT-COMP					X								
338	MADISON-EFFLUENT-GRAB		8-13-14	1245	X		X							
339	MADISON-DIGESTER #1		8-13-14	0752	X						X			

**COMMENTS:** SAMPLE TEMP. REC'D @ 3.4°C

Field Information										Qty	Type	Vol.	Preserv.	< 2	>12.5	Parameter
										1	Plastic	Pint	H2SO4			NH3, TKN, P
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Date	8-12-14	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			NO3NO2
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a							
Stop Date	8-13-14	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	0500	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B											
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	
Chris West		8-13-14	1252	Tom Jones		8/13/14	1415									
RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	
Tom Pappas		8/13/14	1252													
RECEIVED FOR LABORATORY USE BY: (SIGNATURE)		DATE	TIME	SAMPLE STATUS:												
E. Smith		8-13-14	1415	<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception												





**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078) Some tests included in this report may not be covered by this accreditation

NELAP Accredited  
 Florida DOH  
 #E871078

EPA/ADEM Certification  
 No. 40160

Tests within the scope of accreditation are indicated by an asterisk (\*)

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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**Sample Point: Effluent Composite**

Collected: 08/13/2014 Submitted: 08/13/2014

AC79337 \* Ammonia-Nitrogen  
 CAS: 7664-41-7 <0.100 mg/l 3.00

**Sample Point: Effluent Grab**

Collected: 08/13/2014 Submitted: 08/13/2014

AC79338 E. coli 10 colonies/100ml

AC79338 Fecal Coliform 10 colonies/100ml 100

**Sample Point: Digester 1**

Collected: 08/13/2014 Submitted: 08/13/2014

AC79339 Fecal Coliform 147000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	End Date/Time	End Date/Time
AC79337	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	08/15/2014	08:00		
AC79338	E. coli	mColiBluc-24	RAC	08/13/2014	14:42	08/14/2014	14:42
AC79338	Fecal Coliform	SM 9222D-1997	RAC	08/13/2014	14:55	08/14/2014	12:55
AC79339	Fecal Coliform	SM 9221E	RAC	08/14/2014	06:30	08/15/2014	07:40

The results contained in this report are only representative of the sample(s) received.





August 20, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC79337	Effluent Composite	8/13/14	05:00	8/13/14
AC79338	Effluent Grab	8/13/14	12:45	8/13/14
AC79339	Digester 1	8/13/14	07:52	8/13/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)





**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	21927		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES													
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER														
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758														
SAMPLE COLLECTED BY Johann Caris		EXPEDITED REPORT DELIVERY (SURCHARGE)			DATE DUE (REQUIRED)													
ENERSOLV LAB NO. AC78548		SAMPLE (USE ONE LINE PER CONTAINER)										#NH3	Fecal / E Coli	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR
DESCRIPTION		DATE	TIME	GRAB	COMP													
MADISON-EFFLUENT-COMP		8-6-14	0830		X	X												
MADISON-EFFLUENT-COMP					X													
599 MADISON-EFFLUENT-GRAB		8-6-14	1300	X		X												
690 MADISON-DIGESTER #1		8-6-14	1116	X														

**COMMENTS:**

SAMPLE TEMP.  
REC'D @ 4.9

Field Information									Qty	Type	Vol.	Preserv.	< 2	>12.5	Parameter
									1	Plastic	Pint	H2SO4			NH3, TKN, P
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Date	8-5-14	Date	n/a	Date	n/a	Date	n/a	Date	1	Plastic	Pint	Plain			NO3NO2
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time							
Stop Date	8-6-14	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst							
Stop Time	0500	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B										
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME				
Johann Caris		8-6-14	1302	Jom Ross		8/6/14	1425								
RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME				
Jom Ross		8/6/14	1302												
RECEIVED FOR LABORATORY USE BY (SIGNATURE)				DATE	TIME	SAMPLE STATUS:									
Johann Caris				8-6-14	1425	<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception									



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation  
 NELAP Accredited  
 Florida DOH  
 #E871078  
 EPA/ADEM Certification  
 No. 40160  
 Tests within the scope of accreditation are indicated by an asterisk (\*)  
 This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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**Sample Point: Effluent Composite**

Collected: 08/06/2014 Submitted: 08/06/2014

AC78598	* Ammonia-Nitrogen CAS: 7664-41-7	<0.100	mg/l		3.00
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**Sample Point: Effluent Grab**

Collected: 08/06/2014 Submitted: 08/06/2014

AC78599	E. coli	10	colonies/100ml		
AC78599	Fecal Coliform	30	colonies/100ml		100

**Sample Point: Digester 1**

Collected: 08/06/2014 Submitted: 08/06/2014

AC78600	Fecal Coliform	207000	mpn/g dry wt.		
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- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC78598	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	08/10/2014	07:30		
AC78599	E. coli	mColiBlue-24	RAC	08/06/2014	14:40	08/07/2014	14:40
AC78599	Fecal Coliform	SM 9222D-1997	RAC	08/06/2014	15:05	08/07/2014	13:05
AC78600	Fecal Coliform	SM 9221E	RAC	08/07/2014	06:00	08/08/2014	09:45

The results contained in this report are only representative of the sample(s) received.





August 13, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC78598	Effluent Composite	8/6/14	05:00	8/6/14
AC78599	Effluent Grab	8/6/14	13:00	8/6/14
AC78600	Digester 1	8/6/14	11:10	8/6/14

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

William D. Hollerman, Ph.D.  
Vice President Technical Services





ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	90977
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES															
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER																
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																
SAMPLE COLLECTED BY <i>Chris West</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)			DATE DUE (REQUIRED)															
ENERSOLV LAB NO.	DESCRIPTION				DATE	TIME	GRAB	COMP	#NH3	Fecal / E Coli	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR					
<i>AC 7777</i>	MADISON-EFFLUENT-COMP				<i>7-30-14</i>	<i>0817</i>		X	X											
	MADISON-EFFLUENT-COMP							X												
<i>778</i>	MADISON-EFFLUENT-GRAB				<i>7-30-14</i>	<i>1228</i>	X			X										
<i>779</i>	MADISON-DIGESTER #1				<i>7-30-14</i>	<i>0815</i>	X							X						

COMMENTS: SAMPLE TEMP.  
REC'D @ *27°*

Field Information										Qty	Type	Vol.	Preserv.	< 2	> 12.5	Parameter				
										1	Plastic	Pint	H2SO4			NH3, TKN, P				
Sampler	pH	su	n/a	TRC	mg/l	n/a	DO	mg/l	n/a	Temp	deg.C	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform	
Start Date	<i>7-29-14</i>	Date	n/a	Date	n/a	Date	n/a	Date	n/a	Date	n/a	n/a	1	Plastic	Pint	Plain			NO3NO2	
Start Time	<i>0600</i>	Time	n/a	Time	n/a	Time	n/a	Time	n/a	Time	n/a	n/a								
Stop Date	<i>7-30-14</i>	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	n/a								
Stop Time	<i>0500</i>	SM 4500H+		SM 4500-CI D		SM 4500-O G		SM 2550B												
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	
<i>Chris West</i>		<i>7-30-14</i>	<i>1234</i>	<i>Tom Pass</i>		<i>7/30/14</i>	<i>1400</i>													
RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	
<i>Tom Pass</i>		<i>7/30/14</i>	<i>1234</i>																	
RECEIVED FOR LABORATORY USE BY: (SIGNATURE)				DATE	TIME	SAMPLE STATUS:														
<i>Shoulo</i>				<i>7-30-14</i>	<i>1400</i>	<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception														



**SAMPLE RESULTS REPORT**

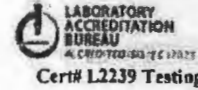
**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



NELAP Accredited  
 Florida DOH  
 #E871078

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EPA/ADEM Certification  
 No. 40160

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Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
-----------	--------------	--------	-------	------	------------------

**Sample Point: Effluent Composite**

Collected: 07/30/2014 Submitted: 07/30/2014

AC7777 \* Ammonia-Nitrogen  
 CAS. 7664-41-7 <0.100 mg/l 3.00

**Sample Point: Effluent Grab**

Collected: 07/30/2014 Submitted: 07/30/2014

AC77778 E. coli 160 colonies/100ml

AC77778 Fecal Coliform 60 colonies/100ml 100

**Sample Point: Digester 1**

Collected: 07/30/2014 Submitted: 07/30/2014

AC77779 Fecal Coliform 663000 mpn/g dry wt.

- Data Qualifiers:**  
 B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.  
 D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.  
 G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.  
 H: Sample beyond accepted holding time.  
 J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).  
 N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)  
 Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.  
 T: Test temperature fell outside method specified range.  
 Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC77777	Ammonia-Nitrogen	SM 4500 NH3-C	RAC/DS	07/31/2014	06:30		
AC77778	E. coli	mColiBlue-24	RAC	07/30/2014	14:25	07/31/2014	12:57
AC77778	Fecal Coliform	SM 9222D-1997	RAC	07/30/2014	14:27	07/31/2014	13:00
AC77779	Fecal Coliform	SM 9221E	RAC	07/31/2014	06:25	08/01/2014	06:25

The results contained in this report are only representative of the sample(s) received.



August 06, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC77777	Effluent Composite	7/30/14	05:00	7/30/14
AC77778	Effluent Grab	7/30/14	12:28	7/30/14
AC77779	Digester 1	7/30/14	08:15	7/30/14

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 and 2009 Standards (NELAP) by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed within accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

  
Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)







**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

CDC NUMBER	1858587
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHONE 256-461-0845 ext 115		CLIENT P O NUMBER																	
CLIENT ADDRESS 704 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																	
SAMPLE COLLECTED BY <i>John Law</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)																			
		DATE DUE (REQUIRED)																			
ENERSOLV LAB NO.	SAMPLE (USE ONE LINE PER CONTAINER)				#NH3	Fecal / E Coli	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR										
	DESCRIPTION	DATE	TIME	GRAB	COMP																
<i>AC77164</i>	MADISON-EFFLUENT-COMP	<i>7-23-14</i>	<i>0830</i>		X	X															
	MADISON-EFFLUENT-COMP				X																
<i>165</i>	MADISON-EFFLUENT-GRAB	<i>7-23-14</i>	<i>11:40</i>	X			X														
<i>166</i>	MADISON-DIGESTER #2	<i>7-23-14</i>	<i>0825</i>	X																	

COMMENTS: SAMPLE TEMP. REC'D @ 1.52

Field Information									Qty	Type	Vol.	Preserv.	< 2	>12.5	Parameter				
									1	Plastic	Pint	H2SO4			NH3, TKN, P				
Sampler	pH	su	n/a	TRC	mg/l	n/a	DO	mg/l	n/a	Temp	deg C	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Date	<i>7-23-14</i>	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain						NO3NO2
Start Time	<i>0600</i>	Time	n/a	Time	n/a	Time	n/a	Time	n/a										
Stop Date	<i>7-23-14</i>	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a										
Stop Time	<i>0500</i>	SM 4500H+		SM 4500-Cl D		SM 4500-O G		SM 2550B											

RELINQUISHED BY (SIGNATURE) <i>John Law</i>	DATE <i>7-23-14</i>	TIME <i>11:44</i>	RELINQUISHED BY (SIGNATURE) <i>Jimmy Sharp</i>	DATE <i>7-23-14</i>	TIME <i>1230</i>	RELINQUISHED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE) <i>Jimmy Sharp</i>	DATE <i>7-23-14</i>	TIME <i>11:44</i>	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME

RECEIVED FOR LABORATORY USE BY (SIGNATURE) <i>Shub</i>	DATE <i>7-23-14</i>	TIME <i>1230</i>	SAMPLE STATUS
			<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception



**SAMPLE RESULTS REPORT**

<b>REPORT TO</b>		 NELAP Accredited Florida DOH #E871078	ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#L871078). Some tests included in this report may not be covered by this accreditation. ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (*). <i>This report may contain information that is confidential and or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.</i>	 Cert# L2239 Testing EPA/ADEM Certification No. 40160	
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758					
Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit

Sample Point: Effluent Composite

Collected: 07/23/2014 Submitted: 07/23/2014

AC77164 \* Ammonia-Nitrogen <0.100 mg/l 3.00  
 CAS 7664-41-7

Sample Point: Effluent Grab

Collected: 07/23/2014 Submitted: 07/23/2014

AC77165 E. coli <10 colonies/100ml  
 AC77165 Fecal Coliform 10 colonies/100ml 100

Sample Point: Digester 2

Collected: 07/23/2014 Submitted: 07/23/2014

AC77166 Fecal Coliform 130000 mpn/g dry wt.

- Data Qualifiers:**
- B:** Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D:** Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G:** Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H:** Sample beyond accepted holding time.
  - J:** Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N:** Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q:** One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T:** Test temperature fell outside method specified range.
  - Y:** Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC77164	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	07/24/2014	06:30		
AC77165	E. coli	mColiBlue-24	RAC	07/23/2014	12:58	07/24/2014	12:58
AC77165	Fecal Coliform	SM 9222D-1997	RAC	07/23/2014	13:06	07/24/2014	11:06
AC77166	Fecal Coliform	SM 9221E	RAC	07/23/2014	12:30	07/24/2014	12:40

The results contained in this report are only representative of the sample(s) received.





July 29, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC77164	Effluent Composite	7/23/14	05:00	7/23/14
AC77165	Effluent Grab	7/23/14	11:40	7/23/14
AC77166	Digester 2	7/23/14	08:25	7/23/14

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)





**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	53545	
PAGE	1	of 1
Tri-Weekly Wastewater		

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES															
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER																
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																
SAMPLE COLLECTED BY		EXPEDITED REPORT DELIVERY (SURCHARGE)																		
		DATE DUE (REQUIRED)																		
ENERSOLV LAB NO	SAMPLE (USE ONE LINE PER CONTAINER)				#NH3	Fecal / E Coli	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR									
<del>AC70520</del>	DESCRIPTION	DATE	TIME	GRAB	COMP															
	MADISON-EFFLUENT-COMP	7-16-14	0815		X	X														
	MADISON-EFFLUENT-COMP				X															
521	MADISON-EFFLUENT-GRAB	7-16-14	1255	X			X													
522	MADISON-DIGESTER #2	7-16-14	0812	X									X							

**COMMENTS:** SAMPLE TEMP  
REC'D @ 4.9

Field Information										Qty	Type	Vol.	Preserv.	< 2	> 12.5	Parameter
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a		1	Plastic	Pint	H2SO4			NH3, TKN, P
Start Date	7-15-14	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a	1	Plastic	Pint	Plain			NO3NO2
Stop Date	7-16-14	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	0500	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B											

RELINQUISHED BY (SIGNATURE) <i>Chris West</i>	DATE 7-16-14	TIME 1302	RELINQUISHED BY (SIGNATURE) <i>Tom Pook</i>	DATE 7/16/14	TIME 1415	RELINQUISHED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE) <i>Tom Pook</i>	DATE 7/16/14	TIME 1302	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY (SIGNATURE) <i>Mark</i>	DATE 7/16/14	TIME 1415	SAMPLE STATUS	<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception				



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

NELAP Accredited  
 Florida DOH  
 #E871078

EPA/ADEM Certification  
 No. 40160

Tests within the scope of accreditation are indicated by an asterisk (\*)

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 07/16/2014 Submitted: 07/16/2014

AC76520	* Ammonia-Nitrogen CAS: 7664-41-7	<0.100	mg/l		3.00
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Sample Point: Effluent Grab

Collected: 07/16/2014 Submitted: 07/16/2014

AC76521	E. coli	<10	colonies/100ml		
AC76521	Fecal Coliform	10	colonies/100ml		100

Sample Point: Digester 2

Collected: 07/16/2014 Submitted: 07/16/2014

AC76522	Fecal Coliform	364000	mpn/g dry wt.		
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- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
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  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	End Date/Time	End Date/Time
AC76520	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	07/18/2014	08:00		
AC76521	E. coli	mColiBlue-24	RAC	07/16/2014	14:40	07/17/2014	14:40
AC76521	Fecal Coliform	SM 9222D-1997	RAC	07/16/2014	15:30	07/17/2014	15:25
AC76522	Fecal Coliform	SM 9221E	RAC	07/17/2014	06:30	07/18/2014	10:00

The results contained in this report are only representative of the sample(s) received.





July 23, 2014

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC76520	Effluent Composite	7/16/14	05:00	7/16/14
AC76521	Effluent Grab	7/16/14	12:55	7/16/14
AC76522	Digester 2	7/16/14	08:12	7/16/14

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Reviewed by:

  
Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)





**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	66750		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 1.15		CLIENT P.O. NUMBER	AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SCOUR										
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																	
SAMPLE COLLECTED BY <i>Chris West</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)										DATE DUE (REQUIRED)									
ENERSOLV LAB NO.	DESCRIPTION				DATE	TIME	GRAB	COMP													
<i>AL350654</i>	MADISON-EFFLUENT-COMP				<i>6-5-13</i>	<i>0821</i>		X	X												
<i>d</i>	MADISON-EFFLUENT-COMP				<i>6-5-13</i>	<i>0821</i>															
<i>660</i>	MADISON-EFFLUENT-GRAB				<i>6-5-13</i>	<i>1244</i>	X		X												
<i>661</i>	MADISON-DIGESTER #4				<i>6-5-13</i>	<i>0818</i>	X														

COMMENTS: SAMPLE TEMP. REC'D @ *1.6°C*

Field Information										Qty	Type	Vol.	Preserv.	< 2	> 12.5	Parameter			
Sampler	pH	su	n/a	TRC	mg/l	n/a	DO	mg/l	n/a	Temp	deg C	n/a	1	Plastic	Pint	H2SO4	n/a	n/a	<i>A</i> NH3, TKN, P
Start Date	<i>6-4-13</i>	Date	n/a	Date	n/a	Date	n/a	Date	n/a	Date	n/a	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	<i>0600</i>	Time	n/a	Time	n/a	Time	n/a	Time	n/a	Time	n/a	n/a							<i>B</i> NO3NO2
Stop Date	<i>6-5-13</i>	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	n/a							
Stop Time	<i>0500</i>	SM 4500H+		SM 4500-C/D		SM 4500-O G		SM 2550B											

RELINQUISHED BY: (SIGNATURE) <i>Chris West</i>	DATE <i>6-5-13</i>	TIME <i>1250</i>	RELINQUISHED BY: (SIGNATURE) <i>Tom Poon</i>	DATE <i>6-5-13</i>	TIME <i>1420</i>	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY: (SIGNATURE) <i>Tom Poon</i>	DATE <i>6-5-13</i>	TIME <i>1250</i>	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY: (SIGNATURE) <i>J. Smith</i>	DATE <i>6-5-13</i>	TIME <i>1430</i>	SAMPLE STATUS: <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					



**SAMPLE RESULTS REPORT**

<b>REPORT TO</b>					
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758					
ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.		ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing.			
EPA/ADEM Certification No. 40160		Tests within the scope of accreditation are indicated by an asterisk (*). This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.			
Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC32659	Ammonia-Nitrogen	SM 4500-NH3-C	RAC	06/07/2013	07:30		
AC32659	Nitrate plus Nitrite-Nitrogen	EPA 300.0	HGT	06/05/2013	20:16		
AC32659	Nitrate-Nitrogen	EPA 300.0	HGT	06/05/2013	20:16		
AC32659	Nitrite-Nitrogen	EPA 300.0	HGT	06/05/2013	20:16		
AC32659	Total Kjeldahl Nitrogen	SM 4500-Norg C	RAC	06/07/2013	06:00		
AC32659	Total Phosphorus	EPA 365.3	SH	06/06/2013	09:40		
AC32660	Fecal Coliform	SM 9222D-1997	RAC	06/05/2013	15:15	06/06/2013	13:22
AC32661	Fecal Coliform	SM 9221E	RAC	06/06/2013	06:15	06/07/2013	06:50

The results contained in this report are only representative of the sample(s) received.





**SAMPLE RESULTS REPORT**

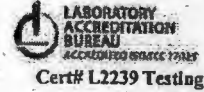
**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



NELAP Accredited  
 Florida DOH  
 #E871078

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EPA/ADEM Certification  
 No. 40160

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Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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**Sample Point: Effluent Composite**

Collected: 06/05/2013

Submitted: 06/05/2013

AC32659	* Ammonia-Nitrogen CAS: 7664-41-7	0.440	mg/l		3.00
AC32659	Nitrite-Nitrogen	<0.15	mg/l		
AC32659	Nitrate-Nitrogen CAS: 7697-37-2	1.17	mg/l		
AC32659	Nitrate plus Nitrite-Nitrogen	1.17	mg/l		
AC32659	* Total Phosphorus CAS: 7723-14-0	<1.00	mg/l		
AC32659	* Total Kjeldahl Nitrogen	<1.50	mg/l		

**Sample Point: Effluent Grab**

Collected: 06/05/2013

Submitted: 06/05/2013

AC32660	Fecal Coliform	160	colonies/100ml		100
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**Sample Point: Digester 4**

Collected: 06/05/2013

Submitted: 06/05/2013

AC32661	Fecal Coliform	391000	mpn/g dry wt.		
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June 11, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC32659	Effluent Composite	6/5/13	05:00	6/5/13
AC32660	Effluent Grab	6/5/13	12:44	6/5/13
AC32661	Digester 4	6/5/13	08:18	6/5/13

ENERSOLV maintains a quality system compliant with the National Environmental Laboratory Accreditation Program (NELAP) and ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by these quality systems, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

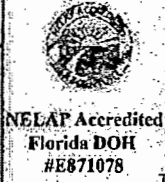
William D. Hollerman, Ph.D.  
Vice President Technical Services





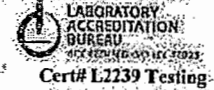
**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing.



EPA/ADEM Certification No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
-----------	--------------	--------	-------	------	------------------

Sample Point: Effluent Composite

Collected: 05/29/2013

Submitted: 05/29/2013

AC31839 \* Ammonia-Nitrogen  
 CAS: 7664-41-7

<0.100 mg/l

3.00

Sample Point: Effluent Grab

Collected: 05/29/2013

Submitted: 05/29/2013

AC31840 Fecal Coliform

80 colonies/100ml

100

Sample Point: Digester

Collected: 05/29/2013

Submitted: 05/29/2013

AC31841 Fecal Coliform

222000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC31839	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	05/30/2013	08:00		
AC31840	Fecal Coliform	SM 9222D-1997	RAC/LDM	05/29/2013	13:52	05/30/2013	14:02
AC31841	Fecal Coliform	SM 9221E	LDM	05/30/2013	06:30	05/31/2013	06:30

The results contained in this report are only representative of the sample(s) received.



June 04, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC31839	Effluent Composite	5/29/13	05:00	5/29/13
AC31840	Effluent Grab	5/29/13	12:18	5/29/13
AC31841	Digester	5/29/13	08:55	5/29/13

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services



ANALYSIS REQUEST CHAIN OF CUSTODY RECORD  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	47
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd. City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES														
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER		AMMONIA (3/week)		FECAL COLIFORM (3/week)		#TKN (Monthly)		P-T (Monthly)		NO3NO2 (Monthly)		SLUDGE/FECAL		SOUR	
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758		EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)											
SAMPLE COLLECTED BY		SAMPLE (USE ONE LINE PER CONTAINER)																	
ENERSOLV LAB NO.	DESCRIPTION	DATE	TIME	GRAB	COMP	AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE/FECAL	SOUR							
AC31215	MADISON-EFFLUENT-COMP	5/22/13	0820		X	X													
	MADISON-EFFLUENT-COMP				X														
246	MADISON-EFFLUENT-GRAB	5/22/13	1235	X			X												
247	MADISON-DIGESTER #2	5/22/13	0815	X															
COMMENTS:																			
															SAMPLE TEMP. REC'D @ 5.7°C				
Field Information										Qty	Type	Vol.	Preserv.	<2	>12.5	Parameter			
										1	Plastic	Pint	H2SO4			AMH3, TKN, P			
Sampler	pH	su	n/a	TRC	mg/l	n/a	DO	mg/l	n/a	Temp	deg C	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Date	Date	n/a	Date	n/a	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			NO3NO2
Start Time	Time	n/a	Time	n/a	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	Analyst	n/a	Analyst	n/a							
Stop Time	SM 4500H+			SM 4500-CI D			SM 4500-O G			SM 2550B									
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME				
B. M. Abs		5/22/13	1240	Tom Ross		5/22/13	1420												
RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME				
Tom Ross		5/22/13	1240																
RECEIVED FOR LABORATORY USE BY: (SIGNATURE)				DATE	TIME	SAMPLE STATUS:													
J. Hawk				5/22/13	1430	<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception													



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

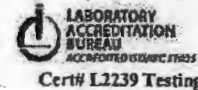


NELAP Accredited  
 Florida DOH  
 #E871078

EVERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

EVERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing.

Tests within the scope of accreditation are indicated by an asterisk (\*).



Cert# L2239 Testing

EPA/ADEM Certification  
 No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of EVERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 05/22/2013 Submitted: 05/22/2013

AC31245	* Ammonia-Nitrogen CAS: 7664-41-7	<0.100	mg/l		3.00
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Sample Point: Effluent Grab

Collected: 05/22/2013 Submitted: 05/22/2013

AC31246	Fecal Coliform	20	colonies/100ml		100
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Sample Point: Digester 2

Collected: 05/22/2013 Submitted: 05/22/2013

AC31247	Fecal Coliform	1390000	mpn/g dry wt.		
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- Data Qualifiers:**
- B:** Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D:** Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G:** Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H:** Sample beyond accepted holding time.
  - J:** Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N:** Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q:** One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T:** Test temperature fell outside method specified range.
  - Y:** Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC31245	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	05/23/2013	08:00		
AC31246	Fecal Coliform	SM 9222D-1997	RAC	05/22/2013	14:55	05/23/2013	12:55
AC31247	Fecal Coliform	SM 9221E	RAC	05/23/2013	06:30	05/24/2013	07:25

The results contained in this report are only representative of the sample(s) received.



May 30, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC31245	Effluent Composite	5/22/13	08:20	5/22/13
AC31246	Effluent Grab	5/22/13	12:35	5/22/13
AC31247	Digester 2	5/22/13	08:15	5/22/13

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

*Karen Sutton*

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)





**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	136713		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																		
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER																			
CLIENT ADDRESS 701 Landess Circle			CITY Madison	STATE AL	ZIP CODE 35758																		
SAMPLE COLLECTED BY <i>Canam Can</i>			EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																		
SAMPLE (USE ONE LINE PER CONTAINER)												AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR					
ENERSOLV LAB NO. <i>ALC 30416</i>	DESCRIPTION MADISON-EFFLUENT-COMP			DATE 5-15-13	TIME 0835	GRAB	COMP	X	X														
	MADISON-EFFLUENT-COMP						X																
<i>4/7</i>	MADISON-EFFLUENT-GRAB			5-15-13	0835	X			X														
<i>4/8</i>	MADISON-DIGESTER			5-15-13	0800	X							X										

COMMENTS: SAMPLE TEMP. REC'D @ *1.3C*

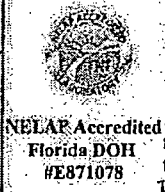
Field Information									Qty	Type	Vol.	Preserv.	< 2	>12.5	Parameter
									1	Plastic	Pint	H2SO4			NH3, TKN, PA
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Date	5-14-13	Date	n/a	Date	n/a	Date	n/a	Date	1	Plastic	Pint	Plain			NO3NO2
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time							
Stop Date	5-15-13	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst							
Stop Time	0500	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B										

RELINQUISHED BY: (SIGNATURE) <i>Canam Can</i>	DATE 5-15-13	TIME 11:50	RELINQUISHED BY: (SIGNATURE) <i>Jimmy Sharp</i>	DATE 5-15-13	TIME 12:55	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY: (SIGNATURE) <i>Jimmy Sharp</i>	DATE 5-15-13	TIME 11:50	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY: (SIGNATURE) <i>Pharis</i>	DATE 5-15-13	TIME 12:55	SAMPLE STATUS: <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					

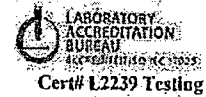


**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



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ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*).

EPA/ADEM Certification No. 40160

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Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 05/15/2013 Submitted: 05/15/2013

AC30416 \* Ammonia-Nitrogen <0.100 mg/l 3.00  
 CAS: 7664-41-7

Sample Point: Effluent Grab

Collected: 05/15/2013 Submitted: 05/15/2013

AC30417 Fecal Coliform 150 colonies/100ml 100

Sample Point: Digester

Collected: 05/15/2013 Submitted: 05/15/2013

AC30418 Fecal Coliform 226000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC30416	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	05/16/2013	08:00		
AC30417	Fecal Coliform	SM 9222D-1997	LDM	05/15/2013	14:05	05/16/2013	14:05
AC30418	Fecal Coliform	SM 9221E	LDM	05/16/2013	06:55	05/17/2013	06:55

The results contained in this report are only representative of the sample(s) received.



May 22, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC30416	Effluent Composite	5/15/13	05:00	5/15/13
AC30417	Effluent Grab	5/15/13	08:35	5/15/13
AC30418	Digester	5/15/13	08:20	5/15/13

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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Reviewed by:

  
Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)




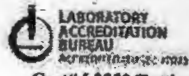
ANALYSIS REQUEST ID CHAIN OF CUSTODY RECORD  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																		
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER																			
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																			
SAMPLE COLLECTED BY <i>Chris West</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)																					
DATE DUE (REQUIRED)																							
SAMPLE (USE ONE LINE PER CONTAINER)												AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR					
ENERSOLV LAB NO.	DESCRIPTION	DATE	TIME	GRAB	COMP																		
<i>AL 24678</i>	MADISON-EFFLUENT-COMP	<i>5-8-13</i>	<i>0800</i>		X	X																	
	MADISON-EFFLUENT-COMP					X																	
<i>679</i>	MADISON-EFFLUENT-GRAB	<i>5-8-13</i>	<i>1258</i>	X			X																
<i>680</i>	MADISON-DIGESTER #1	<i>5-8-13</i>	<i>0757</i>	X									X										
COMMENTS:												SAMPLE TEMP. REC'D @ <i>1:60</i>											
Field Information										Qty	Type	Vol.	Preserv.	<2	>12.5	Parameter							
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	n/a	1	Plastic	Pint	H2SO4			NH3, TKN, P							
Start Date	5-7-13	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform							
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a							NO3NO2							
Stop Date	5-8-13	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a														
Stop Time	0500	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B																		
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME												
<i>Chris West</i>	5-8-13	1303	<i>Tom Posa</i>	5-8-13	1430																		
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME												
<i>Tom Posa</i>	5-8-13	1303																					
RECEIVED FOR LABORATORY USE BY: (SIGNATURE)	DATE	TIME	SAMPLE STATUS:																				
<i>Chris</i>	5-8-13	1430	<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception																				



**SAMPLE RESULTS REPORT**

<b>REPORT TO</b>		 <p>NELAP Accredited Florida DOH #E871078</p>	<p>ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.</p> <p>ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing.</p> <p>Tests within the scope of accreditation are indicated by an asterisk (*)</p> <p><i>This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.</i></p>	 <p>Cert# L2239 Testing</p>	<p>EPA/ADEM Certification No. 40160</p>
<p>Mark Bland Water &amp; Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758</p>					
Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit

**Sample Point: Effluent Composite**

Collected: 05/08/2013 Submitted: 05/08/2013

AC29678 \* Ammonia-Nitrogen 2.32 mg/l 3.00  
CAS: 7664-41-7

**Sample Point: Effluent Grab**

Collected: 05/08/2013 Submitted: 05/08/2013

AC29679 Fecal Coliform 40 colonies/100ml 100

**Sample Point: Digester 1**

Collected: 05/08/2013 Submitted: 05/08/2013

AC29680 Fecal Coliform 255000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC29678	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	05/10/2013	07:00		
AC29679	Fecal Coliform	SM 9222D-1997	RAC	05/08/2013	15:00	05/09/2013	13:50
AC29680	Fecal Coliform	SM 9221E	RAC	05/09/2013	06:00	05/10/2013	06:40

The results contained in this report are only representative of the sample(s) received.



May 15, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number:</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC29678	Effluent Composite	5/8/13	05:00	5/8/13
AC29679	Effluent Grab	5/8/13	12:58	5/8/13
AC29680	Digester 1	5/8/13	07:57	5/8/13

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	450178
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES															
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER		AMMONIA (3/week)	FECAL COLIFORM (3/week)	#ITKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR								
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																
SAMPLE COLLECTED BY <i>Chris Wet</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																
ENERSOLV LAB NO.	DESCRIPTION			DATE	TIME	GRAB	GMP	SAMPLE (USE ONE LINE PER CONTAINER)												
<i>AC258179</i>	MADISON-EFFLUENT-COMP			<i>4-24-13</i>	<i>0759</i>		X	X												
	MADISON-EFFLUENT-COMP						X													
<i>180</i>	MADISON-EFFLUENT-GRAB			<i>4-24-13</i>	<i>1218</i>	X		X												
<i>181</i>	MADISON-DIGESTER #3			<i>4/24/13</i>	<i>0756</i>	X														

COMMENTS: SAMPLE TEMP. REC'D @ *1:52*

Field Information										Qty	Type	Vol.	Preserv.	< 2	> 12.5	Parameter
										1	Plastic	Pint	H2SO4			*NH3, TKN, P
Sampler	pH su	n/a	TRC mg/l	n/a	DO mg/l	n/a	Temp deg C	n/a		1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Date	<i>4-23-13</i>	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			NO3NO2
Start Time	<i>0600</i>	Time	n/a	Time	n/a	Time	n/a	Time	n/a							
Stop Date	<i>4-24-13</i>	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	<i>0500</i>	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B											

RELINQUISHED BY (SIGNATURE) <i>Chris Wet</i>	DATE <i>4-24-13</i>	TIME <i>1222</i>	RELINQUISHED BY (SIGNATURE) <i>Tom Pass</i>	DATE <i>4-24-13</i>	TIME <i>1345</i>	RELINQUISHED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE) <i>Tom Pass</i>	DATE <i>4-24-13</i>	TIME <i>1222</i>	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY (SIGNATURE) <i>Shank</i>	DATE <i>4/24/13</i>	TIME <i>1345</i>	SAMPLE STATUS:					
			<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					



### SAMPLE RESULTS REPORT

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



NELAP Accredited  
 Florida DOH  
 #E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing.

Tests within the scope of accreditation are indicated by an asterisk (\*).



Cert# L2239 Testing

EPA/ADEM Certification  
 No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 04/24/2013 Submitted: 04/24/2013

AC28179 \* Ammonia-Nitrogen  
 CAS: 7664-41-7

<0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 04/24/2013 Submitted: 04/24/2013

AC28180 Fecal Coliform

10 colonies/100ml 100

Sample Point: Digester 3

Collected: 04/24/2013 Submitted: 04/24/2013

AC28181 Fecal Coliform

211000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS; surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

#### Analysis Information

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC28179	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	04/25/2013	08:00		
AC28180	Fecal Coliform	SM 9222D-1997	RAC	04/24/2013	15:05	04/25/2013	14:30
AC28181	Fecal Coliform	SM 9221E	RAC	04/25/2013	06:15	04/26/2013	08:00

The results contained in this report are only representative of the sample(s) received.





April 30, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC28179	Effluent Composite	4/24/13	05:00	4/24/13
AC28180	Effluent Grab	4/24/13	12:18	4/24/13
AC28181	Digester 3	4/24/13	07:56	4/24/13

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

*Karen Sutton*

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)



ANALYSIS REQUEST CHAIN OF CUSTODY RECORD  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	101099
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison	ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES															
CLIENT POINT OF CONTACT Jeff Taylor	CLIENT PHONE 256-461-0845 ext 115	CLIENT P.O. NUMBER		AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR									
CLIENT ADDRESS 701 Landess Circle	CITY Madison	STATE AL	ZIP CODE 35758																
SAMPLE COLLECTED BY Johann Cava	EXPEDITED REPORT DELIVERY (SURCHARGE)																		
ENERSOLV LAB NO.	DESCRIPTION			DATE	TIME	GRAB	COMP.												
432	MADISON-EFFLUENT-COMP			4-17-13	0839		X												
433	MADISON-EFFLUENT-COMP			4-17-13			X												
433	MADISON-EFFLUENT-GRAB			4-17-13	0842	X													
433	MADISON-DIGESTER			4-17-13	0830	X													

COMMENTS: SAMPLE TEMP. REC'D @ 31°C

Field Information									Qty	Type	Vol.	Preserv.	<2	>12.5	Parameter
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	1	Plastic	Pint	H2SO4			NH3, TKN, P
Start Date	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	Time	n/a	Time	n/a	Time	n/a	Time	n/a	1	Plastic	Pint	Plain			NO3NO2
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								

RELINQUISHED BY (SIGNATURE) Johann Cava	DATE 4-17-13	TIME 12:00	RELINQUISHED BY (SIGNATURE) J. Brown	DATE 4-17-13	TIME 13:30	RELINQUISHED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE) J. Brown	DATE 4-17-13	TIME 12:00	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY (SIGNATURE) J. Smith	DATE 4-17-13	TIME 13:30	SAMPLE STATUS					
			<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



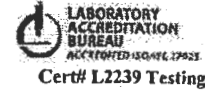
NELAP Accredited  
 Florida DOH  
 #E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing.

Tests within the scope of accreditation are indicated by an asterisk (\*)

*This report may contain information that is confidential and or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*



EPA/ADEM Certification  
 No. 40160

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 04/17/2013 Submitted: 04/17/2013

AC27431 \* Ammonia-Nitrogen  
 CAS: 7664-41-7

<0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 04/17/2013 Submitted: 04/17/2013

AC27432 Fecal Coliform

10 colonies/100ml 100

Sample Point: Digester

Collected: 04/17/2013 Submitted: 04/17/2013

AC27433 Fecal Coliform

697000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC27431	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	04/19/2013	08:00		
AC27432	Fecal Coliform	SM 9222D-1997	LDM	04/17/2013	14:00	04/18/2013	14:00
AC27433	Fecal Coliform	SM 9221E	LDM	04/18/2013	06:50	04/19/2013	06:20

The results contained in this report are only representative of the sample(s) received.



April 24, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC27431	Effluent Composite	4/17/13	05:00	4/17/13
AC27432	Effluent Grab	4/17/13	08:42	4/17/13
AC27433	Digester	4/17/13	08:30	4/17/13

*ENERSOLV* maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by *ENERSOLV* are covered by this quality system, all tests have been conducted in accordance with *ENERSOLV* Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	50533		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES										
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER											
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758											
SAMPLE COLLECTED BY <i>Chris West</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)													
		DATE DUE (REQUIRED)													
ENERSOLV LAB NO.	SAMPLE (USE ONE LINE PER CONTAINER)				AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR				
	DESCRIPTION	DATE	TIME	GRAB								COMP			
<i>AC 7640</i>	MADISON-EFFLUENT-COMP	<i>4-12-13</i>	<i>0816</i>		X	X									
	MADISON-EFFLUENT-COMP				X										
<i>941</i>	MADISON-EFFLUENT-GRAB	<i>4-12-13</i>	<i>1110</i>	X			X								
<i>942</i>	MADISON-DIGESTER #3	<i>4-12-13</i>	<i>0814</i>	X						X					

COMMENTS: SAMPLE TEMP. REC'D @ *78°C*

Field Information										Qty	Type	Vol.	Preserv.	<2	>12.5	Parameter
										1	Plastic	Pint	H2SO4			NH3, TKN, P
Sampler	pH su	n/a	TRC mg/l	n/a	DO mg/l	n/a	Temp deg C	n/a		1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Date	<i>4-11-13</i>	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			NO3NO2
Start Time	<i>0600</i>	Time	n/a	Time	n/a	Time	n/a	Time	n/a							
Stop Date	<i>4-12-13</i>	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	<i>0500</i>	SM 4500H+		SM 4500-CID		SM 4500-O G		SM 2550B								
RELINQUISHED BY: (SIGNATURE)	<i>Chris West</i>	DATE	<i>4-12-13</i>	TIME	<i>1115</i>	RELINQUISHED BY: (SIGNATURE)	<i>Jon Poma</i>	DATE	<i>4-12-13</i>	TIME	<i>1225</i>	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	
RECEIVED BY: (SIGNATURE)	<i>Jon Poma</i>	DATE	<i>4-12-13</i>	TIME	<i>1115</i>	RECEIVED BY: (SIGNATURE)		DATE		TIME		RECEIVED BY: (SIGNATURE)		DATE	TIME	
RECEIVED FOR LABORATORY USE BY: (SIGNATURE)	<i>Small's</i>	DATE	<i>4-12-13</i>	TIME	<i>1225</i>	SAMPLE STATUS										
<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception																



**SAMPLE RESULTS REPORT**

<b>REPORT TO</b>			<p>ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.</p> <p>ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (*).</p> <p><i>This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.</i></p>		<p>EPA/ADEM Certification No. 40160</p>
<p>Mark Bland Water &amp; Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758</p>					
Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit

Sample Point: Effluent Composite

Collected: 04/12/2013 Submitted: 04/12/2013

AC26940 \* Ammonia-Nitrogen CAS: 7664-41-7 <0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 04/12/2013 Submitted: 04/12/2013

AC26941 Fecal Coliform 40 colonies/100ml 100

Sample Point: Digester 3

Collected: 04/12/2013 Submitted: 04/12/2013

AC26942 Fecal Coliform 25400 mpn/g dry wt.

- Data Qualifiers:
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis Start Date/Time	BOD/CBOD/Fecal Analysis End Date/Time
AC26940	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	04/13/2013 09:30	
AC26941	Fecal Coliform	SM 9222D-1997	LDM	04/12/2013 13:05	04/13/2013 13:05
AC26942	Fecal Coliform	SM 9221E	RAC / JLP	04/12/2013 12:40	04/13/2013 12:45

The results contained in this report are only representative of the sample(s) received.



April 18, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC26940	Effluent Composite	4/12/13	05:00	4/12/13
AC26941	Effluent Grab	4/12/13	11:10	4/12/13
AC26942	Digester 3	4/12/13	08:14	4/12/13

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)



ANALYSIS REQUEST ) CHAIN OF CUSTODY RECORD  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	66010
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER								
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext.115	CLIENT P.O. NUMBER									
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758								
SAMPLE COLLECTED BY <i>Chris West</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)										
		DATE DUE (REQUIRED)										
SAMPLE (USE ONE LINE PER CONTAINER)												
ENERSOLV LAB NO.	DESCRIPTION	DATE	TIME	GRAB	COMP	AMMONIA (3week)	FECAL COLIFORM (3week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR
<i>A-20335</i>	MADISON-EFFLUENT-COMP	4-8-13	0733		X	X						
	MADISON-EFFLUENT-COMP				X							
<i>336</i>	MADISON-EFFLUENT-GRAB	4-8-13	1020	X			X					
<i>337</i>	MADISON-DIGESTER #2	4-8-13	1017	X							X	

COMMENTS: SAMPLE TEMP. REC'D @ 3.2

Field Information										Qty	Type	Vol.	Preserv.	<2	>12.5	Parameter
Sampler	pH	n/a	TTC	n/a	DO	n/a	Temp	n/a		1	Plastic	Pint	H2SO4			NH3, TKN, P
Start Date	Date	n/a	Date	n/a	Date	n/a	Date	n/a		1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	Time	n/a	Time	n/a	Time	n/a	Time	n/a		1	Plastic	Pint	Plain			NO3NO2
Stop Date	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a								
Stop Time	SM 4500H+		SM 4500-C/D		SM 4500-C		SM 2550B									

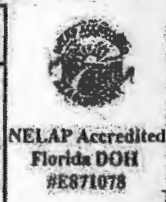
RELINQUISHED BY (SIGNATURE) <i>Chris West</i>	DATE 4-8-13	TIME 1024	RELINQUISHED BY (SIGNATURE) <i>[Signature]</i>	DATE 4-8-13	TIME 1120	RELINQUISHED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE) <i>[Signature]</i>	DATE 4-8-13	TIME 1024	RECEIVED BY (SIGNATURE) <i>[Signature]</i>	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY (SIGNATURE) <i>[Signature]</i>	DATE 4-8-13	TIME 1120	SAMPLE STATUS <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					



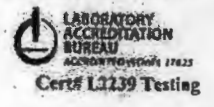


**SAMPLE RESULTS REPORT**

**REPORT TO**  
Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758



ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.



ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*)

EPA/ADEM Certification No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 04/08/2013 Submitted: 04/08/2013

AC26335 \* Ammonia-Nitrogen <0.100 mg/l 3.00  
CAS: 7664-41-7

Sample Point: Effluent Grab

Collected: 04/08/2013 Submitted: 04/08/2013

AC26336 Fecal Coliform 20 colonies/100ml 100

Sample Point: Digester 1

Collected: 04/08/2013 Submitted: 04/08/2013

AC26337. Specific Oxygen Consumption Rate 1.14 (mg/g)/h (dry wt.)

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC26335	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	04/09/2013	08:00		
AC26336	Fecal Coliform	SM 9222D-1997	LDM	04/08/2013	11:55	04/09/2013	11:55
AC26337	Specific Oxygen Consumption Rate	SM 2710B	JLP	04/08/2013	11:55		

The results contained in this report are only representative of the sample(s) received.



April 15, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC26335	Effluent Composite	4/8/13	05:00	4/8/13
AC26336	Effluent Grab	4/8/13	10:20	4/8/13
AC26337	Digester 1	4/8/13	10:17	4/8/13

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	90122
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES										
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER		AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR			
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758											
SAMPLE COLLECTED BY Travis Wilson		EXPEDITED REPORT DELIVERY (SURCHARGE)			DATE DUE (REQUIRED)										
ENERSOLV LAB NO. AC25910	DESCRIPTION MADISON-EFFLUENT-COMP			DATE 4-3-13	TIME 0754	GRAB	COMP								
	MADISON-EFFLUENT-COMP			4-3-13	0754		X								
911	MADISON-EFFLUENT-GRAB			4-3-13	1255	X		X							
912	MADISON-DIGESTER			4-3-13	0745	X									

COMMENTS: SAMPLE TEMP. REC'D @ 7.3  
 Did not receive monthly NO3NO2 bottle

Field Information									Qty	Type	Vol.	Preserv.	< 2	> 12.5	Parameter
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Date	4-3-13	Date	n/a	Date	n/a	Date	n/a	Date	1	Plastic	Pint	Plain			NO3NO2
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time							
Stop Date	4-3-13	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst							
Stop Time	0500	SM 4500H+	SM 4500-Cl D	SM 4500-O G	SM 2550B										

RELINQUISHED BY (SIGNATURE) Travis Wilson	DATE 4-3-13	TIME 1:00	RELINQUISHED BY (SIGNATURE) J. Boss	DATE 4-3-13	TIME 1415
RECEIVED BY (SIGNATURE) Tom Boss	DATE 4-3-13	TIME 1300	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY (SIGNATURE) Phaul	DATE 4-3-13	TIME 1415	SAMPLE STATUS <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception		



# SAMPLE RESULTS REPORT

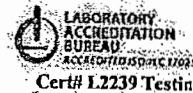
**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



NELAP Accredited  
 Florida DOI  
 #E871078

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EPA/ADEM Certification  
 No. 40160

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Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 04/03/2013 Submitted: 04/03/2013

AC25910 \* Ammonia-Nitrogen <0.100 mg/l 3.00  
 CAS: 7664-41-7

Sample Point: Effluent Grab

Collected: 04/03/2013 Submitted: 04/03/2013

AC25911 Fecal Coliform <10 colonies/100ml 100

Sample Point: Digester

Collected: 04/03/2013 Submitted: 04/03/2013

AC25912 Fecal Coliform 18100 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

### Analysis Information

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC25910	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	04/05/2013	09:30		
AC25911	Fecal Coliform	SM 9222D-1997	RAC/LDM	04/03/2013	15:25	04/04/2013	15:15
AC25912	Fecal Coliform	SM 9221E	LDM	04/04/2013	07:00	04/05/2013	07:00

The results contained in this report are only representative of the sample(s) received.



April 10, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC25910	Effluent Composite	4/3/13	05:00	4/3/13
AC25911	Effluent Grab	4/3/13	12:55	4/3/13
AC25912	Digester	4/3/13	07:45	4/3/13

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Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)



ANALYSIS RESULT AND CHAIN OF CUSTODY RECORD  
 2220 BELTLINE ROAD SW, DECATUR, ALABAMA 35601  
 (256)-350-0848

COG NUMBER	123399
PAGE	1 of 1
TNA Weekly Wastewater	

COMPANY/CLIENT NAME Water & W. Bd City of Madison			ACCOUNT NUMBER 2886			QUOTE NUMBER			ENERSOLV PROJECT NUMBER																																																																																																																										
CLIENT POINT OF CONTACT Jeff Taylor			CLIENT PHONE 256-461-0845 ext 115			CLIENT P.O. NUMBER			CLIENT ADDRESS 701 Landess Circle Madison STATE AL ZIP CODE 35758																																																																																																																										
SAMPLE COLLECTED BY James Wilkerson			EXPERIMENT REPORT DELIVERY SCHEDULED			DATE REQUIRED			SAMPLE RECEIVED DATE																																																																																																																										
LAB NO 024373			DESCRIPTION MADISON EFFLUENT COMP			DATE 3-20-13			TIME 8:30																																																																																																																										
ENSOLV			MADISON EFFLUENT COMP			MADISON EFFLUENT COMP			MADISON EFFLUENT GRAB																																																																																																																										
MADISON DIGESTER			3-20-13 8:45			3-20-13 11:57			3-20-13 8:45																																																																																																																										
COMMENTS																																																																																																																																			
<p style="text-align: center;">FIELD INFORMATION</p> <table border="1"> <tr> <th>Sampler</th> <th>Pre</th> <th>Pre</th> <th>Pre</th> <th>Pre</th> <th>Pre</th> <th>Pre</th> <th>Pre</th> <th>Pre</th> <th>Pre</th> <th>Pre</th> <th>Pre</th> </tr> <tr> <td>su</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> </tr> <tr> <td>Date</td> <td>3-19-13</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> </tr> <tr> <td>Start</td> <td>0600</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> </tr> <tr> <td>Stop</td> <td>3:00-13</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> </tr> <tr> <td>Date</td> <td>3-20-13</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> </tr> <tr> <td>Stop</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> </tr> <tr> <td>Date</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> </tr> <tr> <td>Analysis</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> <td>n/a</td> </tr> <tr> <td>SM 4500H+</td> <td>SM 1500-O</td> <td>SM 1500-O</td> <td>SM 1500-O</td> <td>SM 1500-O</td> <td>SM 1500-O</td> <td>SM 1500-O</td> <td>SM 1500-O</td> <td>SM 1500-O</td> <td>SM 1500-O</td> <td>SM 1500-O</td> <td>SM 2558B</td> </tr> </table>												Sampler	Pre	Pre	Pre	Pre	Pre	Pre	Pre	Pre	Pre	Pre	Pre	su	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Date	3-19-13	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Start	0600	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Stop	3:00-13	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Date	3-20-13	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Stop	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Date	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Analysis	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	SM 4500H+	SM 1500-O	SM 1500-O	SM 1500-O	SM 1500-O	SM 1500-O	SM 1500-O	SM 1500-O	SM 1500-O	SM 1500-O	SM 1500-O	SM 2558B
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<p style="text-align: center;">Accepted with Exception <input type="checkbox"/></p> <p style="text-align: center;">Rejected <input type="checkbox"/></p> <p style="text-align: center;">Accepted <input checked="" type="checkbox"/></p>																																																																																																																																			

ENERSOLV Form EFD-020 SOP REV 4

SAMPLE TEMP  
 RECD @ 8:52



# SAMPLE RESULTS REPORT

Page 2 of 2  
 Report Date: 3/26/13  
 Report Time: 9:35

**REPORT TO**

Mark Bland  
 Water & Wastewater Board City of Madison  
 NEAP Accredited  
 Florida DOI  
 #E871078

Tests within the scope of accreditation are indicated by an asterisk (\*)  
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ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

EPA/ADDM Certification No. 40169

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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**Sample Point: Effluent Composite**

AC24323 Ammonia-Nitrogen  
 Sample Point: Effluent Grab  
 Collected: 03/20/2013 Submitted: 03/20/2013  
 <0.100 mg/l  
 3.00

AC24324 Fecal Coliform  
 Sample Point: Digester  
 Collected: 03/20/2013 Submitted: 03/20/2013  
 <10 colonies/100ml  
 100

AC24325 Fecal Coliform  
 Collected: 03/20/2013 Submitted: 03/20/2013  
 821000 mpn/g dry wt.

**Data Qualifiers:**

- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
- D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
- C: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
- H: Sample beyond accepted holding time.
- J: Estimated value - the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
- N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure).
- Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
- V: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Start Date/Time	End Date/Time	BOD/CBOD/Ceal Analysis
AC24323	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	03/21/2013 10:00	03/21/2013 14:25	03/22/2013 08:00
AC24324	Fecal Coliform	SM 9222D-1997	RAC/LDM	03/20/2013 14:25	03/21/2013 08:00	03/22/2013 08:00
AC24325	Fecal Coliform	SM 9221E	LDM	03/21/2013 08:00	03/21/2013 08:00	03/22/2013 08:00

The results contained in this report are only representative of the sample(s) received.

1120 Bellvue Road SW • Tallahassee, Florida 32301  
 (904) 487-1400 • Fax: (904) 487-1400



March 26, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC24323	Effluent Composite	3/20/13	05:00	3/20/13
AC24324	Effluent Grab	3/20/13	11:57	3/20/13
AC24325	Digester	3/20/13	08:45	3/20/13

ENERSOLV maintains a quality system compliant with the National Environmental Laboratory Accreditation Program (NELAP) and ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by these quality systems, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

This cover page and the attached chain-of-custody record(s) are integral parts of your report. ENERSOLV considers this report your official record. This information shall remain in ENERSOLV's active database for a period of one (1) calendar year before archiving. Any replacement of this information after archiving may result in an administrative fee to cover the cost of retrieval.

If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

William D. Hollerman, Ph.D.  
Vice President Technical Services





**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	39115
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES														
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115	CLIENT P.O. NUMBER		AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR								
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758															
SAMPLE COLLECTED BY <i>Chris West</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)																	
		DATE DUE (REQUIRED)																	
ENERSOLV LAB NO.	DESCRIPTION				DATE	TIME	GRAB	COMP	SAMPLE USE ONE LINE PER CONTAINER										
<i>AC75140</i>	MADISON-EFFLUENT-COMP				<i>3-13-13</i>	<i>0829</i>		X	X										
	MADISON-EFFLUENT-COMP				<del><i>3-13-13</i></del>			X											
<i>741</i>	MADISON-EFFLUENT-GRAB				<i>3-13-13</i>	<i>1147</i>	X		X										
<i>742</i>	MADISON-DIGESTER #4				<i>3-13-13</i>	<i>0825</i>	X												
COMMENTS:													SAMPLE TEMP. <i>REC'D @ 6-9-iced</i>						
Field Information										Qty	Type	Vol.	Preserv.	<2	>125	Parameter			
										1	Plastic	Pint	H2SO4			<i>A-NH3, TKN, P</i>			
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a		1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform			
Start Date	<i>3-12-13</i>	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			NO3NO2			
Start Time	<i>0600</i>	Time	n/a	Time	n/a	Time	n/a	Time	n/a										
Stop Date	<i>3-13-13</i>	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a										
Stop Time	<i>0500</i>	SM 4500H+	SM 4500-BID	SM 4500-O G	SM 2550B														
RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME								
<i>Travis Wilson</i>		<i>3-13-13</i>	<i>1150</i>	<i>Tom P...</i>		<i>3-13-13</i>	<i>1405</i>												
RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME								
<i>Tom P...</i>		<i>3-13-13</i>	<i>1150</i>																
RECEIVED BY (SIGNATURE)				DATE	TIME	SAMPLE STATUS													
<i>Travis Wilson</i>				<i>3/13/13</i>	<i>1405</i>	<input type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input checked="" type="checkbox"/> Accepted with Exception													



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

NELAP Accredited  
 Florida DOH  
 #E871078

EPA/ADEM Certification  
 No. 40160

\* Tests within the scope of accreditation are indicated by an asterisk (\*)

This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 03/13/2013

Submitted: 03/13/2013

AC23740

\* Ammonia-Nitrogen  
 CAS: 7664-41-7

0.634

mg/l

3.00

Sample Point: Effluent Grab

Collected: 03/13/2013

Submitted: 03/13/2013

AC23741

Fecal Coliform

280

colonies/100ml

100

Sample Point: Digester 4

Collected: 03/13/2013

Submitted: 03/13/2013

AC23742

Fecal Coliform

628000

mpn/g dry wt.

**Data Qualifiers:**

B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.

D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.

G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.

H: Sample beyond accepted holding time.

J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).

N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)

Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.

T: Test temperature fell outside method specified range.

Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	End Date/Time	End Date/Time
AC23740	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	03/15/2013	07:15		
AC23741	Fecal Coliform	SM 9222D-1997	RAC	03/13/2013	14:35	03/14/2013	12:35
AC23742	Fecal Coliform	SM 9221E	RAC	03/14/2013	05:45	03/15/2013	06:35

The results contained in this report are only representative of the sample(s) received.



March 20, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC23740	Effluent Composite	3/13/13	05:00	3/13/13
AC23741	Effluent Grab	3/13/13	11:47	3/13/13
AC23742	Digester 4	3/13/13	08:25	3/13/13

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Karen Sutton  
Vice President Client Services



ANALYSIS REQ. AND CHAIN OF CUSTODY RECORD  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	4480650
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd. City of Madison	ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																							
CLIENT POINT OF CONTACT Jeff Taylor	CLIENT PHONE 256-461-0845 ext 115	CLIENT P.O. NUMBER		AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR																	
CLIENT ADDRESS 701 Landess Circle	CITY Madison	STATE AL	ZIP CODE 35758																								
SAMPLE COLLECTED BY <i>John Paris</i>	EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																								
ENERSOLV LAB NO.	DESCRIPTION			DATE	TIME	GRAB	COMP																				
<i>HC 7743</i>	MADISON EFFLUENT COMP			<i>3/6/13</i>	<i>0750</i>		X	X																			
	MADISON EFFLUENT COMP			<del>3/6/13</del>			X																				
<i>844</i>	MADISON EFFLUENT GRAB			<i>3/6/13</i>	<i>11:35</i>	X			X																		
<i>895</i>	MADISON DIGESTER			<i>3/6/13</i>	<i>11:30</i>	X																					

COMMENTS: SAMPLE TEMP. REC'D @ *1/1°C*

Field Information									Qty	Type	Vol.	Preserv.	< 2	≥ 12:5	Parameter				
Sampler	pH	su	n/a	TRC	mg/l	n/a	DO	mg/l	n/a	Temp	deg C	n/a	1	Plastic	Pint	H2SO4	n/a	n/a	Ammonia, TKN, P
Start Date	3-5-13	Date	n/a	Date	n/a	Date	n/a	Date	n/a	Date	n/a	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a	Time	n/a	n/a	1	Plastic	Pint	Plain			NO3NO2
Stop Date	3-6-13	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	n/a							
Stop Time	0500	SM 4500H+		SM 4500-CI D		SM 4600-O G		SM 2550B											
RELINQUISHED BY (SIGNATURE)	<i>John Paris</i>	DATE	3/6/13	TIME	1225	RELINQUISHED BY (SIGNATURE)	<i>Tommy</i>	DATE	3-6-13	TIME	1450	RELINQUISHED BY (SIGNATURE)		DATE		TIME			
RECEIVED BY (SIGNATURE)	<i>Tommy</i>	DATE	3/6/13	TIME	1225	RECEIVED BY (SIGNATURE)		DATE		TIME		RECEIVED BY (SIGNATURE)		DATE		TIME			
RECEIVED FOR LABORATORY USE BY (SIGNATURE)	<i>Frank</i>	DATE	3/6/13	TIME	1530	SAMPLE STATUS:			<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception										



**SAMPLE RESULTS REPORT**

Page 2 of 2  
 Report Date: 3/13/13  
 Report Time: 9:31

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
AC22893	Ammonia-Nitrogen CAS 7664-41-7	0.280	mg/l		
AC22894	Fecal Coliform	60	colonics/100ml		
AC22895	Fecal Coliform	324000	mpn/g dry wt.		

**Data Qualifiers:**  
 B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.  
 D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.  
 G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.  
 H: Sample beyond accepted holding time.  
 J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).  
 N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure).  
 Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.  
 T: Test temperature fell outside method specified range.  
 Y: Analysis performed from improperly preserved sample.

**Sample Point: Effluent Composite**  
 Collected: 03/06/2013 Submitted: 03/06/2013

**Sample Point: Effluent Grab**  
 Collected: 03/06/2013 Submitted: 03/06/2013

**Sample Point: Digestor**  
 Collected: 03/06/2013 Submitted: 03/06/2013

**Analysis Information**

Sample ID	Analyst	Method	Start Date/Time	End Date/Time
AC22893		SM 4500 NHA-C	03/08/2013 08:30	03/07/2013 06:45
AC22894		SM 9222D-1997	03/06/2013 15:40	03/07/2013 06:45
AC22895		SM 9222R	03/07/2013 06:45	03/08/2013 06:45

The results contained in this report are only representative of the sample(s) received.

2230 Highway, Road 9W • Lakewood, Alabama 35891  
 (256) 833-1100 • Fax: (256) 833-1100



March 13, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC22893	Effluent Composite	3/6/13	05:00	3/6/13
AC22894	Effluent Grab	3/6/13	11:35	3/6/13
AC22895	Digester	3/6/13	11:30	3/6/13

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton

Karen Sutton  
Vice President Client Services

Page 1 of 2



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	21012
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES							
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER								
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758	AMMONIA (3week)	FECAL COLIFORM (3week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR	
SAMPLE COLLECTED BY <i>Chris West</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)										
		DATE QUEY REQUIRED										
ENERSOLV LAB NO.	DESCRIPTION				DATE	TIME	GRAB	COMP				
<i>AC27075</i>	MADISON-EFFLUENT-COMP				<i>2-27-13</i>	<i>0757</i>		X	X			
	MADISON-EFFLUENT-COMP							X				
<i>2076</i>	MADISON-EFFLUENT-GRAB				<i>2-27-13</i>	<i>1242</i>	X		X			
<i>2077</i>	MADISON-DIGESTER #2				<i>2-27-13</i>	<i>0753</i>	X			X		

COMMENTS: SAMPLE TEMP. REC'D @ *23°C*

Field Information										Qty	Type	Vol.	Preserv.	<2	>12.5	Parameter
Sample:	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	AmH3, TKN, P
Start Date	Date	n/a	Date	n/a	Date	n/a	Date	n/a	n/a	1	Plastic	Pinl	Plain			NO3NO2
Start Time	Time	n/a	Time	n/a	Time	n/a	Time	n/a	n/a							
Stop Date	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	n/a							
Stop Time	SM 4500H+		SM 4500-CI D		SM 4500-O.G.		SM 2550B									

RECEIVED BY (SIGNATURE) <i>B. McAlister</i>	DATE <i>2-27-13</i>	TIME <i>1244</i>	RECEIVED BY (SIGNATURE) <i>Jon P. O...</i>	DATE <i>2-27-13</i>	TIME <i>1400</i>	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE) <i>Jon P. O...</i>	DATE <i>2-27-13</i>	TIME <i>1244</i>	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY (SIGNATURE) <i>J. Shaw</i>	DATE <i>2-27-13</i>	TIME <i>1400</i>	SAMPLE STATUS: <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					



**SAMPLE RESULTS REPORT**

**REPORT TO**  
Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

**NE LAP Accredited**  
Florida DOH  
#E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.  
ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L.A.B. Certificate #L2239 Testing.  
Tests within the scope of accreditation are indicated by an asterisk (\*)

**LABORATORY ACCREDITATION BUREAU**  
Cert# 12239 Testing  
**EPA/ADCM Certification**  
No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 02/27/2013 Submitted: 02/27/2013

AC22075	* Ammonia-Nitrogen CAS: 7664-41-7	<0.100	mg/l		3.00
	Sample Point: Effluent Grab				

Collected: 02/27/2013 Submitted: 02/27/2013

AC22076	Fecal Coliform	10	colonies/100ml		100
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Sample Point: Digester 2

Collected: 02/27/2013 Submitted: 02/27/2013

AC22077	Fecal Coliform	215000	mpn/g dry wt.		
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- Data Qualifiers:**
- B:** Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D:** Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G:** Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H:** Sample beyond accepted holding time.
  - J:** Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N:** Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q:** One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T:** Test temperature fell outside method specified range.
  - Y:** Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC22075	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	02/28/2013	06:30		
AC22076	Fecal Coliform	SM 9222D-1997	RAC	02/27/2013	14:45	02/28/2013	12:50
AC22077	Fecal Coliform	SM 9221E	RAC	02/28/2013	06:15	03/01/2013	06:35

The results contained in this report are only representative of the sample(s) received.





March 06, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC22075	Effluent Composite	2/27/13	05:00	2/27/13
AC22076	Effluent Grab	2/27/13	12:42	2/27/13
AC22077	Digester 2	2/27/13	07:53	2/27/13

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

*Karen Sutton*

Karen Sutton  
Vice President Client Services



ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	106060
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison	ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																	
CLIENT POINT OF CONTACT Jeff Taylor	CLIENT PHONE 256-461-0845 ext 115	CLIENT P.O. NUMBER		AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR											
CLIENT ADDRESS 701 Landess Circle	CITY Madison	STATE AL	ZIP CODE 35758	EXPEDITED REPORT DELIVERY (SURCHARGE)																	
SAMPLE COLLECTED BY <i>Sharon Lewis</i>	DATE DUE (REQUIRED)																				
ENERSOLV LAB NO. RC 21900	SAMPLE (USE ONE LINE PER CONTAINER)																				
	DESCRIPTION	DATE	TIME	GRAB	COMP																
	MADISON EFFLUENT COMP	2/20/13	0545		X	X															
	MADISON EFFLUENT COMP	<del>2/20/13</del>	<del>SR</del>		X																
361	MADISON EFFLUENT GRAB	2/20/13	12:47	X			X														
362	MADISON DIGESTER #3	2/20/13	0840	X			X														

COMMENTS: SAMPLE TEMP. REC'D @ 2/14

Field Information										Qty	Type	Vol	Preserv.	<2	>12.5	Parameter
Sampler	ph	su	n/a	TRC	n/a	DO	n/a	Temp	n/a	1	Plastic	Pint	H2SO4			NH3 TKN P
Start Date	2/19/13	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	5:00	Time	n/a	Time	n/a	Time	n/a	Time	n/a	1	Plastic	Pint	Plain			NO3NO2
Stop Date	2/20/13	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	0500	SM 4500H+	SM 4500ClD	SM 4500O-G	SM 2530B											

RELINQUISHED BY (SIGNATURE) <i>Sharon Lewis</i>	DATE 2/20/13	TIME 1222	RELINQUISHED BY (SIGNATURE) <i>Tom Ben</i>	DATE 2-20-13	TIME 1330	RELINQUISHED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE) <i>Tom Ben</i>	DATE 2/20/13	TIME 1222	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY (SIGNATURE) <i>J. Marks</i>	DATE 2/20/13	TIME 1330	SAMPLE STATUS					

Accepted  Rejected  Accepted with Exception



**SAMPLE RESULTS REPORT**

Page 2 of 2  
 Report Date: 2/27/13  
 Report Time: 8:46

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
AC21360	Ammonia-Nitrogen CAS: 7804-41-7	<0.100	mg/l		
AC21361	Fecal Coliform	40	col/100ml		
AC21362	Fecal Coliform	625000	mpn/g dry wt.		

**Sample Point: Effluent Composite**  
 Collected: 02/20/2013 Submitted: 02/20/2013

**Sample Point: Effluent Grab**  
 Collected: 02/20/2013 Submitted: 02/20/2013

**Sample Point: Digester 3**  
 Collected: 02/20/2013 Submitted: 02/20/2013

**Data Qualifiers:**  
 B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l  
 D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l  
 G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.  
 H: Sample beyond accepted holding time.  
 J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference,  
 N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure).  
 Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.  
 T: Test temperature fell outside method specified range.  
 Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Start Date/Time	End Date/Time
AC21360	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	02/21/2013 08:00	02/21/2013 14:40
AC21361	Fecal Coliform	SM 9222D-1997	RAC/DM	02/20/2013 14:40	02/22/2013 06:50
AC21362	Fecal Coliform	SM 9221E	LDM	02/21/2013 07:00	02/22/2013 06:50

The results contained in this report are only representative of the sample(s) received.

2220 Redding Road NW • Decatur, Alabama 37001  
 (770) 520-1346 • Fax: (770) 520-0086

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board  
 City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

**ENERSOLV Accredited**  
 through Florida Department of Health (FLH 1078). Some tests included in this report may not be covered by this accreditation.  
 ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing.  
 Tests within the scope of accreditation are indicated by an asterisk (\*).  
 This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated, except in full without the written consent of ENERSOLV Corporation.

**LABORATORY ACCREDITATION BUREAU**  
 Cert# L2239 Testing  
 EPA/ADENI Certification No. 40160



February 27, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC21360	Effluent Composite	2/20/13	05:00	2/20/13
AC21361	Effluent Grab	2/20/13	12:17	2/20/13
AC21362	Digester 3	2/20/13	08:40	2/20/13

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

This cover page and the attached chain-of-custody record(s) are integral parts of your report. ENERSOLV considers this report your official record. This information shall remain in ENERSOLV's active database for a period of one (1) calendar year before archiving. Any replacement of this information after archiving may result in an administrative fee to cover the cost of retrieval.

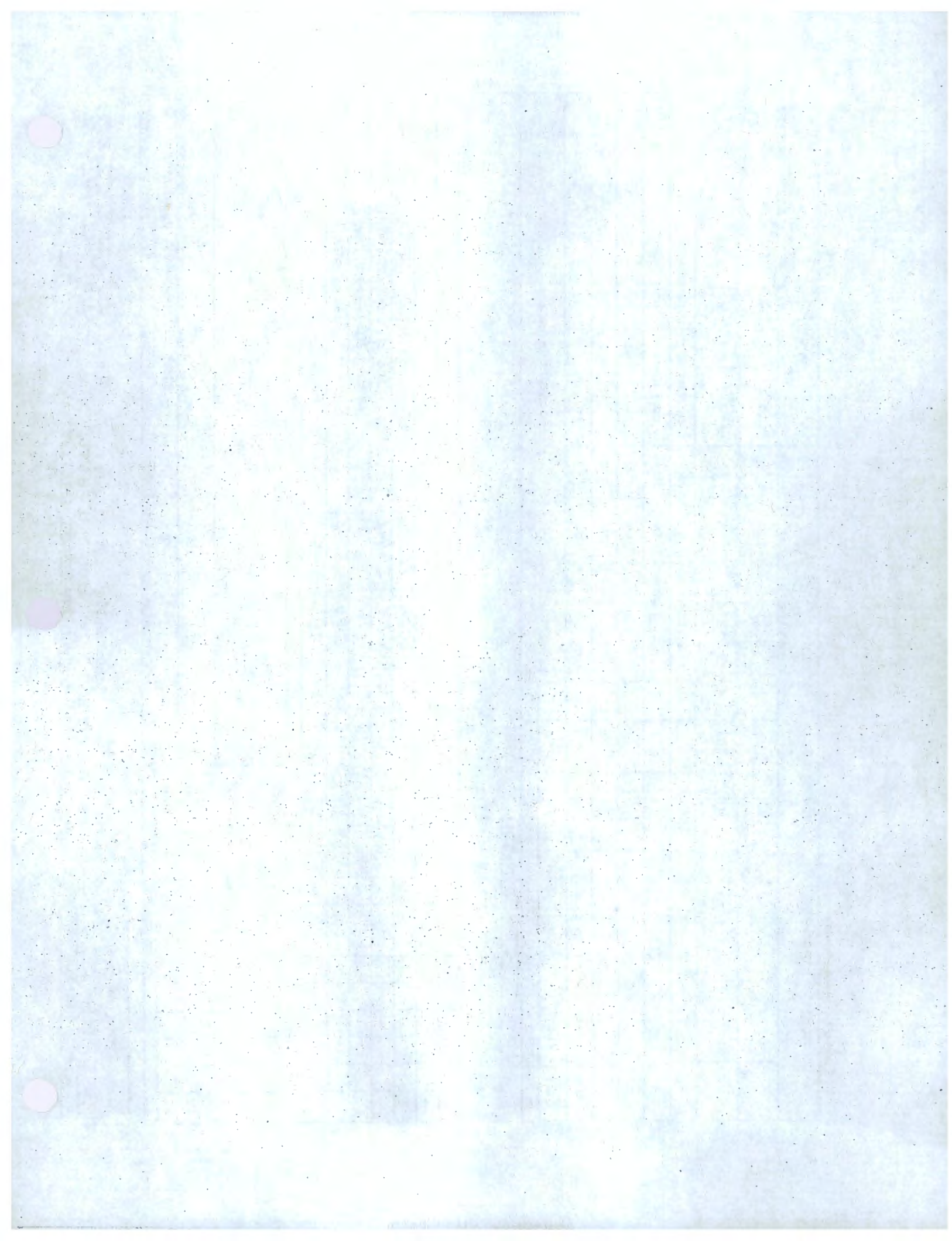
If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton

Karen Sutton  
Vice President Client Services

Page 1 of 2





**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	20834
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison	ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																							
CLIENT POINT OF CONTACT Jeff Taylor	CLIENT PHONE 256-461-0845 ext 115	CLIENT P.O. NUMBER		AMMONIA (3week)	FECAL COLIFORM (3week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR																	
CLIENT ADDRESS 701 Landess Circle	CITY Madison	STATE AL	ZIP CODE 35758																								
SAMPLE COLLECTED BY <i>Chris West</i>	EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																								
ENERSOLV LAB NO.	DESCRIPTION			DATE	TIME	GRAB	COMP																				
<i>AC43102</i>	MADISON-EFFLUENT-COMP			<i>9-11-13</i>	<i>0813</i>		X	X																			
	MADISON-EFFLUENT-COMP						X																				
<i>703</i>	MADISON-EFFLUENT-GRAB			<i>9-11-13</i>	<i>1230</i>	X		X																			
<i>704</i>	MADISON-DIGESTER #2			<i>9-11-13</i>	<i>0810</i>	X							X														

COMMENTS: SAMPLE TEMP. REC'D @ *1.19 C*

Field Information										Qty	Type	Vol.	Preserv.	<2	>12.5	Parameter
										1	Plastic	Pint	H2SO4			NH3, TKN, P
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a		1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Date	<i>9-10-13</i>	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			NO3NO2
Start Time	<i>0600</i>	Time	n/a	Time	n/a	Time	n/a	Time	n/a							
Stop Date	<i>9-11-13</i>	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	<i>0500</i>	SM 4500H+	SM 4500-Cl D	SM 4500-O G	SM 2550B											
RELINQUISHED BY: (SIGNATURE)	<i>Chris West</i>	DATE	<i>9-11-13</i>	TIME	<i>1235</i>	RELINQUISHED BY: (SIGNATURE)	<i>Tom Poser</i>	DATE	<i>9-11-13</i>	TIME	<i>1425</i>	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	
RECEIVED BY: (SIGNATURE)	<i>Tom Poser</i>	DATE	<i>9-11-13</i>	TIME	<i>1235</i>	RECEIVED BY: (SIGNATURE)		DATE		TIME		RECEIVED BY: (SIGNATURE)		DATE	TIME	
RECEIVED FOR LABORATORY USE BY: (SIGNATURE)	<i>Chauk</i>	DATE	<i>9-11-13</i>	TIME	<i>1425</i>	SAMPLE STATUS: <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception										



**SAMPLE RESULTS REPORT**

<b>REPORT TO</b>	ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.	
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758	NELAP Accredited Florida DOH #E871078	EPA/ADEM Certification No. 40160
<small>Tests within the scope of accreditation are indicated by an asterisk (*).          This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.</small>		

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 09/11/2013 Submitted: 09/11/2013

AC43702	* Ammonia-Nitrogen CAS: 7804-11-7	<0.100	mg/l		3.00
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Sample Point: Effluent Grab

Collected: 09/11/2013 Submitted: 09/11/2013

AC43703	Fecal Coliform	<10	colonies/100ml		100
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Sample Point: Digester 2

Collected: 09/11/2013 Submitted: 09/11/2013

AC43704	Fecal Coliform	106000	mpn/g dry wt.		
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- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/L.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/L.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	End Date/Time	End Date/Time
AC43702	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	09/13/2013	07:00		
AC43703	Fecal Coliform	SM 9222D-1997	RAC	09/11/2013	15:00	09/12/2013	13:30
AC43704	Fecal Coliform	SM 9221E	RAC	09/12/2013	06:30	09/13/2013	07:15

The results contained in this report are only representative of the sample(s) received.



September 17, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC43702	Effluent Composite	9/11/13	05:00	9/11/13
AC43703	Effluent Grab	9/11/13	12:30	9/11/13
AC43704	Digester 2	9/11/13	08:10	9/11/13

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

*Karen Sutton*

Karen Sutton  
Vice President Client Services







# SAMPLE RESULTS REPORT

<b>REPORT TO</b>	ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.		
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758	NELAP Accredited Florida DOH #E871078	EPA/ADEM Certification No. 40160	
<small>Tests within the scope of accreditation are indicated by an asterisk (*).          This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.</small>			

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 09/04/2013 Submitted: 09/04/2013

AC42811 \* Ammonia-Nitrogen  
CAS: 7664-41-7

<0.100 mg/l 3:00

Sample Point: Effluent Grab

Collected: 09/04/2013 Submitted: 09/04/2013

AC42812 Fecal Coliform

30 colonies/100ml 100

Sample Point: Digester

Collected: 09/04/2013 Submitted: 09/04/2013

AC42813 Fecal Coliform

69400 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

### Analysis Information

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC42811	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	09/06/2013	08:00		
AC42812	Fecal Coliform	SM 9222D-1997	RAC/LDM	09/04/2013	15:32	09/05/2013	15:20
AC42813	Fecal Coliform	SM 9221E	LDM	09/05/2013	06:55	09/06/2013	06:40

The results contained in this report are only representative of the sample(s) received.



September 11, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC42811	Effluent Composite	9/4/13	05:00	9/4/13
AC42812	Effluent Grab	9/4/13	08:44	9/4/13
AC42813	Digester	9/4/13	08:40	9/4/13

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C.)



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	375425
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES															
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER																
CITY ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																
SAMPLE COLLECTED BY <i>Chris West</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)			DATE DUE (REQUIRED)															
ENERSOLV LAB. NO.	DESCRIPTION				DATE	TIME	GRAB	COMP	AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR					
<i>A42230</i>	MADISON-EFFLUENT-COMP				<i>8-30-13</i>	<i>0820</i>		X	X											
	MADISON-EFFLUENT-COMP							X												
<i>231</i>	MADISON-EFFLUENT-GRAB				<i>8-30-13</i>	<i>1207</i>	X			X										
<i>232</i>	MADISON-DIGESTER #2				<i>8-30-13</i>	<i>0816</i>	X							X						

COMMENTS: SAMPLE TEMP  
REC'D @ *7.6*

Field Information										Qty	Type	Vol.	Preserv.	< 2	> 12.5	Parameter	
										1	Plastic	Pint	H2SO4			NH3, TKN, P	
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform	
Start Date	<i>8-29-13</i>	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			NO3NO2	
Start Time	<i>0600</i>	Time	n/a	Time	n/a	Time	n/a	Time	n/a								
Stop Date	<i>8-30-13</i>	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a								
Stop Time	<i>0500</i>	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B												
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME						
<i>Chris West</i>		<i>8-30-13</i>	<i>1214</i>	<i>Jimmy Sharp</i>		<i>8-30-14</i>	<i>1305</i>										
RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME						
<i>Jimmy Sharp</i>		<i>8-30-13</i>	<i>1214</i>	<i>Chris West</i>		<i>8-30-13</i>	<i>1305</i>										
RECEIVED FOR LABORATORY USE BY: (SIGNATURE)		DATE	TIME	RECEIVED FOR LABORATORY USE BY: (SIGNATURE)		DATE	TIME	RECEIVED FOR LABORATORY USE BY: (SIGNATURE)		DATE	TIME						
<i>Chris West</i>		<i>8-30-13</i>	<i>1305</i>	<i>Chris West</i>		<i>8-30-13</i>	<i>1305</i>										
										SAMPLE STATUS:							
										<input checked="" type="checkbox"/> Accepted		<input type="checkbox"/> Rejected		<input type="checkbox"/> Accepted with Exception			



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

NELAP Accredited  
 Florida DOH  
 #E871078

EPA/ADEM Certification  
 No. 40160

Tests within the scope of accreditation are indicated by an asterisk (\*).

This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 08/30/2013 Submitted: 08/30/2013

AC42230 \* Ammonia-Nitrogen  
 CAS: 7664-41-7

0.335 mg/l 3.00

Sample Point: Effluent Grab

Collected: 08/30/2013 Submitted: 08/30/2013

AC42231 Fecal Coliform

20 colonies/100ml 100

Sample Point: Digester 2

Collected: 08/30/2013 Submitted: 08/30/2013

AC42232 Fecal Coliform

129000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC42230	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	08/31/2013	09:45		
AC42231	Fecal Coliform	SM 9222D-1997	RAC/LDM	08/30/2013	13:43	08/31/2013	13:00
AC42232	Fecal Coliform	SM 9221E	RAC	08/31/2013	06:45	09/01/2013	07:00

The results contained in this report are only representative of the sample(s) received.





September 05, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC42230	Effluent Composite	8/30/13	05:00	8/30/13
AC42231	Effluent Grab	8/30/13	12:07	8/30/13
AC42232	Digester 2	8/30/13	08:16	8/30/13

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	146228		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																	
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER		AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR										
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																		
SAMPLE COLLECTED BY <i>John Law</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																		
ENERSOLV LAB NO. <i>PC 41194</i>	DESCRIPTION				DATE	TIME	GRAB	COMP														
	MADISON-EFFLUENT-COMP				8.21.13	07:54		X	X													
	MADISON-EFFLUENT-COMP							X														
<i>195</i>	MADISON-EFFLUENT-GRAB				8.21.13	12:50	X		X													
<i>196</i>	MADISON-DIGESTER				8.21.13	07:44	X															

COMMENTS: SAMPLE TEMP. REC'D @ *1.6°C*

Field Information										Qty	Type	Vol.	Preserv.	< 2	>12.5	Parameter
										1	Plastic	Pint	H2SO4			A-NH3, TKN, P
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Date	8.20.13	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			NO3NO2
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a							
Stop Date	8.21.13	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	0500	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B											
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	
<i>John Law</i>		8.21.13	12:59	<i>John Law</i>		8.21.13	15:30									
RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	
<i>John Law</i>		8.21.13	12:59													
RECEIVED FOR LABORATORY USE BY: (SIGNATURE)		DATE	TIME	SAMPLE STATUS:												
<i>John Law</i>		8.21.13	15:30	<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception												



**SAMPLE RESULTS REPORT**

<b>REPORT TO</b>		ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.			
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758		NELAP Accredited Florida DOH #E871078	EPA/ADEM Certification No. 40160		
Tests within the scope of accreditation are indicated by an asterisk (*). <i>This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.</i>					
Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit

Sample Point: Effluent Composite

Collected: 08/21/2013

Submitted: 08/21/2013

AC41194 \* Ammonia-Nitrogen  
CAS: 7664-41-7

<0.100 mg/l

3.00

Sample Point: Effluent Grab

Collected: 08/21/2013

Submitted: 08/21/2013

AC41195 Fecal Coliform

10 colonies/100ml

100

Sample Point: Digester

Collected: 08/21/2013

Submitted: 08/21/2013

AC41196 Fecal Coliform

71700 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis Start Date/Time	Analysis End Date/Time	BOD/CBOD/Fecal Analysis End Date/Time
AC41194	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	08/23/2013 08:30		
AC41195	Fecal Coliform	SM 9222D-1997	RAC/LDM	08/21/2013 15:48	08/22/2013 15:30	
AC41196	Fecal Coliform	SM 9221E	LDM	08/22/2013 06:30	08/23/2013 06:10	

The results contained in this report are only representative of the sample(s) received.





August 27, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC41194	Effluent Composite	8/21/13	05:00	8/21/13
AC41195	Effluent Grab	8/21/13	12:50	8/21/13
AC41196	Digester	8/21/13	07:44	8/21/13

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services



**ANALYSIS REQUEST CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	306
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd. City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																					
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER		AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR														
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																						
SAMPLE COLLECTED BY		EXPEDITED REPORT DELIVERY (SURCHARGE)																								
		DATE DUE (REQUIRED)																								
ENERSOLV LAB NO.	SAMPLE (USE ONE LINE PER CONTAINER)				DATE	TIME	GRAB	COMP																		
AC4037	MADISON-EFFLUENT-COMP				8/14/13	0810		X	X																	
	MADISON-EFFLUENT-COMP							X																		
238	MADISON-EFFLUENT-GRAB				8/14/13	1150	X			X																
239	MADISON-DIGESTER				8/14/13	0815	X																			

COMMENTS: SAMPLE TEMP. REC'D @ 2:05

Field Information										Qty	Type	Vol	Preserv.	<2	>12.5	Parameter
Sampler	pH	n/a	TFC	n/a	DO	n/a	Temp	n/a	n/a	1	Plastic	Pint	H2SO4			NH3; TKN; P
Start Date	8-13-13	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a	1	Plastic	Pint	Plain			NO3NO2
Stop Date	8-14-13	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	0500	SM 4500H+	SM 4500-CLD	SM 4500-O G	SM 2550B-											

RELINQUISHED BY: (SIGNATURE) <i>R. Nichols</i>	DATE 8/14/13	TIME 1158	RELINQUISHED BY: (SIGNATURE) <i>Jimmy Sharp</i>	DATE 8-14-13	TIME 1240	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY: (SIGNATURE) <i>Jimmy Sharp</i>	DATE 8-14-13	TIME 1158	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY: (SIGNATURE) <i>Shells</i>	DATE 8/14/13	TIME 1240	SAMPLE STATUS: <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					



**SAMPLE RESULTS REPORT**

<b>REPORT TO</b>			<b>ENERSOLV</b> maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation. <b>ENERSOLV</b> also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (*). <i>This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.</i>		Cert# L2239 Testing EPA/ADEM Certification No. 40160
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758					
Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit

Sample Point: Effluent Composite

Collected: 08/14/2013 Submitted: 08/14/2013

AC40237 \* Ammonia-Nitrogen  
CAS: 7664-41-7 <0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 08/14/2013 Submitted: 08/14/2013

AC40238 Fecal Coliform <10 colonies/100ml 100

Sample Point: Digester

Collected: 08/14/2013 Submitted: 08/14/2013

AC40239 Fecal Coliform 276000 mpn/g dry wt.

- Data Qualifiers:**
- B:** Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D:** Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G:** Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H:** Sample beyond accepted holding time.
  - J:** Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N:** Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q:** One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T:** Test temperature fell outside method specified range.
  - Y:** Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC40237	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	08/15/2013	07:30		
AC40238	Fecal Coliform	SM 9222D-1997	RAC	08/14/2013	13:50	08/15/2013	13:30
AC40239	Fecal Coliform	SM 9221E	RAC	08/14/2013	13:00	08/15/2013	13:10

The results contained in this report are only representative of the sample(s) received.



August 21, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC40237	Effluent Composite	8/14/13	05:00	8/14/13
AC40238	Effluent Grab	8/14/13	11:50	8/14/13
AC40239	Digester	8/14/13	08:15	8/14/13

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	221692
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES															
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER		AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR								
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																
SAMPLE COLLECTED BY <i>Travis Wilson</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																
ENERSOLV LAB NO. AC34540	DESCRIPTION MADISON-EFFLUENT-COMP		DATE 8-7-13	TIME 0829	GRAB	COMP														
	MADISON-EFFLUENT-COMP					X														
541	MADISON-EFFLUENT-GRAB		8-7-13	0828	X		X													
542	MADISON-DIGESTER		8-7-13	0835	X															

COMMENTS: SAMPLE TEMP. REC'D @ 1.6°C

Field Information										Qty	Type	Vol.	Preserv.	<2	>12.5	Parameter
										1	Plastic	Pint	H2SO4			NH3, TKN, P
Sampler	pH su	n/a	TRC mg/l	n/a	DO mg/l	n/a	Temp deg C	n/a	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Date	8/6/13	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			NO3NO2
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a							
Stop Date	8-7-13	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	0500	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B											
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME					
<i>Travis Wilson</i>		8-7-13	1240	<i>Jon Ross</i>		8-7-13	1440									
RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME					
<i>Jon Ross</i>		8-7-13	1240													
RECEIVED FOR LABORATORY USE BY: (SIGNATURE)		DATE	TIME	SAMPLE STATUS:												
<i>Thaib</i>		8-7-13	1440	<input checked="" type="checkbox"/> Accepted		<input type="checkbox"/> Rejected		<input type="checkbox"/> Accepted with Exception								



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



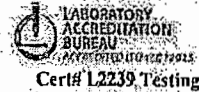
NELAP Accredited  
 Florida DOH  
 #E871078

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Tests within the scope of accreditation are indicated by an asterisk (\*).

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EPA/ADEM Certification  
 No. 40160

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
-----------	--------------	--------	-------	------	------------------

Sample Point: Effluent Composite

Collected: 08/07/2013

Submitted: 08/07/2013

AC39540

\* Ammonia-Nitrogen  
 CAS: 7664-41-7

<0.100

mg/l

3.00

Sample Point: Effluent Grab

Collected: 08/07/2013

Submitted: 08/07/2013

AC39541

Fecal Coliform

10

colonies/100ml

100

Sample Point: Digester

Collected: 08/07/2013

Submitted: 08/07/2013

AC39542

Fecal Coliform

617000

mpn/g dry wt.

**Data Qualifiers:**

- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
- D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
- G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
- H: Sample beyond accepted holding time.
- J: Estimated value-the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
- N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
- Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
- T: Test temperature fell outside method specified range.
- Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC39540	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	08/09/2013	08:30		
AC39541	Fecal Coliform	SM 9222D-1997	RAC/LDM	08/07/2013	15:12	08/08/2013	14:05
AC39542	Fecal Coliform	SM 9221E	LDM	08/08/2013	06:35	08/09/2013	06:35

The results contained in this report are only representative of the sample(s) received.





August 14, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC39540	Effluent Composite	8/7/13	05:00	8/7/13
AC39541	Effluent Grab	8/7/13	08:28	8/7/13
AC39542	Digester	8/7/13	08:35	8/7/13

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services



ANALYSIS REQUEST ) CHAIN OF CUSTODY RECORD  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

GOC NUMBER	268228
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER								
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115	CLIENT P.O. NUMBER									
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758								
SAMPLE COLLECTED BY <i>Chris [Signature]</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)										
		DATE DUE (REQUIRED)										
SAMPLE (USE ONE LINE PER CONTAINER)												
ENERSOLV LAB NO.	DESCRIPTION	DATE	TIME	GRAB	COMP	AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR
<i>AL38546</i>	MADISON-EFFLUENT-COMP	<i>7-31-13</i>	<i>0822</i>		X	X						
	MADISON-EFFLUENT-COMP	<del>7-31-13</del>	<del>0842</del>		X							
<i>597</i>	MADISON-EFFLUENT-GRAB	<i>7-31-13</i>	<i>1130</i>	X		X						
<i>598</i>	MADISON-DIGESTER #2	<i>7-31-13</i>	<i>0818</i>	X								

COMMENTS: SAMPLE TEMP. REC'D @ *1.84*

Field Information										Qty	Type	Vol.	Preserv.	<2	>12.5	Parameter
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	n/a	1	Plastic	Pint	H2SO4			NH3, TKN, P
Start Date	7-30-13	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a							
Stop Date	7-31-13	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							NO3NO2
Stop Time	0500		SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B										
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	
<i>B. McAlister</i>		7/31/13	1131	<i>Jimmy Sharp</i>		7-31-13	1230									
RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	
<i>Jimmy Sharp</i>		7-31-13	1131	<i>[Signature]</i>												
RECEIVED FOR LABORATORY USE BY: (SIGNATURE)		DATE	TIME	SAMPLE STATUS:												
<i>[Signature]</i>		7/31/13	1230	<input checked="" type="checkbox"/> Accepted												
				<input type="checkbox"/> Rejected												
				<input type="checkbox"/> Accepted with Exception												





**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



NELAP Accredited  
 Florida DOH  
 #E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing.

Tests within the scope of accreditation are indicated by an asterisk (\*).

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*



LABORATORY ACCREDITATION BUREAU  
 CERT # L2239 Testing

EPA/ADEM Certification  
 No. 40160

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 07/31/2013 Submitted: 07/31/2013

AC38596 \* Ammonia-Nitrogen  
 CAS: 7664-41-7

<0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 07/31/2013 Submitted: 07/31/2013

AC38597 Fecal Coliform

<10 colonies/100ml 100

Sample Point: Digester 1

Collected: 07/31/2013 Submitted: 07/31/2013

AC38598 Fecal Coliform

36700 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC38596	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	08/01/2013	07:00		
AC38597	Fecal Coliform	SM 9222D-1997	RAC	07/31/2013	14:00	08/01/2013	12:30
AC38598	Fecal Coliform	SM 9221E	RAC	08/01/2013	07:00	08/02/2013	08:15

The results contained in this report are only representative of the sample(s) received.





August 06, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC38596	Effluent Composite	7/31/13	05:00	7/31/13
AC38597	Effluent Grab	7/31/13	11:30	7/31/13
AC38598	Digester 1	7/31/13	08:18	7/31/13

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

This cover page and the attached chain-of-custody record(s) are integral parts of your report. ENERSOLV considers this report your official record. This information shall remain in ENERSOLV's active database for a period of one (1) calendar year before archiving. Any replacement of this information after archiving may result in an administrative fee to cover the cost of retrieval.

If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services





**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	333856
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER	AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR										
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																	
SAMPLE COLLECTED BY <i>Diana Wilson</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)																			
ENERSOLV LAB NO.		DESCRIPTION			DATE	TIME	GRAB	COMP													
1A03463	MADISON-EFFLUENT-COMP			7-24-13	0830		X	X													
	MADISON-EFFLUENT-COMP						X														
964	MADISON-EFFLUENT-GRAB			7-24-13	0829	X		X													
965	MADISON-DIGESTER #3			7-24-13	0825	X															

COMMENTS: *Digester had #4 one label.*

SAMPLE TEMP. REC'D @ *3.8*

Field Information										Qty	Type	Vol.	Preserv.	< 2	>12.5	Parameter				
										1	Plastic	Pint	H2SO4			NH3, TKN, P				
Sampler	pH	su	n/a	TRC	mg/l	n/a	DO	mg/l	n/a	Temp	deg.C	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform	
Start Date	7-23-13	Date	n/a	Date	n/a	Date	n/a	Date	n/a	Date	n/a	n/a	1	Plastic	Pint	Plain			NO3NO2	
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a	Time	n/a	n/a								
Stop Date	7-24-13	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	n/a								
Stop Time	0500	SM 4500H+		SM 4500-CI D		SM 4500-O G		SM 2550B												
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	
<i>Johann Paris</i>		7-24-13	1130	<i>Tom Poon</i>		7-24-13	1315													
RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	
<i>Tom Poon</i>		7-24-13	1130																	
RECEIVED FOR LABORATORY USE BY: (SIGNATURE)		DATE	TIME	SAMPLE STATUS:																
<i>Shane b</i>		7-24-13	1315	<input checked="" type="checkbox"/> Accepted		<input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception														



# SAMPLE RESULTS REPORT

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

NELAP Accredited:  
 Florida DOH  
 #E871078

EPA/ADEM Certification  
 No. 40160

Tests within the scope of accreditation are indicated by an asterisk (\*).  
 This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 07/24/2013 Submitted: 07/24/2013

AC37963	* Ammonia-Nitrogen CAS: 7664-41-7	<0.100	mg/l		3.00
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Sample Point: Effluent Grab

Collected: 07/24/2013 Submitted: 07/24/2013

AC37964	Fecal Coliform	40	colonies/100ml		100
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Sample Point: Digester 3

Collected: 07/24/2013 Submitted: 07/24/2013

AC37965	Fecal Coliform	177000	mpn/g dry wt.		
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- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value; the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

### Analysis Information

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC37963	Ammonia-Nitrogen	SM 4500 NH3-C	DOG/LDM	07/25/2013	08:30		
AC37964	Fecal Coliform	SM 9222D-1997	LDM	07/24/2013	13:55	07/25/2013	13:05
AC37965	Fecal Coliform	SM 9221E	LDM	07/25/2013	06:25	07/26/2013	06:25

The results contained in this report are only representative of the sample(s) received.





July 30, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC37963	Effluent Composite	7/24/13	05:00	7/24/13
AC37964	Effluent Grab	7/24/13	08:29	7/24/13
AC37965	Digester 3	7/24/13	08:25	7/24/13

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)





ANALYSIS REQUEST ..... CHAIN OF CUSTODY RECORD  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	396766
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER	AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR										
CLIENT ADDRESS 701 Landess Circle			CITY Madison	STATE AL	ZIP CODE 35758																
SAMPLE COLLECTED BY <i>Chris West</i>				EXPEDITED REPORT DELIVERY (SURCHARGE)																	
				DATE DUE (REQUIRED)																	
SAMPLE (USE ONE LINE PER CONTAINER)																					
ENERSOLV LAB NO.	DESCRIPTION			DATE	TIME	GRAB	COMP	AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR							
<i>AC37554</i>	MADISON-EFFLUENT-COMP			<i>7-19-13</i>	<i>0805</i>		X	X													
	MADISON-EFFLUENT-COMP						X														
<i>560</i>	MADISON-EFFLUENT-GRAB			<i>7-19-13</i>	<i>1142</i>	X		X													
<i>561</i>	MADISON-DIGESTER #2			<i>7-19-13</i>	<i>1140</i>	X							X								

COMMENTS: SAMPLE TEMP. REC'D @ *2.3°C*

Field Information										Qty	Type	Vol.	Preserv.	<2	>12.5	Parameter	
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	n/a	1	Plastic	Pint	H2SO4			NH3, TKN, P	
Start Date: <i>7-18-13</i>	Date	n/a	Date	n/a	Date	n/a	Date	n/a	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform	
Start Time: <i>0600</i>	Time	n/a	Time	n/a	Time	n/a	Time	n/a	n/a								
Stop Date: <i>7-19-13</i>	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	n/a							NO3NO2	
Stop Time: <i>0500</i>	SM 4500H+	SM 4500-GI D	SM 4500-O G	SM 2550B													

RELINQUISHED BY (SIGNATURE) <i>Chris West</i>	DATE <i>7/19/13</i>	TIME <i>1146</i>	RELINQUISHED BY (SIGNATURE) <i>Ken PK</i>	DATE <i>7/19/13</i>	TIME <i>1250</i>	RELINQUISHED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE) <i>Ken PK</i>	DATE <i>7/19/13</i>	TIME <i>1146</i>	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY (SIGNATURE) <i>Smart</i>	DATE <i>7/19/13</i>	TIME <i>1250</i>	SAMPLE STATUS: <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					



**SAMPLE RESULTS REPORT**

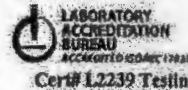
**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



NELAP Accredited  
 Florida DOH  
 #E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*).



EPA/ADEM Certification  
 No. 40160

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Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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**Sample Point: Effluent Composite**

**Collected: 07/19/2013 Submitted: 07/19/2013**

AC37559 \* Ammonia-Nitrogen  
 CAS: 7664-41-7

<0.100 mg/l 3.00

**Sample Point: Effluent Grab**

**Collected: 07/19/2013 Submitted: 07/19/2013**

AC37560 Fecal Coliform

40 colonies/100ml 100

**Sample Point: Digester 2**

**Collected: 07/19/2013 Submitted: 07/19/2013**

AC37561 Specific Oxygen Consumption Rate

1.40 (mg/g)/h (dry wt.)

- Data Qualifiers:**
- B:** Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D:** Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G:** Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H:** Sample beyond accepted holding time.
  - J:** Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N:** Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q:** One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - Y:** Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis Start Date/Time	BOD/CBOD/Fecal Analysis End Date/Time
AC37559	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	07/20/2013 08:00	
AC37560	Fecal Coliform	SM 9222D-1997	RAC/LDM	07/19/2013 13:57	07/20/2013 12:50
AC37561	Specific Oxygen Consumption Rate	SM 2710B	JLP	07/19/2013 13:09	

The results contained in this report are only representative of the sample(s) received.



July 25, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC37559	Effluent Composite	7/19/13	05:00	7/19/13
AC37560	Effluent Grab	7/19/13	11:42	7/19/13
AC37561	Digester 2	7/19/13	11:40	7/19/13

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

William D. Hollerman, Ph.D.  
Vice President Technical Services





**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	142688
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																					
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER		AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR														
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																						
SAMPLE COLLECTED BY: <i>Chris West</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																						
SAMPLE (USE ONE LINE PER CONTAINER)																										
ENERSOLV LAB NO.	DESCRIPTION			DATE	TIME	GRAB	COMP																			
<i>AL3746</i>	MADISON-EFFLUENT-COMP			<i>7-17-13</i>	<i>083</i>		X	X																		
	MADISON-EFFLUENT-COMP						X																			
<i>297</i>	MADISON-EFFLUENT-GRAB			<i>7-17-13</i>	<i>1215</i>	X		X																		
<i>298</i>	MADISON-DIGESTER #2			<i>7-17-13</i>	<i>0808</i>	X					X															

COMMENTS: SAMPLE TEMP. REC'D @ *4:46*

Field Information										Qty	Type	Vol.	Preserv.	<2	>12.5	Parameter	
										1	Plastic	Pint	H2SO4				AMH3, TKN, P
Sampler	pH su	n/a	TRC mg/l	n/a	DO mg/l	n/a	Temp deg C	n/a		1	Plastic	Fecal Cup	Iced	n/a	n/a		Fecal Coliform
Start Date	<i>7-16-13</i>	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain				NO3NO2
Start Time	<i>0600</i>	Time	n/a	Time	n/a	Time	n/a	Time	n/a								
Stop Date	<i>7-17-13</i>	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a								
Stop Time	<i>0500</i>	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B												

RELINQUISHED BY: (SIGNATURE) <i>Chris West</i>	DATE 7-17-13	TIME 1220	RELINQUISHED BY: (SIGNATURE) <i>S. Ross</i>	DATE 7-17-13	TIME 1350	RELINQUISHED BY: (SIGNATURE)	DATE	TIME			
RECEIVED BY: (SIGNATURE) <i>S. Ross</i>	DATE 7-17-13	TIME 1220	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME			
RECEIVED FOR LABORATORY USE BY: (SIGNATURE) <i>J. Hawk</i>	DATE 7-17-13	TIME 1350	SAMPLE STATUS:								
			<input checked="" type="checkbox"/> Accepted			<input type="checkbox"/> Rejected			<input type="checkbox"/> Accepted with Exception		



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

NELAP Accredited  
 Florida DOH  
 #E871078

EPA/ADEM Certification  
 No. 40160

Tests within the scope of accreditation are indicated by an asterisk (\*).  
 This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated, except in full, without the written consent of ENERSOLV Corporation.

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 07/17/2013 Submitted: 07/17/2013

AC37296 \* Ammonia-Nitrogen <0.100 mg/l 3.00  
 CAS: 7664-41-7

Sample Point: Effluent Grab

Collected: 07/17/2013 Submitted: 07/17/2013

AC37297 Fecal Coliform <10 colonies/100ml 100

Sample Point: Digester 2

Collected: 07/17/2013 Submitted: 07/17/2013

AC37298 Fecal Coliform 26600 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure).
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC37296	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	07/19/2013	07:30		
AC37297	Fecal Coliform	SM 9222D-1997	RAC	07/17/2013	14:50	07/18/2013	13:20
AC37298	Fecal Coliform	SM 9221E	RAC	07/18/2013	06:15	07/19/2013	07:45

The results contained in this report are only representative of the sample(s) received.



July 24, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC37296	Effluent Composite	7/17/13	05:00	7/17/13
AC37297	Effluent Grab	7/17/13	12:15	7/17/13
AC37298	Digester 2	7/17/13	08:08	7/17/13

ENERSOLV maintains a quality system compliant with the National Environmental Laboratory Accreditation Program (NELAP) and ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by these quality systems, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

This cover page and the attached chain-of-custody record(s) are integral parts of your report. ENERSOLV considers this report your official record. This information shall remain in ENERSOLV's active database for a period of one (1) calendar year before archiving. Any replacement of this information after archiving may result in an administrative fee to cover the cost of retrieval.

If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

William D. Hollerman, Ph.D.  
Vice President Technical Services



ANALYSIS REQUEST ... CHAIN OF CUSTODY RECORD  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	33207
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																	
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER	AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR											
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																		
SAMPLE COLLECTED BY <i>Johann La</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)																				
ENERSOLV LAB NO. AL30434		SAMPLE (USE ONE LINE PER CONTAINER)																				
	DESCRIPTION	DATE	TIME	GRAB	COMP																	
	MADISON-EFFLUENT-COMP	7-10-13	0822		X	X																
	MADISON-EFFLUENT-COMP				X																	
445	MADISON-EFFLUENT-GRAB	7-10-13	0820	X		X																
446	MADISON-DIGESTER	7-10-13	0824	X																		

COMMENTS: SAMPLE TEMP. REC'D @ 2.4°C

Field Information										Qty	Type	Vol.	Preserv.	<2	>12.5	Parameter
Sampler	pH SU	n/a	TRC mg/l	n/a	DO mg/l	n/a	Temp deg C	n/a		1	Plastic	Pint	H2SO4			NH3, TKN, P
Start Date	7-9-13	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a	1	Plastic	Pint	Plain			NO3NO2
Stop Date	7-10-13	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	0500	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B											

RELINQUISHED BY: (SIGNATURE) <i>Johann La</i>	DATE 7-10-13	TIME 1230	RELINQUISHED BY: (SIGNATURE) <i>Tom Boss</i>	DATE 7-10-13	TIME 1430
RECEIVED BY: (SIGNATURE) <i>Tom Boss</i>	DATE 7-10-13	TIME 1230	RECEIVED BY: (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY: (SIGNATURE) <i>Johann La</i>	DATE 7-10-13	TIME 1430	SAMPLE STATUS: <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception		



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

NELAP Accredited  
 Florida DOH  
 #E871078

EPA/ADEM Certification  
 No. 40160

Tests within the scope of accreditation are indicated by an asterisk (\*).

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
-----------	--------------	--------	-------	------	------------------

Sample Point: Effluent Composite

Collected: 07/10/2013 Submitted: 07/10/2013

AC36494	* Ammonia-Nitrogen CAS: 7664-41-7	<0.100	mg/l		3.00
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Sample Point: Effluent Grab

Collected: 07/10/2013 Submitted: 07/10/2013

AC36495	Fecal Coliform	20	colonies/100ml		100
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Sample Point: Digester

Collected: 07/10/2013 Submitted: 07/10/2013

AC36496	Fecal Coliform	6830	mpn/g dry wt.		
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- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC36494	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	07/12/2013	08:30		
AC36495	Fecal Coliform	SM 9222D-1997	RAC/LDM	07/10/2013	15:00	07/11/2013	14:45
AC36496	Fecal Coliform	SM 9221E	LDM	07/11/2013	08:00	07/12/2013	08:00

The results contained in this report are only representative of the sample(s) received.





July 16, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below.

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC36494	Effluent Composite	7/10/13	05:00	7/10/13
AC36495	Effluent Grab	7/10/13	08:20	7/10/13
AC36496	Digester	7/10/13	08:24	7/10/13

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)





**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 36601  
 (256)-350-0846

COC NUMBER	123648	
PAGE	1	of 1
Tri-Weekly Wastewater		

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES									
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER										
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758	AMMONIA (3week)	FECAL COLIFORM (3week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR			
SAMPLE COLLECTED BY <i>Chris West</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)			DATE DUE (REQUIRED)									
SAMPLE (USE ONE LINE PER CONTAINER)														
ENERSOLV LAB NO.	DESCRIPTION	DATE	TIME	GRAB	COMP	AMMONIA (3week)	FECAL COLIFORM (3week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR		
<i>A135719</i>	MADISON-EFFLUENT-COMP	<i>7-3-13</i>	<i>0757</i>		X	X								
	MADISON-EFFLUENT-COMP				X									
<i>720</i>	MADISON-EFFLUENT-GRAB	<i>7-3-13</i>	<i>1223</i>	X		X								
<i>721</i>	MADISON-DIGESTER #2	<i>7-3-13</i>	<i>0755</i>	X						X				
<i>722</i>	MADISON Digester #2	<i>7-3-13</i>	<i>1220</i>								X			

COMMENTS:

SAMPLE TEMP.  
REC'D @ *7:14*

Field Information									Qty	Type	Vol.	Preserv.	< 2	>12.5	Parameter
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	1	Plastic	Pint	H2SO4	n/a	n/a	A NH3, TKN, P
Start Date	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	Time	n/a	Time	n/a	Time	n/a	Time	n/a	1	Plastic	Pint	Plain			NO3NO2
Stop Date	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	<i>0500</i>	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B										
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME							
<i>Chris West</i>	<i>7/3/13</i>	<i>1227</i>	<i>John RC</i>	<i>7/3/13</i>	<i>1315</i>										
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME							
<i>John RC</i>	<i>7/3/13</i>	<i>1227</i>													
RECEIVED FOR LABORATORY USE BY: (SIGNATURE)	DATE	TIME	SAMPLE STATUS:												
<i>Shan</i>	<i>7-3-13</i>	<i>1315</i>	<input checked="" type="checkbox"/> Accepted			<input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception									



# SAMPLE RESULTS REPORT

<b>REPORT TO</b>			ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation. ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (*). <i>This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.</i>		EPA/ADEM Certification No. 40160
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758					
Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit

Sample Point: Effluent Composite

Collected: 07/03/2013 Submitted: 07/03/2013

AC35719 \* Ammonia-Nitrogen  
CAS: 7664-41-7

<0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 07/03/2013 Submitted: 07/03/2013

AC35720 Fecal Coliform

40 colonies/100ml 100

Sample Point: Digester 2

Collected: 07/03/2013 Submitted: 07/03/2013

AC35721 Fecal Coliform

21600 mpn/g dry wt.

Sample Point: Digester 2

Collected: 07/03/2013 Submitted: 07/03/2013

AC35722 Specific Oxygen Consumption Rate

6.77 (mg/g)/h (dry wt.)

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met; i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

### Analysis Information

Sample ID	Analysis	Method	Analyst	Analysis Start Date/Time	Analysis End Date/Time	BOD/CBOD/Fecal Analysis End Date/Time
AC35719	Ammonia-Nitrogen	SM 4500-NH3-C	RAC	07/05/2013 07:00		
AC35720	Fecal Coliform	SM 9222D-1997	RAC	07/03/2013 14:30		07/04/2013 13:30
AC35721	Fecal Coliform	SM 9221E	RAC	07/04/2013 06:00		07/05/2013 06:45
AC35722	Specific Oxygen Consumption Rate	SM 2710B	JLP	07/03/2013 13:25		

The results contained in this report are only representative of the sample(s) received.





July 10, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC35719	Effluent Composite	7/3/13	05:00	7/3/13
AC35720	Effluent Grab	7/3/13	12:23	7/3/13
AC35721	Digester 2	7/3/13	07:55	7/3/13
AC35722	Digester 2	7/3/13	12:20	7/3/13

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	107043
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER								
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115	CLIENT P.O. NUMBER									
CLIENT ADDRESS 701 Bandess Circle		CITY Madison	STATE AL	ZIP CODE 35758								
SAMPLE COLLECTED BY <i>Johann Paris</i>		EXPEDITED REPORT DELIVERY (SURCHARGE) DATE DUE (REQUIRED)										
ENERSOLV LAB NO. <i>AC34970</i>	SAMPLE (USE ONE LINE PER CONTAINER)											
	DESCRIPTION	DATE	TIME	GRAB	COMP	AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR
	MADISON-EFFLUENT-COMP	6/26/13	0845		X	X						
	MADISON-EFFLUENT-COMP				X							
<i>Q-71</i>	MADISON-EFFLUENT-GRAB	6/26/13	0847	X		X						
<i>Q-72</i>	MADISON-DIGESTER	6/26/13	0840	X								

COMMENTS: SAMPLE TEMP.  
REC'D @ *3:40*

Field Information									Qty	Type	Vol.	Preserv.	<2	>12.5	Parameter		
Sampler	pH	su	n/a	TRC	mg/l	n/a	DO	mg/l	n/a	Temp	deg C	n/a	1	Plastic	Pint	H2SO4	NH3, TKN, P
Start Date	6/26/13	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform	
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a	1	Plastic	Pint	Plain			NO3NO2	
Stop Date	6/26/13	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a								
Stop Time	0500	SM 4500H+	SM 4500-C/D	SM 4500-O/G	SM 2550B												

RELINQUISHED BY: (SIGNATURE) <i>Johann Paris</i>	DATE 6/26/13	TIME 1400	RELINQUISHED BY: (SIGNATURE) <i>Jon Pos</i>	DATE 6/26/13	TIME 1450
RECEIVED BY: (SIGNATURE) <i>Jon Pos</i>	DATE 6/26/13	TIME 1400	RECEIVED BY: (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY: (SIGNATURE) <i>Charles</i>	DATE 6/26/13	TIME 1450	SAMPLE STATUS: <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception		



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

NELAP Accredited  
 Florida DOH  
 #E871078

EPA/ADEM Certification  
 No. 49160

Tests within the scope of accreditation are indicated by an asterisk (\*).

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 06/26/2013 Submitted: 06/26/2013

AC34970 \* Ammonia-Nitrogen  
 CAS: 7664-41-7

<0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 06/26/2013 Submitted: 06/26/2013

AC34971 Fecal Coliform

20 colonies/100ml 100

Sample Point: Digester

Collected: 06/26/2013 Submitted: 06/26/2013

AC34972 Fecal Coliform

39400 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC34970	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	06/27/2013	09:30		
AC34971	Fecal Coliform	SM 9222D-1997	RAC/LDM	06/26/2013	15:32	06/27/2013	15:05
AC34972	Fecal Coliform	SM 9221E	LDM	06/27/2013	07:10	06/28/2013	07:10

The results contained in this report are only representative of the sample(s) received.



July 02, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC34970	Effluent Composite	6/26/13	05:00	6/26/13
AC34971	Effluent Grab	6/26/13	08:47	6/26/13
AC34972	Digester	6/26/13	08:40	6/26/13

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice-President Client Services



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	17726
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2585	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES									
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER		AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR		
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758										
SAMPLE COLLECTED BY		EXPEDITED REPORT DELIVERY (SURCHARGE)			DATE DUE (REQUIRED)									
ENERSOLV LAB NO.	DESCRIPTION			DATE	TIME	GRAB	COMP							
AC34289	MADISON-EFFLUENT-COMP			6/19/13	0815		X	X						
	MADISON-EFFLUENT-COMP						X							
290	MADISON-EFFLUENT-GRAB			6/19/13	1214	X		X						
291	MADISON-DIGESTER #2			6/19/13	0810	X								

**COMMENTS:** Received a NO3NO2 Bottle instead of NH3 Bottle REC'D @ 5.1° SAMPLE TEMP.

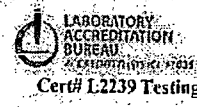
Field Information									Qty	Type	Vol.	Preserv.	<2	>12.5	Parameter
									1	Plastic	Pint	H2SO4			NH3, TKN, P
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Date	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			NO3NO2
Start Time	Time	n/a	Time	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								

RELINQUISHED BY: (SIGNATURE) <i>S. Neal</i>	DATE 6/19/13	TIME 1234	RELINQUISHED BY: (SIGNATURE) <i>Tom Ross</i>	DATE 6/19/13	TIME 1405	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY: (SIGNATURE) <i>Tom Ross</i>	DATE 6/19/13	TIME 1234	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY: (SIGNATURE) <i>Sharis</i>	DATE 6/19/13	TIME 1405	SAMPLE STATUS: <input type="checkbox"/> Rejected <input checked="" type="checkbox"/> Accepted with Exception					



**SAMPLE RESULTS REPORT**

<b>REPORT TO</b>			ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation. ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (*).		EPA/ADEM Certification No. 40160
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758					
<b>Sample ID</b>	<b>Analyte Name</b>	<b>Result</b>	<b>Units</b>	<b>Qual</b>	<b>Regulatory Limit</b>



NELAP Accredited Florida DOH #E871078

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*).

EPA/ADEM Certification No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

**Sample Point: Effluent Composite**

**Collected: 06/19/2013 Submitted: 06/19/2013**

AC34289 \* Ammonia-Nitrogen <0.100 mg/l Y 3.00  
 CAS: 7664-41-7

**Sample Point: Effluent Grab**

**Collected: 06/19/2013 Submitted: 06/19/2013**

AC34290 Fecal Coliform 180 colonies/100ml 100

**Sample Point: Digester 2**

**Collected: 06/19/2013 Submitted: 06/19/2013**

AC34291 Fecal Coliform 109000 mpn/g dry wt.

- Data Qualifiers:**
- B:** Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D:** Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G:** Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H:** Sample beyond accepted holding time.
  - J:** Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N:** Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q:** One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T:** Test temperature fell outside method specified range.
  - Y:** Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC34289	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	06/21/2013	07:30		
AC34290	Fecal Coliform	SM 9222D-1997	RAC	06/19/2013	14:35	06/20/2013	12:35
AC34291	Fecal Coliform	SM 9221E	RAC	06/20/2013	06:15	06/21/2013	07:00

The results contained in this report are only representative of the sample(s) received.



June 25, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC34289	Effluent Composite	6/19/13	08:15	6/19/13
AC34290	Effluent Grab	6/19/13	12:14	6/19/13
AC34291	Digester 2	6/19/13	08:10	6/19/13

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

This cover page and the attached chain-of-custody record(s) are integral parts of your report. ENERSOLV considers this report your official record. This information shall remain in ENERSOLV's active database for a period of one (1) calendar year before archiving. Any replacement of this information after archiving may result in an administrative fee to cover the cost of retrieval.

If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)



**ANALYSIS REQUEST | CHAIN OF CUSTODY RECORD**  
**2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601**  
**(256)-350-0846**

COC NUMBER	27
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																							
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER	AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR																	
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																								
SAMPLE COLLECTED BY Johann Paris		EXPEDITED REPORT DELIVERY (SURCHARGE)																										
ENERSOLV LAB NO. H23553		DESCRIPTION MADISON-EFFLUENT-COMP			DATE 6.12.13	TIME 0818	GRAB	COMP																				
		MADISON-EFFLUENT-COMP						X																				
554		MADISON-EFFLUENT-GRAB			6.12.13	0820	X		X																			
555		MADISON-DIGESTER			6.12.13	0805	X																					

COMMENTS: SAMPLE TEMP. REC'D @ 19.4

Field Information										Qty	Type	Vol.	Preserv.	< 2	> 12.5	Parameter
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Date	6.11.13	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			NO3NO2
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a							
Stop Date	6.12.13	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	0500	SM 4500H+	SM 4500-Cl D	SM 4500-O G	SM 2550B											

RELINQUISHED BY: (SIGNATURE) Johann Paris	DATE 6.12.13	TIME 1308	RELINQUISHED BY: (SIGNATURE) Tom Pon	DATE 6.12.13	TIME 1400
RECEIVED BY: (SIGNATURE) Tom Pon	DATE 6.12.13	TIME 1308	RECEIVED BY: (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY: (SIGNATURE) Jmaub	DATE 6.12.13	TIME 1400	SAMPLE STATUS: <input checked="" type="checkbox"/> Accepted	<input type="checkbox"/> Rejected	<input type="checkbox"/> Accepted with Exception





**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

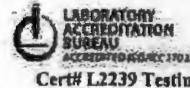


NELAP Accredited  
 Florida DOH  
 #E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing.

Tests within the scope of accreditation are indicated by an asterisk (\*)



EPA/ADEM Certification  
 No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 06/12/2013 Submitted: 06/12/2013

AC33553 \* Ammonia-Nitrogen  
 CAS: 7664-41-7

<0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 06/12/2013 Submitted: 06/12/2013

AC33554 Fecal Coliform

10 colonies/100ml 100

Sample Point: Digester

Collected: 06/12/2013 Submitted: 06/12/2013

AC33555 Fecal Coliform

138000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis Start Date/Time	BOD/CBOD/Fecal Analysis End Date/Time
AC33553	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	06/14/2013 08:00	
AC33554	Fecal Coliform	SM 9222D-1997	RAC/LDM	06/12/2013 15:00	06/13/2013 15:00
AC33555	Fecal Coliform	SM 9221E	LDM	06/13/2013 06:45	06/14/2013 06:45

The results contained in this report are only representative of the sample(s) received.



June 18, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC33553	Effluent Composite	6/12/13	05:00	6/12/13
AC33554	Effluent Grab	6/12/13	08:20	6/12/13
AC33555	Digester	6/12/13	08:05	6/12/13

*ENERSOLV* maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by *ENERSOLV* are covered by this quality system, all tests have been conducted in accordance with *ENERSOLV* Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

*Karen Sutton*

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	67989
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER								
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115	CLIENT P.O. NUMBER									
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758								
SAMPLE COLLECTED BY		EXPEDITED REPORT DELIVERY (SURCHARGE) DATE DUE (REQUIRED)										
SAMPLE (USE ONE LINE PER CONTAINER)												
ENERSOLV LAB NO	DESCRIPTION	DATE	TIME	GRAB	COMP	AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR
AC 20529	MADISON-EFFLUENT-COMP	2-13-13	0815		X	X						
	MADISON-EFFLUENT-COMP				X							
530	MADISON-EFFLUENT-GRAB	2-13-13	1335	X			X					
531	MADISON-DIGESTER	2-13-13	0810	X								

COMMENTS: SAMPLE TEMP. REC'D @ 5.5°

Field Information									Qty	Type	Vol.	Preserv.	<2	>12:5	Parameter	
Sample	pH	su	n/a	TRC	mg/l	n/a	DO	mg/l	n/a	Temp	deg C	n/a	n/a	n/a	n/a	NH3, TKN, P
Start Date	Date	n/a	Date	n/a	Date	n/a	Date	n/a	Date	n/a	Date	n/a	n/a	n/a	n/a	Fecal Coliform
Start Time	Time	n/a	Time	n/a	Time	n/a	Time	n/a	Time	n/a	Time	n/a	n/a	n/a	n/a	NO3NO2
Stop Date	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	n/a	n/a	n/a	
Stop Time	SM 4500H+		SM 4500-ClO		SM 4500-O.G		SM 2550B									

RECEIVED BY (SIGNATURE) <i>B. McCulley</i>	DATE 2-13-13	TIME 1334	RECEIVED BY (SIGNATURE) <i>Tracy H. Taylor</i>	DATE 2-13-13	TIME 1412	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE) <i>Tracy H. Taylor</i>	DATE 2-13-13	TIME 1334	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED BY OR LABORATORY USE BY (SIGNATURE) <i>Shanels</i>	DATE 2/13/13	TIME 1412	SAMPLE STATUS					
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**SAMPLE RESULTS REPORT**

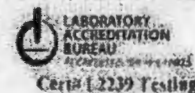
REPORT TO
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758



ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in I-A-B Certificate #L2239 Testing.

Tests within the scope of accreditation are indicated by an asterisk (\*)



EPA/ADAM Certification No. 48160

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Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 02/13/2013 Submitted: 02/13/2013

AC20529 \* Ammonia-Nitrogen  
CAS 7664-41-7 0.116 mg/l 3.00

Sample Point: Effluent Grab

Collected: 02/13/2013 Submitted: 02/13/2013

AC20530 Fecal Coliform 60 colonies/100ml 100

Sample Point: Digester

Collected: 02/13/2013 Submitted: 02/13/2013

AC20531 Fecal Coliform 321000 mpn/g dry wt.

- Data Qualifiers:
- B: Estimated BOD/CBOD value or final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC20529	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	02/14/2013	08:00		
AC20530	Fecal Coliform	SM 9222D-1997	RAC	02/13/2013	14:30	02/14/2013	14:35
AC20531	Fecal Coliform	SM 9221E	RAC	02/14/2013	06:00	02/15/2013	06:30

The results contained in this report are only representative of the sample(s) received.



February 20, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC20529	Effluent Composite	2/13/13	08:15	2/13/13
AC20530	Effluent Grab	2/13/13	13:35	2/13/13
AC20531	Digester	2/13/13	08:10	2/13/13

ENERSOLV maintains a quality system compliant with the National Environmental Laboratory Accreditation Program (NELAP) and ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by these quality systems, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

William D. Hollerman, Ph.D.  
Vice President Technical Services

Page 1 of 2  
(Excluding C.O.C.)





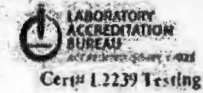
**SAMPLE RESULTS REPORT**

REPORT TO	
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758	



ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*)



EPA/ADEM Certification No. 40160

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Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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- Data Qualifiers:**
- B:** Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D:** Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G:** Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H:** Sample beyond accepted holding time.
  - J:** Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N:** Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q:** One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T:** Test temperature fell outside method specified range.
  - Y:** Analysis performed from improperly preserved sample.


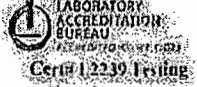

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC19937	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	02/11/2013	09:30		
AC19937	Nitrate plus Nitrite-Nitrogen	EPA 300.0	DJN	02/08/2013	16:29		
AC19937	Nitrate-Nitrogen	EPA 300.0	DJN	02/08/2013	16:29		
AC19937	Nitrite-Nitrogen	EPA 300.0	DJN	02/08/2013	16:29		
AC19937	Total Kjeldahl Nitrogen	SM 4500-Norg C	LDM	02/11/2013	06:00		
AC19937	Total Phosphorus	EPA 365.3	SH	02/12/2013	09:00		
AC19938	Fecal Coliform	SM 9222D-1997	LDM	02/08/2013	13:35	02/09/2013	13:35
AC19939	Fecal Coliform	SM 9221E	LDM / WD	02/08/2013	13:30	02/09/2013	13:45

The results contained in this report are only representative of the sample(s) received.



**SAMPLE RESULTS REPORT**

<b>REPORT TO</b>		 NELAP Accredited Florida DOH #E871078	EVERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation. EVERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (*). <small>This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of EVERSOLV Corporation.</small>	 LABORATORY ACCREDITATION BUREAU #L2239 Testing	 EPA/ADEM Certification No. 40160
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758					
Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit

**Sample Point: Effluent Composite**

Collected: 02/08/2013

Submitted: 02/08/2013

AC19937	* Ammonia-Nitrogen CAS: 7664-41-7	<0.100	mg/l		3.00
AC19937	Nitrite-Nitrogen	<0.15	mg/l		
AC19937	Nitrate-Nitrogen CAS: 7697-37-2	11.0	mg/l		
AC19937	Nitrate plus Nitrite-Nitrogen	11	mg/l		
AC19937	* Total Phosphorus CAS: 7723-14-0	1.14	mg/l		
AC19937	* Total Kjeldahl Nitrogen	2.25	mg/l		

**Sample Point: Effluent Grab**

Collected: 02/08/2013

Submitted: 02/08/2013

AC19938	Fecal Coliform	10	colonies/100ml		100
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**Sample Point: Digester 1**

Collected: 02/08/2013

Submitted: 02/08/2013

AC19939	Fecal Coliform	258000	mpn/g dry wt.		
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February 15, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC19937	Effluent Composite	2/8/13	05:00	2/8/13
AC19938	Effluent Grab	2/8/13	08:35	2/8/13
AC19939	Digester 1	2/8/13	12:07	2/8/13

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services



ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	140734
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd. City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES										
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext. 115		CLIENT P.O. NUMBER											
CLIENT ADDRESS 701 Landess Circle			CITY Madison	STATE AL	ZIP CODE 35758										
SAMPLE COLLECTED BY		EXPEDITED REPORT/DELIVERY (SURCHARGE)													
		DATE DUE (REQUIRED)													
ENERSOLV LAB NO.		SAMPLE (USE ONE LINE PER CONTAINER)													
		DESCRIPTION	DATE	TIME	GRAB	COMP	AMMONIA (3week)	FECAL COLIFORM (3week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR		
AC19719		MADISON-EFFLUENT-COMP	2/6/13	0805		X	X								
		MADISON-EFFLUENT-COMP				X									
1720		MADISON-EFFLUENT-GRAB	2/6/13	1202	X			X							
781		MADISON-DIGESTER #4	2/6/13	0800	X							X			

COMMENTS: SAMPLE TEMP. REC'D @ 1:45

Field Information									Qty	Type	Vol.	Preserv	<2	>12/5	Parameter
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	1	Plastic	Pint	H2SO4			Ammonia, TKN, P
Start Date	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	Time	n/a	Time	n/a	Time	n/a	Time	n/a	1	Plastic	Pint	Plain			NO3NO2
Stop Date	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	SM 4500H+		SM 4500-ClD		SM 4500-O-G		SM 2550B								

RELINQUISHED BY (SIGNATURE) B. McCall	DATE 2/6/13	TIME 1205	RELINQUISHED BY (SIGNATURE) Jon Pos...	DATE 2-6-13	TIME 1335	RELINQUISHED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE) Jon Pos...	DATE 2-6-13	TIME 1305	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY (SIGNATURE) Denav...	DATE 2-6-13	TIME 1305	SAMPLE STATUS: <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					



**SAMPLE RESULTS REPORT**

<b>REPORT TO</b>		 Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (FDH) #E871078. Some tests included in this report may not be covered by this accreditation.	
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758		 Florida DOH #E871078 NELAP Accredited ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #12239 Testing. Tests within the scope of accreditation are indicated by an asterisk (*) This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.	
Sample ID	Analyte Name	Result	Units

**Sample Point: Effluent Composite**

AC19719 \*Ammonia-Nitrogen  
 CAS: 7664-41-7

**Sample Point: Effluent Grab**

AC19720 Fecal Coliform

**Sample Point: Digester 4**

AC19721 Fecal Coliform

Collected: 02/06/2013 Submitted: 02/06/2013

<0.100 mg/l 3.00

Collected: 02/06/2013 Submitted: 02/06/2013

<10 colonies/100ml 100

Collected: 02/06/2013 Submitted: 02/06/2013

223000 mpn/g dry wt.

**Data Qualifiers:**

- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
- D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
- G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
- H: Sample beyond accepted holding time.
- J: Estimated value- the analyte was positively identified; the quantization is an estimation (e.g. matrix-interference, outside calibration range).
- N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
- Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
- T: Test temperature fell outside method specified range.
- Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis Start Date/Time	BOD/CBOD/Fecal Analysis End Date/Time
AC19719	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	02/08/2013 08:30	
AC19720	Fecal Coliform	SM 9222D-1997	RACADM	02/06/2013 14:15	02/07/2013 14:15
AC19721	Fecal Coliform	SM 9221E	LDM	02/07/2013 06:50	02/08/2013 07:00

The results contained in this report are only representative of the sample(s) received.



February 14, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC19719	Effluent Composite	2/6/13	08:05	2/6/13
AC19720	Effluent Grab	2/6/13	12:02	2/6/13
AC19721	Digester 4	2/6/13	08:00	2/6/13

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

This cover page and the attached chain-of-custody record(s) are integral parts of your report. ENERSOLV considers this report your official record. This information shall remain in ENERSOLV's active database for a period of one (1) calendar year before archiving. Any replacement of this information after archiving may result in an administrative fee to cover the cost of retrieval.

If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

*Karen Sutton*

Karen Sutton  
Vice President Client Services

Page 1 of 2



ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	230423
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES										
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER											
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758											
SAMPLE COLLECTED BY <i>Chris West</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)													
		DATE DUE (REQUIRED)													
ENERSOLV LAB NO.		DESCRIPTION			DATE	TIME	GRAB	COMP	AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P.T. (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR
<i>AC10019</i>		MADISON-EFFLUENT-COMP			<i>1-30-13</i>	<i>0815</i>		X	X						
		MADISON-EFFLUENT-COMP						X							
<i>020</i>		MADISON-EFFLUENT-GRAB			<i>1-30-13</i>	<i>1246</i>	X		X						
<i>021</i>		MADISON-DIGESTER #4			<i>1-30-13</i>	<i>0813</i>	X							X	

COMMENTS: *Received a fecal container*

SAMPLE TEMP. REC'D @ *71°*

Field Information										Qty	Type	Vol	Preserv.	< 2	> 12.5	Parameter
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	n/a	4	Plastic	Pint	H2SO4			NH3, TKN, P
Start Date	Date	n/a	Date	n/a	Date	n/a	Date	n/a	n/a	4	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	Time	n/a	Time	n/a	Time	n/a	Time	n/a	n/a							
Stop Date	Date	n/a	Date	n/a	Date	n/a	Date	n/a	n/a							NO3NO2
Stop Time	Time	n/a	Time	n/a	Time	n/a	Time	n/a	n/a							
SM 4500i+	SM 4500-ClO	SM 4500-OR	SM 2550B													

RELINQUISHED BY (SIGNATURE) <i>Chris West</i>	DATE 1-30-13	TIME 1244	RELINQUISHED BY (SIGNATURE) <i>Tom Posa</i>	DATE 1-30-13	TIME 1410	RELINQUISHED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE) <i>So. Bond</i>	DATE 1-30-13	TIME 1244	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED FOR (LABORATORY USE BY) (SIGNATURE) <i>Shank</i>	DATE 1-30-13	TIME 1410	SAMPLE STATUS <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



NELAP Accredited  
 Florida DOH  
 #E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*)



LABORATORY ACCREDITATION BUREAU  
 #E871078  
 Cert# L2239 Testing

EPA/ADEN Certification  
 No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 01/30/2013 Submitted: 01/30/2013

AC18819 \*Ammonia-Nitrogen  
 CAS: 7664-41-7

<0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 01/30/2013 Submitted: 01/30/2013

AC18820 Fecal Coliform

<10 colonies/100ml 100

Sample Point: Digester 4

Collected: 01/30/2013 Submitted: 01/30/2013

AC18821 Fecal Coliform

101000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC18819	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	01/31/2013	08:00		
AC18820	Fecal Coliform	SM 9222D-1997	RAC	01/30/2013	13:40	01/31/2013	12:50
AC18821	Fecal Coliform	SM 9221E	RAC/JW	01/31/2013	08:10	02/01/2013	09:00

The results contained in this report are only representative of the sample(s) received.



February 06, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC18819	Effluent Composite	1/30/13	05:00	1/30/13
AC18820	Effluent Grab	1/30/13	12:40	1/30/13
AC18821	Digester 4	1/30/13	08:13	1/30/13

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

  
Karen Sutton  
Vice President Client Services



ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

QC NUMBER	124716
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES															
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext. 115		CLIENT P.O. NUMBER																
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																
SAMPLE COLLECTED BY <i>John P. ...</i>		EXPEDITED REPORT DELIVERY (SURCHARGE) DATE DUE (REQUIRED)																		
ENERSOLV LAB NO.	DESCRIPTION				DATE	TIME	GRAB	COMP	AMMONIA (3week)	FECAL COLIFORM (3week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR					
118345	MADISON-EFFLUENT-COMP				1-25-13	0920		X	X											
	MADISON-EFFLUENT-COMP							X												
118346	MADISON-EFFLUENT GRAB				1-25-13	0936	X		X											
347	MADISON-DIGESTER				1-25-13	0910	X													
COMMENTS:																				
SAMPLE TEMP. REC'D @ 5.8C																				
Field Information										Qty	Type	Vol.	Preserv	<2	>12.5	Parameter				
Sampler	pH	su	n/a	TRC	mp/l	n/a	DO	mg/l	n/a	Temp	deg C	n/a	1	Plastic	Pint	H2SO4			NH3, TKN, P	
Start Date	1-24-13	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Fecal Cup	1cad	n/a	n/a				Fecal Coliform	
Start Time	0601	Time	n/a	Time	n/a	Time	n/a	Time	n/a	1	Plastic	Pint	Plain						NO3NO2	
Stop Date	1-25-13	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a											
Stop Time	0508	SM 4500H+		SM 4500 C/D		SM 4500 O/G		SM 2550B												
RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME					
<i>John P. ...</i>		1-25-13	11:58	<i>[Signature]</i>		1-25-13	1245	<i>[Signature]</i>				<i>[Signature]</i>								
RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME					
<i>[Signature]</i>		1-25-13	11:58	<i>[Signature]</i>				<i>[Signature]</i>				<i>[Signature]</i>								
RECEIVED FOR LABORATORY USE BY (SIGNATURE)		DATE	TIME	RECEIVED FOR LABORATORY USE BY (SIGNATURE)		DATE	TIME	RECEIVED FOR LABORATORY USE BY (SIGNATURE)		DATE	TIME	RECEIVED FOR LABORATORY USE BY (SIGNATURE)		DATE	TIME					
<i>[Signature]</i>		1-25-13	1245	<i>[Signature]</i>				<i>[Signature]</i>				<i>[Signature]</i>								
<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception																				





**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



NELAP Accredited  
 Florida DOI#  
 #E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*).



LABORATORY ACCREDITATION BUREAU  
 ACCREDITED TO ISO/IEC 17025  
 Cert# L2239 Testing

EPA/ADEM Certification  
 No. 40160

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Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
-----------	--------------	--------	-------	------	------------------

Sample Point: Effluent Composite

Collected: 01/25/2013 Submitted: 01/25/2013

AC18345 \* Ammonia-Nitrogen  
 CAS: 7664-41-7

<0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 01/25/2013 Submitted: 01/25/2013

AC18346 Fecal Coliform

<10 colonies/100ml 100

Sample Point: Digester

Collected: 01/25/2013 Submitted: 01/25/2013

AC18347 Fecal Coliform

195000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC18345	Ammonia-Nitrogen	SM 4500-NH3-C	RAC	01/26/2013	06:30		
AC18346	Fecal Coliform	SM 9222D-1997	RAC	01/25/2013	13:45	01/26/2013	12:00
AC18347	Fecal Coliform	SM 9221E	RAC	01/25/2013	13:00	01/26/2013	13:15

The results contained in this report are only representative of the sample(s) received.



January 31, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC18345	Effluent Composite	1/25/13	05:00	1/25/13
AC18346	Effluent Grab	1/25/13	09:30	1/25/13
AC18347	Digester	1/25/13	09:10	1/25/13

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services



ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256) 350-0846

COC NUMBER	127410
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER		REQUIRED ANALYSES															
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER		AMMONIA (3week)	FECAL COLIFORM (3week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR									
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																	
SAMPLE COLLECTED BY <i>Chris West</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																	
ENERSOLV LAB NO		DESCRIPTION		DATE	TIME								GRAB	COMP							
407		MADISON-EFFLUENT-COMP		1-16-13	0813		X	X													
408		MADISON-EFFLUENT-COMP					X														
408		MADISON-EFFLUENT-GRAB		1-16-13	1040	X		X													
408		MADISON-DIGESTER #3		1-16-13	8:09AM	X					X										
COMMENTS:																					
SAMPLE TEMP. REC'D @ 1.4 <sup>u</sup>																					
Field Information										Qty	Type	Vol.	Preserv.	<2	>12.5	Parameter					
										1	Plastic	Pint	H2SO4			NH3, TKN, P					
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform					
Start Date	1-15-13	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			NO3NO2					
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a												
Stop Date	1-16-13	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a												
Stop Time	0900	SM 4500H+	SM 4500-C/D	SM 4500-O/G	SM 2550B																
RELEASING BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME	RELINQUISHED BY (SIGNATURE)		DATE	TIME										
<i>Chris West</i>		1-16-13	1109	<i>Tom Bond</i>		1-16-13	1405														
RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME	RECEIVED BY (SIGNATURE)		DATE	TIME										
<i>Tom Bond</i>		1-16-13	1109																		
RECEIVED FOR LABORATORY TEST BY (SIGNATURE)		DATE	TIME	SAMPLE STATUS																	
<i>Chris West</i>		1-16-13	1405	Accepted																	
<input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception																					



Report Date: 1/22/13  
Report Time: 11:38

**SAMPLE RESULTS REPORT**

**REPORT TO**  
Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.  
ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*).  
EPA/ADEM Certification No. 40160  
Cert# L2239 Testing  
This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 01/16/2013 Submitted: 01/16/2013

AC17406	* Ammonia-Nitrogen CAS: 7664-41-7	4.12	mg/l		3.00
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Sample Point: Effluent Grab

Collected: 01/16/2013 Submitted: 01/16/2013

AC17407	Fecal Coliform	40	colonies/100ml		100
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Sample Point: Digester 3

Collected: 01/16/2013 Submitted: 01/16/2013

AC17408	Fecal Coliform	207000	mpn/g dry wt.		
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- Data Qualifiers:**  
 B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.  
 D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.  
 G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.  
 H: Sample beyond accepted holding time.  
 J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).  
 N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)  
 Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.  
 Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC17406	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	01/17/2013	08:30		
AC17407	Fecal Coliform	SM 9222D-1997	RAC	01/16/2013	14:40	01/17/2013	13:20
AC17408	Fecal Coliform	SM 9221E	RAC	01/17/2013	06:00	01/18/2013	08:40

The results contained in this report are only representative of the sample(s) received.



January 22, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC17406	Effluent Composite	1/16/13	05:00	1/16/13
AC17407	Effluent Grab	1/16/13	10:40	1/16/13
AC17408	Digester 3	1/16/13	08:08	1/16/13

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services



ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	1326595
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W. Bd. City of Madison	ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																							
CLIENT POINT OF CONTACT Jeff Taylor	CLIENT PHONE 256-461-0845 ext. 115	CLIENT P.G. NUMBER		AMMONIA (3week)	FECAL COLIFORM (3week)	#TKN (Monthly)	P.T. (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR																	
CLIENT ADDRESS 701 Landess Circle	CITY Madison	STATE AL	ZIP CODE 35758																								
SAMPLE COLLECTED BY <i>John Law</i>	EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																								
ENERSOLV LAB NO AC16743	DESCRIPTION MADISON-EFFLUENT COMP			DATE 9-13	TIME 0845	GRAMS	COMP																				
	MADISON-EFFLUENT COMP						X																				
<i>740</i>	MADISON-EFFLUENT GRAB			9-13	1045	X		X																			
<i>745</i>	MADISON-DIGESTER			9-13	1040	X																					

COMMENTS: SAMPLE TEMP. REC'D @ *7:15*

Field Information										Qty	Type	Vol.	Preserv.	<2	>12.5	Parameter
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a		1	Plastic	Pint	H2SO4			NH3, TKN, P
Start Date	1-8-13	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a	1	Plastic	Pint	Plain			NO3NO2
Stop Date	1-9-13	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	0500	SM 4500H	SM 4500C/D	SM 4500C/G	SM 2550B											

RECEIVED BY (SIGNATURE) <i>John Law</i>	DATE 9-13	TIME 1215	RECEIVED BY (SIGNATURE) <i>Tom Ponz</i>	DATE 9-13	TIME 1400	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE) <i>Tom Ponz</i>	DATE 9-13	TIME 1215	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE) <i>Shrub</i>	DATE 9-13	TIME 1400	<input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.



ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #12239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*).



*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied, retransmitted, stored, or full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 01/09/2013

Submitted: 01/09/2013

AC16743 \*Ammonia-Nitrogen  
 CAS: 7664-11-7

<0.100 mg/l

3.00

Sample Point: Effluent Grab

Collected: 01/09/2013

Submitted: 01/09/2013

AC16744 Fecal Coliform

10 colonies/100ml

100

Sample Point: Digester

Collected: 01/09/2013

Submitted: 01/09/2013

AC16745 Fecal Coliform

106000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e. presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analysis	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC16743	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	01/11/2013	07:30		
AC16744	Fecal Coliform	SM 9222D-1997	LDM	01/09/2013	15:05	01/10/2013	15:05
AC16745	Fecal Coliform	SM 9221E	LDM	01/10/2013	06:50	01/11/2013	08:00

The results contained in this report are only representative of the sample(s) received.



January 16, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC16743	Effluent Composite	1/9/13	05:00	1/9/13
AC16744	Effluent Grab	1/9/13	10:45	1/9/13
AC16745	Digester	1/9/13	10:40	1/9/13

ENERSOLV® maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV® are covered by this quality system, all tests have been conducted in accordance with ENERSOLV® Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services





ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	64241
PAGE	1 of 1
TH-Weekly Wastewater	

COMPANY/CLIENT NAME		Water & W. W. Bd City of Madison	
CLIENT POINT OF CONTACT		2586	
CLIENT PHONE		256-461-0845 ext 115	
CLIENT NO NUMBER			
CITY		Madison	
STATE		AL	
ZIP CODE		35758	
701 Landess Circle			
SAMPLE COLLECTED BY <i>John Landess</i>			
DATE COLLECTED (REQUIRED)			
EXPIRED/REPORT DELIVERY (UNCHARGED)			
SAMPLE (USE ONE LINE PER CONTAINER)			
LAB NO	DESCRIPTION	DATE	TIME
AL16389	MADISON-EFFLUENT-COMP	1-7-13	9:00
	MADISON-EFFLUENT-COMP	1-7-13	9:00
330	MADISON-EFFLUENT-GRAB	1-7-13	10:38
331	MADISON-DIGESTER	1-7-13	10:33
REQUIRED ANALYSES			
	AMMONIA (3week)	X	
	FECAL COLIFORM (3week)	X	
	#TKN (Monthly)	X	
	P-T (Monthly)	X	
	NO3NO2 (Monthly)	X	
	SLUDGE/FECAL		
	SOUR		
COMMENTS: SAMPLE TEMP. <i>2.9C</i> RECD @ <i>2.9C</i>			
Field Information			
Sampler	pH	TRC	mg/l
Date	Date	Date	Date
1-6-13	n/a	n/a	n/a
Start Time	Time	Time	Time
0600	n/a	n/a	n/a
Stop Date	Analys	Analys	Analys
1-7-13	n/a	n/a	n/a
Stop Time	SM 4500H+	SM 4500-CID	SM 4500-CID
0500			
RECEIVED BY (SIGNATURE) DATE TIME			
<i>John Landess</i> 1-7-13 10:36			
RECEIVED BY (SIGNATURE) DATE TIME			
<i>[Signature]</i> 1-7-13 11:35			
RECEIVED BY (SIGNATURE) DATE TIME			
<i>[Signature]</i> 1-7-13 11:35			
ACCEPTED WITH EXCEPTION <input type="checkbox"/> REJECTED <input type="checkbox"/> ACCEPTED <input checked="" type="checkbox"/>			
DATE TIME			
1-7-13 11:35			



January 11, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC16329	Effluent Composite	1/7/13	05:00	1/7/13
AC16330	Effluent Grab	1/7/13	10:28	1/7/13
AC16331	Digester	1/7/13	10:33	1/7/13

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services





Report Date: 1/8/13  
Report Time: 10:29

**SAMPLE RESULTS REPORT**

**REPORT TO**  
Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758



NELAP Accredited  
Florida DOI#  
#E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #12239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*).



CPA/ADEMI Certification  
No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated in full without the written consent of ENERSOLV, its position.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 01/02/2013

Submitted: 01/02/2013

AC15939

\* Ammonia-Nitrogen  
CAS: 7664-41-7

0.483

mg/l

3.00

Sample Point: Effluent Grab

Collected: 01/02/2013

Submitted: 01/02/2013

AC15940

Fecal Coliform

60

colonies/100ml

100

Sample Point: Digester 2

Collected: 01/02/2013

Submitted: 01/02/2013

AC15941

Fecal Coliform

116000

mpn/g dry wt.

**Data Qualifiers:**

- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
- D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
- G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
- H: Sample beyond accepted holding time.
- J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
- N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
- Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.

**Analysis Information**

Sample ID	Analysis	Method	Analysis	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC15939	Ammonia-Nitrogen	SM 4500-NH3-C	RAC	01/04/2013	07:30		
AC15940	Fecal Coliform	SM 9222D-1997	RAC	01/02/2013	14:20	01/03/2013	13:35
AC15941	Fecal Coliform	SM 9221E	RAC	01/03/2013	05:45	01/04/2013	07:40

The results contained in this report are only representative of the sample(s) received.



January 08, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC15939	Effluent Composite	1/2/13	05:00	1/2/13
AC15940	Effluent Grab	1/2/13	11:45	1/2/13
AC15941	Digester 2	1/2/13	07:51	1/2/13

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Reviewed by:

Karen Sutton  
Vice President Client Services

**Pathogen Reduction and  
Vector Attraction Reduction  
Information**

## CERTIFICATION

"I certify, under penalty of law, that the information that will be used to determine compliance with the Class B pathogen requirements in §503.32(b) and the vector attraction reduction requirement in §503.33(b)(4) was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Project(s): City of Madison, AL WWTP Cake

Reporting Period: October - December 2013

Name: Mark Bland

Title: Plants Superintendent

Signature: 

Date: 02-13-14

The Class B pathogen requirements were met through §503.32(b)(2). Seven samples of the biosolids were collected at the time of biosolids use and the geometric mean of the density of fecal coliform in the samples was less than 2,000,000 MPN or CFU per gram of total solids (dry weight basis).

The vector attraction reduction requirement was met through §503.33(b)(4). The specific oxygen uptake rate (SOUR) for the biosolids treated in an aerobic process was less than or equal to 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius.

TYPE 42: CB PR FC VAR SOUR

## CERTIFICATION

"I certify, under penalty of law, that the information that will be used to determine compliance with the Class B pathogen requirements in §503.32(b) and the vector attraction reduction requirement in §503.33(b)(4) was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Project(s): City of Madison, AL WWTP Cake

Reporting Period: July - September 2013

Name: Mark Bland

Title: Plants Superintendent

Signature: 

Date: 02-13-14

The Class B pathogen requirements were met through §503.32(b)(2). Seven samples of the biosolids were collected at the time of biosolids use and the geometric mean of the density of fecal coliform in the samples was less than 2,000,000 MPN or CFU per gram of total solids (dry weight basis).

The vector attraction reduction requirement was met through §503.33(b)(4). The specific oxygen uptake rate (SOUR) for the biosolids treated in an aerobic process was less than or equal to 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius.

TYPE 42: CB PR FC VAR SOUR



## CERTIFICATION

"I certify, under penalty of law, that the information that will be used to determine compliance with the Class B pathogen requirements in §503.32(b) and the vector attraction reduction requirement in §503.33(b)(4) was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Project(s): City of Madison, AL WWTP Cake

Reporting Period: April - June 2013

Name: Mark Bland

Title: Plants Superintendent

Signature: 

Date: 02-13-14

The Class B pathogen requirements were met through §503.32(b)(2). Seven samples of the biosolids were collected at the time of biosolids use and the geometric mean of the density of fecal coliform in the samples was less than 2,000,000 MPN or CFU per gram of total solids (dry weight basis).

The vector attraction reduction requirement was met through §503.33(b)(4). The specific oxygen uptake rate (SOUR) for the biosolids treated in an aerobic process was less than or equal to 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius.

TYPE 42: CB PR FC VAR SOUR

## CERTIFICATION

"I certify, under penalty of law, that the information that will be used to determine compliance with the Class B pathogen requirements in §503.32(b) and the vector attraction reduction requirement in §503.33(b)(4) was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Project(s): City of Madison, AL WWTP Cake

Reporting Period: January - March 2013

Name: Mark Bland

Title: Plants Superintendent

Signature: 

Date: 02-13-14

The Class B pathogen requirements were met through §503.32(b)(2). Seven samples of the biosolids were collected at the time of biosolids use and the geometric mean of the density of fecal coliform in the samples was less than 2,000,000 MPN or CFU per gram of total solids (dry weight basis).

The vector attraction reduction requirement was met through §503.33(b)(4). The specific oxygen uptake rate (SOUR) for the biosolids treated in an aerobic process was less than or equal to 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius.

TYPE 42: CB PR FC VAR SOUR

# **Certification Statements**



Watershed Management Corporation



BIK

JUSTODY

PROJECT: 2921 (Madison AL) SAMPLED BY: Jeff Ratzke

SHIPPED TO: As L Eastern Lab SHIPPING DATE: 1/3/13

SUBMITTED BY: Jeff Ratzke SAMPLE LOCATION: Pad

COMMENTS: 1<sup>st</sup> Period 2013- Broseids SAMPLE(S) ICED

SEND RESULTS TO: CORPORATE OFFICE/REGIONAL OFFICE

Sample Identification	Date Collected	Time Collected	C O M P	G R A B	Container Info.			Analysis Requested
					#	Type G=Glass P=Plastic	Volume	
91150 1 <sup>st</sup> Period 2013 Broseids	1/3/13	8:45	X		1	P	Pint	Standard Composite
Relinquished by: (Signature/Affiliation)	Date:	Time:	Received by: (Signature/Affiliation)			Date:	Time:	
<i>[Signature]</i> SYNAGRO	1/3/13	14:30	<i>[Signature]</i>					
Relinquished by: (Signature/Affiliation)	Date:	Time:	Received by: (Signature/Affiliation)			Date:	Time:	
<i>[Signature]</i> 294437282990	1-4-13	1030	<i>[Signature]</i> Kathy Scott A&L			1-4-13	1030	
Relinquished by: (Signature/Affiliation)	Date:	Time:	Received by: (Signature/Affiliation)			Date:	Time:	

White - With Sample

Yellow - Regional Office

Pink - Originator

Report Number: 13-004-0210

Account Number: 90031

Submitted By: JEFF RETZKE

Send To: SYNAGRO SW/MADISON  
C SIMMONS - #56-2921  
501 WOODALL RD  
DECATUR, AL 35601



# A&L Eastern Laboratories, Inc.

7821 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-8446

Project : 2921 - MADISON AL

Lab Number : 91150

Sample Id : MADISON AL 1ST PERIOD 2013

## REPORT OF ANALYSIS

Date Sampled: 1/3/2013 08:45:00

Date Received: 01/04/2013 00:00

Date Reported: 01/14/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Nickel		15	5	KM	01/07/2013 13:51	SW 6010C
Total Lead		11	5	KM	01/07/2013 13:51	SW 6010C
Total Arsenic		5.0	3.0	KM	01/07/2013 13:51	SW 6010C
Total Mercury		0.9	0.4	KM	01/07/2013 09:14	SW-7471B
Total Selenium		10.0	5.0	KM	01/07/2013 13:51	SW 6010C
pH (Standard Units) *	7.54		2.00	JM	01/07/2013 07:34	SW-9045D
Calcium Carbonate Equivalent	<0.01	<100	100	JM	01/07/2013 12:00	AOAC 955.01
Total Volatile Solids	76.87	768700	100.0	JM	01/04/2013 13:45	SM-2540G
Total Molybdenum		11	5	KM	01/07/2013 13:51	SW 6010C

Comments:

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

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Debbie Holt

Report Number: 13-004-0210

Account Number: 90031

Submitted By: JEFF RETZKE



www.aleastern.com

# A&L Eastern Laboratories, Inc.

7621 Whitepine Road, Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6446

Send To: SYNAGRO SW/MADISON  
C SIMMONS - #56-2921  
501 WOODALL RD  
DECATUR, AL 35601

Project : 2921 -- MADISON AL

CONTROL #54978  
JAN-MAR 2013

Lab Number : 91150

Sample Id : MADISON AL 1ST PERIOD 2013

## REPORT OF ANALYSIS

Date Sampled: 1/3/2013 08:45:00

Date Received: 01/04/2013 00:00

Date Reported: 01/14/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	14.67	146700	100.0	JM	01/04/2013 13:45	SM-2540G
Moisture *	85.33		100.0	JM	01/04/2013 13:45	SM-2540G
Total Kjeldahl Nitrogen	6.63	66300	10.0	JM	01/08/2013 07:50	SM-4500-NH3C-TKN
Total Phosphorus	2.37	23700	100	KM	01/07/2013 13:51	SW 6010C
Total Potassium	0.32	3230	100	KM	01/07/2013 13:51	SW 6010C
Total Sulfur	0.86	8550	100	KM	01/07/2013 13:51	SW 6010C
Total Calcium	3.13	31300	100	KM	01/07/2013 13:51	SW 6010C
Total Magnesium	0.32	3150	100	KM	01/07/2013 13:51	SW 6010C
Total Sodium	0.06	593	100	KM	01/07/2013 13:51	SW 6010C
Total Iron		6820	100	KM	01/07/2013 13:51	SW 6010C
Total Manganese		1280	5	KM	01/07/2013 13:51	SW 6010C
Total Copper		442	5	KM	01/07/2013 13:51	SW 6010C
Total Zinc		681	5	KM	01/07/2013 13:51	SW 6010C
Ammonia Nitrogen	0.72	7160	10.0	JM	01/07/2013 07:34	SM-4500-NH3C
Organic N	5.91	59140	10.0		01/07/2013 07:34	CALCULATION
Nitrate+Nitrite-N		37.5	2.00	JM	01/07/2013 07:36	SM-4500NO3F
Total Cadmium		2.0	2.0	KM	01/07/2013 13:51	SW 6010C
Total Chromium		25	5	KM	01/07/2013 13:51	SW 6010C

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

Our reports and letters are for the exclusive and confidential use of our clients, and may not be reproduced in whole or part, nor may any reference be made to the work, the results, or the company in any advertising, news release, or other public announcements without obtaining our prior written authorization.

Debbie Holt

# RESIDUALS SAMPLING SUMMARY FORM

From Date Sampled 1/1/2013

To 12/31/2013

Facility Name: MADISON UTILITIES, AL  
 NPDES#: AL0071897  
 WWTP NAME: MADISON, AL WWTP

Laboratory  
 A&L EASTERN LABORATORIES, INC.

## Residuals Analysis Data

Product Type	CAK	CAK	CAK	CAK	Minimum	Average	Maximum
Date Sampled (grab) or Date Compositied	01/03/13	03/28/13	07/23/13	10/11/13			
Percent Solids	14.67	16.09	16.59	17.11	14.67	16.12	17.11

## PARAMETERS(mg/kg dry weight)

Arsenic	5	<3	4	4	3	4	5
Cadmium	2	<2	2	2	2	2	2
Chromium	25	26	36	32	25	29.75	36
Copper	442	365	505	570	365	471	570
Lead	11	8	10	12	8	10.25	12
Mercury	0.9	0.7	0.8	2.3	0.7	1.175	2.3
Molybdenum	11	11	18	31	11	17.75	31
Nickel	15	15	20	19	15	17.25	20
Selenium	10	6	8	9	6	8.25	10
Zinc	681	560	769	783	560	698	783
TKN	66300	69000	63300	62000	62000	65150	69000
Ammonia-Nitrogen	7200	11200	6200	4600	4600	7300	11200
Nitrate-Nitrogen	37.5	12.4	<2	14	2	16	37.5
Total Phosphorus	23700	18900	22300	19900	18900	21200	23700

**MADISON, ALABAMA**

**U.S. EPA REGION 4  
2013 ANNUAL REPORT**

**NPDES PERMIT NO. AL0071897**



## 2013 ANNUAL REPORT

Facility: City of Madison WWTP  
701 Landess Circle  
Madison, AL 35757  
(256) 774-3542

NPDES Permit No.: AL0071897

Responsible Official: Mark Bland  
Water and Wastewater Board of the City of Madison dba  
Madison Utilities  
101 Ray Sanderson Drive  
Madison, AL 35758  
(256) 772-0253

Facility Operator: Mark Bland  
Water and Wastewater Board of the City of Madison dba  
Madison Utilities  
101 Ray Sanderson Drive  
Madison, AL 35758  
(256) 772-0253

Land Applier: Synagro  
501 Woodall Road  
Decatur, AL 35601  
(256) 351-0959

Dry Metric Tons of Biosolids Used or Disposed:  
Land Applied: 437.50  
Landfilled: 0

Metals Analysis: See Attached.

Description of Pathogen Reduction  
Alternative and Vector Attraction  
Reduction Option: See Attached Certification Statements.

Signed Certification Statements: See Attached.

Pathogen Reduction and Vector  
Attraction Reduction Test Results  
Or Sample Operational Data: See Attached.



February 6, 2014

Mr. Mark Bland  
Water & Wastewater Board of the City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

Re: 2013 USEPA Annual Reporting - Mandatory Information

Dear Mr. Bland:

Enclosed is the above referenced report, which covers land application operations conducted by Synagro.

To finalize the report you will need to do the following:

1. Review the report to ensure it is complete and accurate. Please note that if you have done additional metals testing beyond what is included, you will need to supplement the report with this information.
2. Sign and date the enclosed pathogen reduction and vector attraction reduction certification statement.
3. Make a copy of the report for your records and send the original by February 19, 2014 to:

EPA Region 7  
Attn: Biosolids Center  
WWPD/WENF  
11201 Renner Boulevard  
Lenexa, Kansas 66219  
(913) 551-7003

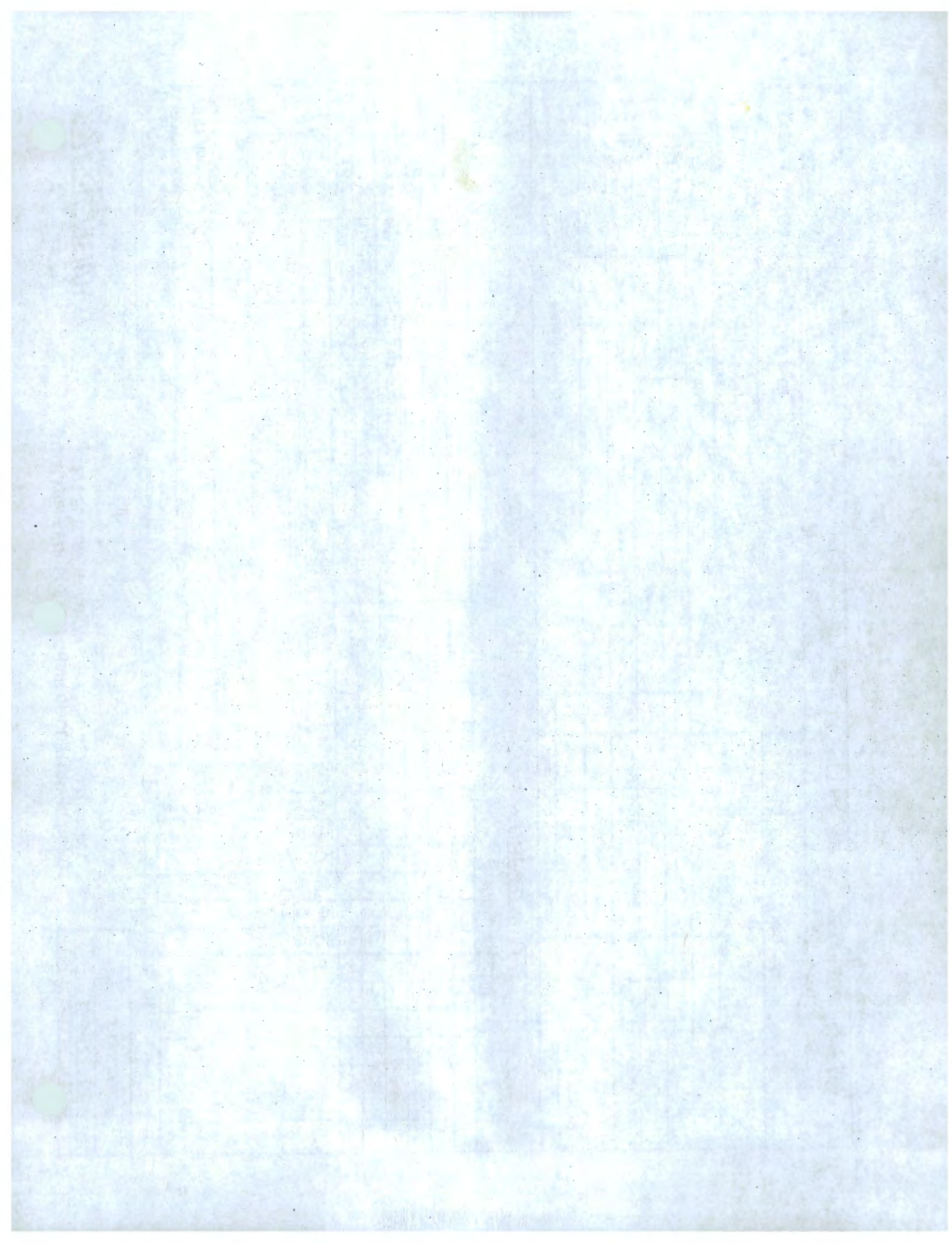
If you have any questions, please contact me at (443) 489-9001 or Chuck Simmons at (256) 351-0959.

Sincerely,

Jeffrey G. Faust  
Environmental Compliance Director

JF/scg

cc: Chuck Simmons - Synagro





**ANALYSIS REQUEST CHAIN OF CUSTODY RECORD**  
**2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601**  
**(256)-350-0846**

COC NUMBER	2200		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME: Water & W.W. Bd City of Madison		ACCOUNT NUMBER: 2586	QUOTE NUMBER:	ENERSOLV PROJECT NUMBER:	REQUIRED ANALYSES																							
CLIENT POINT OF CONTACT: Jeff Taylor		CLIENT PHONE: 256-461-0845 ext 115		CLIENT P.O. NUMBER:		AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR																
CLIENT ADDRESS: 701 Landess Circle		CITY: Madison	STATE: AL	ZIP CODE: 35758																								
SAMPLE COLLECTED BY: <i>William Carr</i>		EXPEDITED REPORT DELIVERY (SURCHARGE):		DATE DUE (REQUIRED):																								
ENERSOLV LAB NO. AC 55327	DESCRIPTION MADISON-EFFLUENT-COMP			DATE 12-25-13	TIME 0715	GRAB	COMP																					
	MADISON-EFFLUENT-COMP						X																					
328	MADISON-EFFLUENT-GRAB			12-25-13	0720	X		X																				
329	MADISON-DIGESTER			12-25-13	0718	X							X															

COMMENTS: SAMPLE TEMP. REC'D @ 12.7C

Field Information										Qty	Type	Vol.	Preserv.	< 2	> 12.5	Parameter
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	n/a	1	Plastic	Pint	H2SO4			NH3, TKN, P
Start Date	12-24-13	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a			Pint	Plain			NO3NO2
Stop Date	12-25-13	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	0500	SM 4500H+	SM 4500-CI D	SM 4500-O-G	SM 2550B											

RELINQUISHED BY (SIGNATURE): <i>William Carr</i>	DATE: 12-25-13	TIME: 0725	RELINQUISHED BY (SIGNATURE): <i>Danny Patterson</i>	DATE: 12-25-13	TIME: 0945	RELINQUISHED BY (SIGNATURE):	DATE:	TIME:
RECEIVED BY (SIGNATURE): <i>Danny Patterson</i>	DATE: 12-25-13	TIME: 0725	RECEIVED BY (SIGNATURE):	DATE:	TIME:	RECEIVED BY (SIGNATURE):	DATE:	TIME:
RECEIVED FOR LABORATORY USE BY (SIGNATURE): <i>T. Allen</i>	DATE: 12/25/13	TIME: 0945	SAMPLE STATUS: <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					



**SAMPLE RESULTS REPORT**

<b>REPORT TO</b>		<i>ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.</i>			
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758		NELAP Accredited Florida D&H #E871078		EPA/ADEM Certification No. 40160	
Tests within the scope of accreditation are indicated by an asterisk (*). <i>This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.</i>					
Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit

Sample Point: Effluent Composite

Collected: 12/25/2013 Submitted: 12/25/2013

AC55327 \* Ammonia-Nitrogen  
CAS: 7664-41-7

<0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 12/25/2013 Submitted: 12/25/2013

AC55328 Fecal Coliform

<10 colonies/100ml 100

Sample Point: Digester

Collected: 12/25/2013 Submitted: 12/25/2013

AC55329 Fecal Coliform

1380000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC55327	Ammonia-Nitrogen	SM 4500-NH3-C	LDM	12/26/2013	08:45		
AC55328	Fecal Coliform	SM 9222D-1997	LDM	12/25/2013	10:15	12/26/2013	10:15
AC55329	Fecal Coliform	SM 9221E	RAC / LDM	12/25/2013	10:00	12/26/2013	10:10

The results contained in this report are only representative of the sample(s) received.



December 31, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC55327	Effluent Composite	12/25/13	05:00	12/25/13
AC55328	Effluent Grab	12/25/13	07:20	12/25/13
AC55329	Digester	12/25/13	07:18	12/25/13

*ENERSOLV* maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by *ENERSOLV* are covered by this quality system, all tests have been conducted in accordance with *ENERSOLV* Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

This cover page and the attached chain-of-custody record(s) are integral parts of your report. *ENERSOLV* considers this report your official record. This information shall remain in *ENERSOLV*'s active database for a period of one (1) calendar year before archiving. Any replacement of this information after archiving may result in an administrative fee to cover the cost of retrieval.

If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	56160
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER		AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR									
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																	
SAMPLE COLLECTED BY <i>Chris West</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)			DATE DUE (REQUIRED)																
ENERSOLV LAB NO.	SAMPLE (USE ONE LINE PER CONTAINER)				DATE	TIME	GRAB	COMP													
<i>AC54710</i>	MADISON-EFFLUENT-COMP				<i>12-18-13</i>	<i>0815</i>		X	X												
	MADISON-EFFLUENT-COMP							X													
<i>711</i>	MADISON-EFFLUENT-GRAB				<i>12-18-13</i>	<i>1135</i>	X			X											
<i>712</i>	MADISON-DIGESTER #4				<i>12-18-13</i>	<i>0812</i>	X					X									

COMMENTS: *We need more sticker labels CW* SAMPLE TEMP. REC'D @ *73°C*

Field Information										Qty	Type	Vol.	Preserv.	< 2	>12.5	Parameter
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	n/a	1	Plastic	Pint	H2SO4			NH3, TKN, P
Start Date	Date	n/a	Date	n/a	Date	n/a	Date	n/a	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	Time	n/a	Time	n/a	Time	n/a	Time	n/a	n/a			Pint	Plain			NO3NO2
Stop Date	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	n/a							
Stop Time	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B												

RELINQUISHED BY: (SIGNATURE) <i>Chris West</i>	DATE 12-18-13	TIME 1142	RELINQUISHED BY: (SIGNATURE) <i>Tom Poon</i>	DATE 12-18-13	TIME 1330	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY: (SIGNATURE) <i>Tom Poon</i>	DATE 12-18-13	TIME 1142	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY: (SIGNATURE) <i>Shaw</i>	DATE 12-18-13	TIME 1330	SAMPLE STATUS:					
			<input checked="" type="checkbox"/> Accepted		<input type="checkbox"/> Rejected		<input type="checkbox"/> Accepted with Exception	



# SAMPLE RESULTS REPORT

<b>REPORT TO</b>			ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation. ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (*). <i>This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.</i>		EPA/ADEM Certification No. 40160
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758					
Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit

Sample Point: Effluent Composite

Collected: 12/18/2013 Submitted: 12/18/2013

AC54710 \* Ammonia-Nitrogen  
CAS: 7664-41-7

<0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 12/18/2013 Submitted: 12/18/2013

AC54711 Fecal Coliform

20 colonies/100ml 100

Sample Point: Digester 4

Collected: 12/18/2013 Submitted: 12/18/2013

AC54712 Fecal Coliform

581000 mpn/g dry wt.

- Data Qualifiers:**
- B:** Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D:** Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G:** Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H:** Sample beyond accepted holding time.
  - J:** Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N:** Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q:** One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T:** Test temperature fell outside method specified range.
  - Y:** Analysis performed from improperly preserved sample.

### Analysis Information

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC54710	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	12/19/2013	07:30		
AC54711	Fecal Coliform	SM 9222D-1997	RAC	12/18/2013	15:00	12/19/2013	13:20
AC54712	Fecal Coliform	SM 9221E	RAC	12/19/2013	06:30	12/20/2013	10:00

The results contained in this report are only representative of the sample(s) received.







December 26, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC54710	Effluent Composite	12/18/13	05:00	12/18/13
AC54711	Effluent Grab	12/18/13	11:35	12/18/13
AC54712	Digester 4	12/18/13	08:12	12/18/13

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

This cover page and the attached chain-of-custody record(s) are integral parts of your report. ENERSOLV considers this report your official record. This information shall remain in ENERSOLV's active database for a period of one (1) calendar year before archiving. Any replacement of this information after archiving may result in an administrative fee to cover the cost of retrieval.

If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)





**ANALYSIS REQUEST CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	3
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd. City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																			
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER		AMMONIA (3week)	FECAL COLIFORM (3week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR												
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																				
SAMPLE COLLECTED BY Johann Davis		EXPEDITED REPORT DELIVERY (SURCHARGE)			DATE DUE (REQUIRED)																			
ENERSOLV LAB NO. AC54006		SAMPLE (USE ONE LINE PER CONTAINER)																						
	DESCRIPTION	DATE	TIME	GRAB	COMP																			
	MADISON-EFFLUENT-COMP	12/11/13	0901		X	X																		
	MADISON-EFFLUENT-COMP				X																			
4007	MADISON-EFFLUENT-GRAB	12/11/13	1132	X			X																	
4008	MADISON-DIGESTER	12/11/13	0850	X																				

COMMENTS: SAMPLE TEMP. REC'D @ 7.9c

Field Information										Qty	Type	Vol.	Preserv.	<2	>12.5	Parameter
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a		1	Plastic	Pint	H2SO4			NH3, TKN, P
Start Date	12/10/13	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time	n/a	1	Plastic	Pint	Plain			NO3NO2
Stop Date	12/11/13	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	0500	SM 4500H+	SM 4500-CI D	SM 4500-O3	SM 2550B											

RELINQUISHED BY (SIGNATURE) Johann Davis	DATE 12/11/13	TIME 1:25	RELINQUISHED BY (SIGNATURE) Johann Davis	DATE 12/11/13	TIME 15:00
RECEIVED BY (SIGNATURE) Ben Rom	DATE 12/11/13	TIME 13:25	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY (SIGNATURE) [Signature]	DATE 12/11/13	TIME 15:00	SAMPLE STATUS: <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception		



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

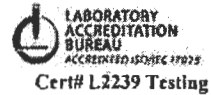


NELAP Accredited  
 Florida DOH  
 #E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing.

Tests within the scope of accreditation are indicated by an asterisk (\*).



EPA/ADEM Certification No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
-----------	--------------	--------	-------	------	------------------

Sample Point: Effluent Composite

Collected: 12/11/2013 Submitted: 12/11/2013

AC54006	* Ammonia-Nitrogen CAS: 7664-41-7	2.96	mg/l		3.00
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Sample Point: Effluent Grab

Collected: 12/11/2013 Submitted: 12/11/2013

AC54007	Fecal Coliform	70	colonies/100ml		100
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Sample Point: Digester

Collected: 12/11/2013 Submitted: 12/11/2013

AC54008	Fecal Coliform	833000	mpn/g dry wt.		
---------	----------------	--------	---------------	--	--

- Data Qualifiers:**
- B:** Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D:** Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G:** Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H:** Sample beyond accepted holding time.
  - J:** Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N:** Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q:** One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T:** Test temperature fell outside method specified range.
  - Y:** Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC54006	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	12/13/2013	09:30		
AC54007	Fecal Coliform	SM 9222D-1997	RAC/LDM	12/11/2013	14:40	12/12/2013	14:40
AC54008	Fecal Coliform	SM 9221E	LDM	12/12/2013	06:50	12/13/2013	07:00

The results contained in this report are only representative of the sample(s) received.



December 18, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC54006	Effluent Composite	12/11/13	05:00	12/11/13
AC54007	Effluent Grab	12/11/13	13:22	12/11/13
AC54008	Digester	12/11/13	08:50	12/11/13

ENERSOLV maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by ENERSOLV are covered by this quality system, all tests have been conducted in accordance with ENERSOLV Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	186630		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER	AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR										
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																	
SAMPLE COLLECTED BY <i>Chris West</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)																			
ENERSOLV LAB NO. <i>ACS3184</i>		DESCRIPTION			DATE	TIME	GRAB	COMP													
		MADISON-EFFLUENT-COMP			<i>12-4-13</i>	<i>0809</i>		X	X												
		MADISON-EFFLUENT-COMP						X													
<i>185</i>		MADISON-EFFLUENT-GRAB			<i>12-4-13</i>	<i>1231</i>	X		X												
<i>186</i>		MADISON-DIGESTER #3			<i>12-4-13</i>	<i>0804</i>	X														

COMMENTS: SAMPLE TEMP.  
REC'D @ *7.8°C*

Field Information										Qty	Type	Vol.	Preserv.	< 2	> 12.5	Parameter
										1	Plastic	Pint	H2SO4			<i>A</i> NH3, TKN, P
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Date	<i>12-3-13</i>	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Pint	Plain			NO3NO2
Start Time	<i>0600</i>	Time	n/a	Time	n/a	Time	n/a	Time	n/a							
Stop Date	<i>12-4-13</i>	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	<i>0500</i>	SM 4500H+	SM 4500-Cl D	SM 4500-O G	SM 2550B											

RELINQUISHED BY: (SIGNATURE) <i>Chris West</i>	DATE <i>12-4-13</i>	TIME <i>1236</i>	RELINQUISHED BY: (SIGNATURE) <i>Tom Pops</i>	DATE <i>12-4-13</i>	TIME <i>1400</i>
RECEIVED BY: (SIGNATURE) <i>Tom Pops</i>	DATE <i>12-4-13</i>	TIME <i>1236</i>	RECEIVED BY: (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY: (SIGNATURE) <i>Shaw</i>	DATE <i>12-4-13</i>	TIME <i>1400</i>	SAMPLE STATUS: <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception		



**SAMPLE RESULTS REPORT**

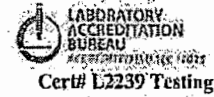
**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



NELAP Accredited  
 Florida DOH  
 #E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in I-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (\*).



Cert# L2239 Testing

EPA/ADEM Certification  
 No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 12/04/2013

Submitted: 12/04/2013

AC53184 \* Ammonia-Nitrogen  
 CAS: 7664-41-7

<0.100 mg/l

3.00

Sample Point: Effluent Grab

Collected: 12/04/2013

Submitted: 12/04/2013

AC53185 Fecal Coliform

<10 colonies/100ml

100

Sample Point: Digester 3

Collected: 12/04/2013

Submitted: 12/04/2013

AC53186 Fecal Coliform

409000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC53184	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	12/06/2013	06:00		
AC53185	Fecal Coliform	SM 9222D-1997	RAC	12/04/2013	14:25	12/05/2013	13:25
AC53186	Fecal Coliform	SM 9221E	RAC	12/05/2013	06:00	12/06/2013	06:25

The results contained in this report are only representative of the sample(s) received.



December 11, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC53184	Effluent Composite	12/4/13	05:00	12/4/13
AC53185	Effluent Grab	12/4/13	12:31	12/4/13
AC53186	Digester 3	12/4/13	08:04	12/4/13

*ENERSOLV* maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by *ENERSOLV* are covered by this quality system, all tests have been conducted in accordance with *ENERSOLV* Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)



**ANALYSIS REQUEST CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	2	3
PAGE	1	of 1
Tri-Weekly Wastewater		

COMPANY/CLIENT NAME Water & W.W. Bd. City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																					
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.C. NUMBER		AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR														
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																						
SAMPLE COLLECTED BY		EXPEDITED REPORT DELIVERY (SURCHARGE)			DATE DUE (REQUIRED)																					
ENERSOLV LAB NO. AC5259	DESCRIPTION MADISON-EFFLUENT-COMP			DATE 11/20/13	TIME 0810								GRAB	COMP												
	MADISON-EFFLUENT-COMP						X																			
260	MADISON-EFFLUENT-GRAB			11/20/13	1129	X		X																		
261	MADISON-DIGESTER			11/20/13	0805	X																				

COMMENTS: SAMPLE TEMP. REC'D @ 1.9

Field Information										Qty	Type	Vol.	Preserv.	<2	>12.5	Parameter
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	n/a	1	Plastic	Pint	H2SO4			NH3, TKN, P
Start Date	Date	n/a	Date	n/a	Date	n/a	Date	n/a	n/a	1	Plastic	Fecal Cup	Jced	n/a	n/a	Fecal Coliform
Start Time	Time	n/a	Time	n/a	Time	n/a	Time	n/a	n/a	1	Plastic	Pint	Plain			NO3NO2
Stop Date	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	n/a							
Stop Time	SM 4500H+		SM 4500-Cl D		SM 4500-O G		SM 2550B									

RELINQUISHED BY: (SIGNATURE) <i>B. McBliss</i>	DATE 11/20/13	TIME 1123	RELINQUISHED BY: (SIGNATURE) <i>Tom P. 009</i>	DATE 11-20-13	TIME 1300	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY: (SIGNATURE) <i>Tom P. 009</i>	DATE 11/20/13	TIME 1123	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY: (SIGNATURE) <i>Pharis</i>	DATE 11/20/13	TIME 1300	SAMPLE STATUS: <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					





**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

NELAP Accredited  
 Florida DOH  
 #E871078

EPA/ADEM Certification  
 No. 40160

Tests within the scope of accreditation are indicated by an asterisk (\*).

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Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 11/20/2013 Submitted: 11/20/2013

AC51259 \* Ammonia-Nitrogen  
 CAS: 7664-41-7

<0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 11/20/2013 Submitted: 11/20/2013

AC51260 Fecal Coliform

240 colonies/100ml 100

Sample Point: Digester

Collected: 11/20/2013 Submitted: 11/20/2013

AC51261 Fecal Coliform

866000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC51259	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	11/21/2013	09:00		
AC51260	Fecal Coliform	SM 9222D-1997	RAC	11/20/2013	13:30	11/21/2013	12:55
AC51261	Fecal Coliform	SM 9221E	RAC	11/21/2013	06:30	11/22/2013	07:00

The results contained in this report are only representative of the sample(s) received.



November 26, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC51259	Effluent Composite	11/20/13	08:10	11/20/13
AC51260	Effluent Grab	11/20/13	11:29	11/20/13
AC51261	Digester	11/20/13	08:05	11/20/13

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Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)





**SAMPLE RESULTS REPORT**

<b>REPORT TO</b>			ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation. ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing. Tests within the scope of accreditation are indicated by an asterisk (*). <i>This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.</i>		EPA/ADEM Certification No. 40160 Cert# L2239 Testing
Mark Bland Water & Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758					
Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit

**Sample Point: Effluent Composite**

**Collected: 11/13/2013 Submitted: 11/13/2013**

AC50301 \* Ammonia-Nitrogen  
CAS: 7664-41-7

<0.100 mg/l 3.00

**Sample Point: Effluent Grab**

**Collected: 11/13/2013 Submitted: 11/13/2013**

AC50302 Fecal Coliform

120 colonies/100ml 100

**Sample Point: Digester**

**Collected: 11/13/2013 Submitted: 11/13/2013**

AC50303 Fecal Coliform

289000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure).
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC50301	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	11/14/2013	08:45		
AC50302	Fecal Coliform	SM 9222D-1997	RAC/LDM	11/13/2013	12:43	11/14/2013	12:45
AC50303	Fecal Coliform	SM 9221E	LDM	11/13/2013	12:20	11/14/2013	12:30

The results contained in this report are only representative of the sample(s) received.



November 20, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC50301	Effluent Composite	11/13/13	05:00	11/13/13
AC50302	Effluent Grab	11/13/13	10:34	11/13/13
AC50303	Digester	11/13/13	10:20	11/13/13

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Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)



**ANALYSIS REQUEST CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	2	3
PAGE	1	of 1
Tri-Weekly Wastewater		

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER															
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER															
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758															
SAMPLE COLLECTED BY:		EXPEDITED REPORT DELIVERY (SURCHARGE)																	
		DATE DUE (REQUIRED)																	
ENERSOLV LAB NO.	SAMPLE (USE ONE LINE PER CONTAINER)				AMMONIA (3week)	FECAL COLIFORM (3week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR	REQUIRED ANALYSES							
	DESCRIPTION	DATE	TIME	GRAB								COMP							
A44576	MADISON-EFFLUENT-COMP				X	X													
	MADISON-EFFLUENT-COMP	11/6/13	0835		X														
577	MADISON-EFFLUENT-GRAB	11/6/13	1215	X			X												
578	MADISON-DIGESTER	11/6/13	0830	X															

COMMENTS: SAMPLE TEMP. REC'D @ 4.9c

Field Information										Qty	Type	Vol.	Preserv.	<2	>12.5	Parameter			
Sampler	pH	su	n/a	TRC	mg/l	n/a	DO	mg/l	n/a	Temp	deg C	n/a	1	Plastic	Pint	H2SO4	n/a	n/a	NH3, TKN, P
Start Date	Date	n/a	Date	n/a	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	Time	n/a	Time	n/a	Time	n/a	Time	n/a	Time	n/a	Time	n/a	1	Plastic	Pint	Plain			NO3NO2
Stop Date	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	SM 4500H+		SM 4500-CI D		SM 4500-O G		SM 2550B												
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	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 BY: (SIGNATURE)		DATE	TIME				
RECEIVED FOR LABORATORY USE BY: (SIGNATURE)		DATE	TIME	RECEIVED FOR LABORATORY USE BY: (SIGNATURE)		DATE	TIME	RECEIVED FOR LABORATORY USE BY: (SIGNATURE)		DATE	TIME	RECEIVED FOR LABORATORY USE BY: (SIGNATURE)		DATE	TIME				
										SAMPLE STATUS:									
										<input checked="" type="checkbox"/> Accepted		<input type="checkbox"/> Rejected		<input type="checkbox"/> Accepted with Exception					



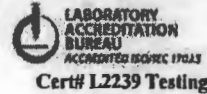
**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



NELAP Accredited  
 Florida DOH  
 #E871078

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EPA/ADEM Certification  
 No. 40160

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Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
-----------	--------------	--------	-------	------	------------------

Sample Point: Effluent Composite

Collected: 11/06/2013 Submitted: 11/06/2013

AC49576 \* Ammonia-Nitrogen  
 CAS: 7664-41-7

<0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 11/06/2013 Submitted: 11/06/2013

AC49577 Fecal Coliform

70 colonies/100ml 100

Sample Point: Digester

Collected: 11/06/2013 Submitted: 11/06/2013

AC49578 Fecal Coliform

8375 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC49576	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	11/08/2013	07:00		
AC49577	Fecal Coliform	SM 9222D-1997	LDM	11/06/2013	14:30	11/07/2013	14:10
AC49578	Fecal Coliform	SM 9221E	LDM/RAC	11/07/2013	06:10	11/08/2013	06:30

The results contained in this report are only representative of the sample(s) received.



November 13, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC49576	Effluent Composite	11/6/13	07:35	11/6/13
AC49577	Effluent Grab	11/6/13	12:15	11/6/13
AC49578	Digester	11/6/13	07:30	11/6/13

*ENERSOLV* maintains a quality system compliant with ISO 17025:2005 and meets the relevant quality system requirements of ISO 9001:2000. Although not all tests performed by *ENERSOLV* are covered by this quality system, all tests have been conducted in accordance with *ENERSOLV* Standard Operating Procedures and Quality Control Program using, where applicable, U.S.E.P.A. approved methodology.

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services







# SAMPLE RESULTS REPORT

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

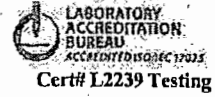


NELAP Accredited  
 Florida DOH  
 #E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing.

Tests within the scope of accreditation are indicated by an asterisk (\*).



EPA/ADEM Certification  
 No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
-----------	--------------	--------	-------	------	------------------

Sample Point: Effluent Composite

Collected: 10/30/2013

Submitted: 10/30/2013

AC48754

\* Ammonia-Nitrogen  
 CAS: 7664-41-7

0.294

mg/l

3.00

Sample Point: Effluent Grab

Collected: 10/30/2013

Submitted: 10/30/2013

AC48755

Fecal Coliform

10

colonies/100ml

100

Sample Point: Digester

Collected: 10/30/2013

Submitted: 10/30/2013

AC48756

Fecal Coliform

240000

mpn/g dry wt.

**Data Qualifiers:**

**B:** Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.

**D:** Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.

**G:** Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.

**H:** Sample beyond accepted holding time.

**J:** Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).

**N:** Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)

**Q:** One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.

**T:** Test temperature fell outside method specified range.

**Y:** Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC48754	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	10/31/2013	08:15		
AC48755	Fecal Coliform	SM 9222D-1997	RAC/LDM	10/30/2013	14:00	10/31/2013	14:00
AC48756	Fecal Coliform	SM 9221E	LDM	10/31/2013	06:30	11/01/2013	06:30

The results contained in this report are only representative of the sample(s) received.





November 06, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC48754	Effluent Composite	10/30/13	05:00	10/30/13
AC48755	Effluent Grab	10/30/13	13:03	10/30/13
AC48756	Digester	10/30/13	07:42	10/30/13

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)





**ANALYSIS REQUEST CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	4		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115	CLIENT P.O. NUMBER	
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758
SAMPLE COLLECTED BY <i>Chris West</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)		
		DATE DUE (REQUIRED)		
ENERSOLV LAB NO.	SAMPLE (USE ONE LINE PER CONTAINER)			
	DESCRIPTION	DATE	TIME	GRAB COMP
<i>AC49156</i>	MADISON-EFFLUENT-COMP	<i>10-23-13</i>	<i>0834</i>	X
	MADISON-EFFLUENT-COMP			X
<i>157</i>	MADISON-EFFLUENT-GRAB	<i>10-23-13</i>	<i>1219</i>	X
<i>158</i>	MADISON-DIGESTER # 2	<i>10-23-13</i>	<i>0928</i>	X

AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR
X						
	X					

COMMENTS: *Need chain of custody sheets and sticker labels*

SAMPLE TEMP. REC'D @ *46°C*

Field Information										Qty	Type	Vol.	Preserv.	< 2	> 12.5	Parameter			
Sampler	pH	su	n/a	TRC	mg/l	n/a	DO	mg/l	n/a	Temp	deg. C	n/a	1	Plastic	Pint	H2SO4	n/a	n/a	NH3, TKN, P
Start Date	<i>10-22-13</i>	Date	n/a	Date	n/a	Date	n/a	Date	n/a	Date	n/a	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	<i>0600</i>	Time	n/a	Time	n/a	Time	n/a	Time	n/a	Time	n/a	n/a	1	Plastic	Pint	Plain			NO3NO2
Stop Date	<i>10-23-13</i>	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	n/a							
Stop Time	<i>0500</i>	SM 4500H+		SM 4500-CI D		SM 4500-O G		SM 2550B											

RELINQUISHED BY: (SIGNATURE) <i>Chris West</i>	DATE <i>10-23-13</i>	TIME <i>1224</i>	RELINQUISHED BY: (SIGNATURE) <i>Tom Pos</i>	DATE <i>10-23-13</i>	TIME <i>1350</i>	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY: (SIGNATURE) <i>Tom Pos</i>	DATE <i>10-23-13</i>	TIME <i>1224</i>	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY: (SIGNATURE) <i>[Signature]</i>	DATE <i>10-23-13</i>	TIME <i>1352</i>	SAMPLE STATUS: <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



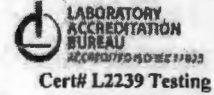
NELAP Accredited  
 Florida DOH  
 #E871078

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Tests within the scope of accreditation are indicated by an asterisk (\*).

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EPA/ADEM Certification  
 No. 40160

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 10/23/2013

Submitted: 10/23/2013

AC48156 \* Ammonia-Nitrogen  
 CAS: 7664-41-7

0.123 mg/l

3.00

Sample Point: Effluent Grab

Collected: 10/23/2013

Submitted: 10/23/2013

AC48157 Fecal Coliform

<10 colonies/100ml

100

Sample Point: Digester 2

Collected: 10/23/2013

Submitted: 10/23/2013

AC48158 Fecal Coliform

279000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC48156	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	10/24/2013	07:30		
AC48157	Fecal Coliform	SM 9222D-1997	RAC	10/23/2013	14:10	10/24/2013	12:10
AC48158	Fecal Coliform	SM 9221E	RAC	10/24/2013	06:15	10/25/2013	06:30

The results contained in this report are only representative of the sample(s) received.



October 30, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC48156	Effluent Composite	10/23/13	05:00	10/23/13
AC48157	Effluent Grab	10/23/13	12:19	10/23/13
AC48158	Digester 2	10/23/13	08:28	10/23/13

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

William D. Hollerman, Ph.D.  
Vice President Technical Services

Page 1 of 2  
(Excluding C.O.C.)



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	147713
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER		AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR									
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																	
SAMPLE COLLECTED BY <i>Johann Cai</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																	
ENERSOLV LAB NO.	DESCRIPTION				DATE	TIME	GRAB	COMP													
<i>AC47341</i>	MADISON-EFFLUENT-COMP				<i>10/16/13</i>	<i>0740</i>		X	X												
	MADISON-EFFLUENT-COMP							X													
<i>392</i>	MADISON-EFFLUENT-GRAB				<i>10/16/13</i>	<i>10:40</i>	X		X												
<i>393</i>	MADISON-DIGESTER				<i>10/16/13</i>	<i>11:25</i>	X														
<i>394</i>	MADISON Digester #1				<i>10/16/13</i>	<i>10:35</i>															

COMMENTS: SAMPLE TEMP. REC'D @ 1.9C

Field Information									Qty	Type	Vol.	Preserv.	< 2	> 12.5	Parameter
									1	Plastic	Pint	H2SO4			<i>A</i> NH3, TKN, P
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Date	<i>10/15/13</i>	Date	n/a	Date	n/a	Date	n/a	Date	1	Plastic	Pint	Plain			NO3NO2
Start Time	<i>0600</i>	Time	n/a	Time	n/a	Time	n/a	Time							
Stop Date	<i>10/16/13</i>	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst							
Stop Time	<i>0500</i>	SM 4500H+		SM 4500-CI D		SM 4500-O G		SM 2550B							

RELINQUISHED BY: (SIGNATURE) <i>Johann Cai</i>	DATE <i>10/16/13</i>	TIME <i>10:50</i>	RELINQUISHED BY: (SIGNATURE) <i>Tom Ross</i>	DATE <i>10/16/13</i>	TIME <i>1345</i>	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY: (SIGNATURE) <i>Tom Ross</i>	DATE <i>10/16/13</i>	TIME <i>1050</i>	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY: (SIGNATURE) <i>Shaw</i>	DATE <i>10/16/13</i>	TIME <i>1345</i>	SAMPLE STATUS:					
			<input checked="" type="checkbox"/> Accepted		<input type="checkbox"/> Rejected		<input type="checkbox"/> Accepted with Exception	



# SAMPLE RESULTS REPORT

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

NELAP Accredited  
 Florida DOH  
 #E871078

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Cert# L2239 Testing

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing.

EPA/ADEM Certification  
 No. 40160

Tests within the scope of accreditation are indicated by an asterisk (\*).

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Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
-----------	--------------	--------	-------	------	------------------

Sample Point: Effluent Composite

Collected: 10/16/2013

Submitted: 10/16/2013

AC47391 \* Ammonia-Nitrogen  
 CAS: 7664-41-7

0.176 mg/l

3.00

Sample Point: Effluent Grab

Collected: 10/16/2013

Submitted: 10/16/2013

AC47392 Fecal Coliform

10 colonies/100ml

100

Sample Point: Digester

Collected: 10/16/2013

Submitted: 10/16/2013

AC47393 Fecal Coliform

265000 mpn/g dry wt.

Sample Point: Digester 1

Collected: 10/16/2013

Submitted: 10/16/2013

AC47394 Specific Oxygen Consumption Rate

0.780 (mg/g)/h (dry wt.)

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

### Analysis Information

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC47391	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	10/18/2013	08:30		
AC47392	Fecal Coliform	SM 9222D-1997	RAC/LDM	10/16/2013	15:05	10/17/2013	15:05
AC47393	Fecal Coliform	SM 9221E	LDM	10/17/2013	07:15	10/18/2013	06:50
AC47394	Specific Oxygen Consumption Rate	SM 2710B	JLP	10/16/2013	13:55		

The results contained in this report are only representative of the sample(s) received.





October 23, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC47391	Effluent Composite	10/16/13	05:00	10/16/13
AC47392	Effluent Grab	10/16/13	10:40	10/16/13
AC47393	Digester	10/16/13	07:25	10/16/13
AC47394	Digester 1	10/16/13	10:35	10/16/13

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Reviewed by:

Karen Sutton  
Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)





ANALYSIS REQUEST A CHAIN OF CUSTODY RECORD  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	311
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758
SAMPLE COLLECTED BY <i>Chris West</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)		
		DATE DUE (REQUIRED)		
ENERSOLV LAB NO. <i>AC46723</i>	SAMPLE (USE ONE LINE PER CONTAINER)			
	DESCRIPTION	DATE	TIME	GRAB COMP
	MADISON-EFFLUENT-COMP	10-9-13	0812	X X
	MADISON-EFFLUENT-COMP			X
<i>724</i>	MADISON-EFFLUENT-GRAB	10-9-13	1:15	X
<i>725</i>	MADISON-DIGESTER #4	10-9-13	0809	X

AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR
X						
	X					
					X	

COMMENTS: SAMPLE TEMP. REC'D @ 3.4

Field Information									Qty	Type	Vol.	Preserv.	< 2	>12.5	Parameter
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	1	Plastic	Pint	H2SO4			NH3, TKN, P
Start Date	Date	n/a	Date	n/a	Date	n/a	Date	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	Time	n/a	Time	n/a	Time	n/a	Time	n/a	1	Plastic	Pint	Plain			NO3NO2
Stop Date	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a							
Stop Time	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B											

RELINQUISHED BY: (SIGNATURE) <i>Chris West</i>	DATE 10-9-13	TIME 1:40	RELINQUISHED BY: (SIGNATURE) <i>Jon Bore</i>	DATE 10-9-13	TIME 1520
RECEIVED BY: (SIGNATURE) <i>Jon Bore</i>	DATE 10-9-13	TIME 1340	RECEIVED BY: (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY: (SIGNATURE) <i>Pharis</i>	DATE 10-9-13	TIME 1530	SAMPLE STATUS: <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception		



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

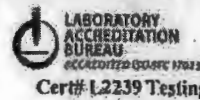


NELAP Accredited  
 Florida DOH  
 #E871078

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Cert# L2239 Testing

EPA/ADEM Certification  
 No. 40160

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Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
-----------	--------------	--------	-------	------	------------------

Sample Point: Effluent Composite

Collected: 10/09/2013 Submitted: 10/09/2013

AC46723 \* Ammonia-Nitrogen  
 CAS: 7664-41-7

<0.100 mg/l 3.00

Sample Point: Effluent Grab

Collected: 10/09/2013 Submitted: 10/09/2013

AC46724 Fecal Coliform

10 colonies/100ml 100

Sample Point: Digester 4

Collected: 10/09/2013 Submitted: 10/09/2013

AC46725 Fecal Coliform

304000 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	End Date/Time	End Date/Time
AC46723	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	10/11/2013	06:30		
AC46724	Fecal Coliform	SM 9222D-1997	RAC	10/09/2013	15:55	10/10/2013	14:40
AC46725	Fecal Coliform	SM 9221E	RAC	10/10/2013	07:30	10/11/2013	07:45

The results contained in this report are only representative of the sample(s) received.



October 16, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC46723	Effluent Composite	10/9/13	05:00	10/9/13
AC46724	Effluent Grab	10/9/13	13:15	10/9/13
AC46725	Digester 4	10/9/13	08:09	10/9/13

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services

Page 1 of 2  
(excluding C.O.C)





# SAMPLE RESULTS REPORT

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



NELAP Accredited  
 Florida DOH  
 #E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing.

Tests within the scope of accreditation are indicated by an asterisk (\*).



LABORATORY ACCREDITATION BUREAU  
 ACCREDITED ISO/IEC 17025  
 Cert# L2239 Testing

EPA/ADEM Certification  
 No. 40160

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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- Data Qualifiers:**
- B:** Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D:** Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G:** Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H:** Sample beyond accepted holding time.
  - J:** Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N:** Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q:** One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T:** Test temperature fell outside method specified range.
  - Y:** Analysis performed from improperly preserved sample.

### Analysis Information



Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC45915	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	10/05/2013	07:30		
AC45915	Nitrate plus Nitrite-Nitrogen	EPA 300.0	HGT	10/02/2013	23:57		
AC45915	Nitrate-Nitrogen	EPA 300.0	HGT	10/02/2013	23:57		
AC45915	Nitrite-Nitrogen	EPA 300.0	HGT	10/02/2013	23:57		
AC45915	Total Kjeldahl Nitrogen	SM 4500-Norg C	LDM	10/04/2013	06:00		
AC45915	Total Phosphorus	EPA 365.3	SH/JW	10/04/2013	09:40		
AC45916	Fecal Coliform	SM 9222D-1997	RAC/LDM	10/02/2013	16:03	10/03/2013	15:15
AC45917	Fecal Coliform	SM 9221E	LDM	10/03/2013	08:00	10/04/2013	08:00
AC45918	Specific Oxygen Consumption Rate	SM 2710B	JW / JLP	10/02/2013	15:30		

The results contained in this report are only representative of the sample(s) received.





### SAMPLE RESULTS REPORT

<b>REPORT TO</b>		 <p><b>NELAP Accredited Florida DOH #E871078</b></p>	<p>ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.</p> <p>ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 Testing.</p> <p>Tests within the scope of accreditation are indicated by an asterisk (*).</p> <p><i>This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.</i></p>	 <p><b>Cert# L2239 Testing</b></p>	<p><b>EPA/ADEM Certification No. 40160</b></p>
<p>Mark Bland Water &amp; Wastewater Board City of Madison 101 Ray Sanderson Drive Madison, AL 35758</p>					
Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit

**Sample Point: Effluent Composite**

Collected: 10/02/2013

Submitted: 10/02/2013

AC45915	* Ammonia-Nitrogen CAS: 7664-41-7	0.182	mg/l		3.00
AC45915	Nitrite-Nitrogen	<0.15	mg/l		
AC45915	Nitrate-Nitrogen CAS: 7697-37-2	12.4	mg/l		
AC45915	Nitrate plus Nitrite-Nitrogen	12.4	mg/l		
AC45915	* Total Phosphorus CAS: 7723-14-0	2.05	mg/l		
AC45915	* Total Kjeldahl Nitrogen	1.85	mg/l		

**Sample Point: Effluent Grab**

Submitted: 10/02/2013

AC45916	Fecal Coliform	10	colonies/100ml		100
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**Sample Point: Digester**

Collected: 10/02/2013

Submitted: 10/02/2013

AC45917	Fecal Coliform	107000	mpn/g dry wt.		
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**Sample Point: Digester**

Collected: 10/02/2013

Submitted: 10/02/2013

AC45918	Specific Oxygen Consumption Rate	7.64	(mg/g)/h (dry wt.)		
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October 09, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC45915	Effluent Composite	10/2/13	05:00	10/2/13
AC45916	Effluent Grab		Not Provided	10/2/13
AC45917	Digester	10/2/13	08:39	10/2/13
AC45918	Digester	10/2/13	13:20	10/2/13

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services





**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	170169		
PAGE	1	of	1
Tri-Weekly Wastewater			

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER	REQUIRED ANALYSES																	
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER	AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR											
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758																		
SAMPLE COLLECTED BY <i>Chris West</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)																				
ENERSOLV LAB NO. <i>AL45107</i>		DESCRIPTION MADISON-EFFLUENT-COMP			DATE <i>9-25-13</i>	TIME <i>0806</i>	GRAB	COMP														
		MADISON-EFFLUENT-COMP						X														
<i>104</i>		MADISON-EFFLUENT-GRAB			<i>9-25-13</i>	<i>1217</i>	X		X													
<i>104</i>		MADISON-DIGESTER #3			<i>9-25-13</i>	<i>0803</i>	X							X								

COMMENTS: SAMPLE TEMP. REC'D @ 7.1

Field Information									Qty	Type	Vol.	Preserv.	< 2	> 12.5	Parameter					
Sampler	pH	su	n/a	TRC	mg/l	n/a	DO	mg/l	n/a	Temp	deg C	n/a	1	Plastic	Pint	H2SO4			A	NH3, TKN, P
Start Date	<i>9-24-13</i>	Date	n/a	Date	n/a	Date	n/a	Date	n/a	Date	n/a	n/a	1	Plastic	Fecal Cup	Iced	n/a	n/a		Fecal Coliform
Start Time	<i>0600</i>	Time	n/a	Time	n/a	Time	n/a	Time	n/a	Time	n/a	n/a								
Stop Date	<i>9-25-13</i>	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst	n/a	n/a								NO3NO2
Stop Time	<i>0500</i>	SM 4500H+		SM 4500-CI D		SM 4500-O G		SM 2550B												

RELINQUISHED BY: (SIGNATURE) <i>Chris West</i>	DATE <i>9-25-13</i>	TIME <i>1221</i>	RELINQUISHED BY: (SIGNATURE) <i>Jon Roan</i>	DATE <i>9-25-13</i>	TIME <i>1325</i>	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY: (SIGNATURE) <i>Jon Roan</i>	DATE <i>9-25-13</i>	TIME <i>1221</i>	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY: (SIGNATURE) <i>Impuls</i>	DATE <i>9-25-13</i>	TIME <i>1325</i>	SAMPLE STATUS: <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758



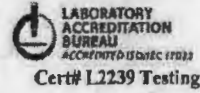
NELAP Accredited  
 Florida DOH  
 #E871078

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Tests within the scope of accreditation are indicated by an asterisk (\*).

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EPA/ADEM Certification  
 No. 40160

Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 09/25/2013

Submitted: 09/25/2013

AC45107 \* Ammonia-Nitrogen  
 CAS: 7664-41-7

<0.100 mg/l

3.00

Sample Point: Effluent Grab

Collected: 09/25/2013

Submitted: 09/25/2013

AC45108 Fecal Coliform

<10 colonies/100ml

100

Sample Point: Digester 3

Collected: 09/25/2013

Submitted: 09/25/2013

AC45109 Fecal Coliform

531000 mpn/g dry wt.

- Data Qualifiers:
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
  - J: Estimated value- the analyte was positively identified; the quantitation is an estimation (e.g. matrix interference, outside calibration range).
  - N: Presumptive evidence of presence (parameter tentatively identified based on mass spectral library search; quality control requirements confirmation was not met, i.e., presence of analyte was not confirmed by alternative procedure.)
  - Q: One or more quality control criteria (LCS, surrogate spike recovery, continued calibration, etc.) failed. Data may be estimated or biased.
  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	End Date/Time	End Date/Time
AC45107	Ammonia-Nitrogen	SM 4500 NH3-C	RAC	09/26/2013	07:30		
AC45108	Fecal Coliform	SM 9222D-1997	RAC	09/25/2013	14:10	09/26/2013	12:50
AC45109	Fecal Coliform	SM 9221E	RAC	09/26/2013	06:30	09/27/2013	06:50

The results contained in this report are only representative of the sample(s) received.



October 02, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC45107	Effluent Composite	9/25/13	05:00	9/25/13
AC45108	Effluent Grab	9/25/13	12:17	9/25/13
AC45109	Digester 3	9/25/13	08:03	9/25/13

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Reviewed by:

Karen Sutton  
Vice President Client Services



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	19722
PAGE	1 of 1
Tri-Weekly Wastewater	

COMPANY/CLIENT NAME Water & W.W. Bd City of Madison		ACCOUNT NUMBER 2586	QUOTE NUMBER	ENERSOLV PROJECT NUMBER
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHONE 256-461-0845 ext 115		CLIENT P.O. NUMBER
CLIENT ADDRESS 701 Landess Circle		CITY Madison	STATE AL	ZIP CODE 35758
SAMPLE COLLECTED BY <i>Sham Law</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)		
ENERSOLV LAB NO. <i>4445</i>		DATE DUE (REQUIRED)		
SAMPLE (USE ONE LINE PER CONTAINER)				
DESCRIPTION	DATE	TIME	GRAB	COMP
MADISON-EFFLUENT-COMP	9-18-13	0901		X
MADISON-EFFLUENT-COMP				X
MADISON-EFFLUENT-GRAB	9-18-13	0902	X	
MADISON-DIGESTER #1	9-18-13	0855	X	

REQUIRED ANALYSES										
AMMONIA (3/week)	FECAL COLIFORM (3/week)	#TKN (Monthly)	P-T (Monthly)	NO3NO2 (Monthly)	SLUDGE FECAL	SOUR				
X	X									

COMMENTS: SAMPLE TEMP. REC'D @ *7:2*

Field Information									Qty	Type	Vol.	Preserv.	< 2	>12.5	Parameter
Sampler	pH	n/a	TRC	n/a	DO	n/a	Temp	n/a	1	Plastic	Pint	H2SO4			NH3, TKN, P
Start Date	9-17-13	Date	n/a	Date	n/a	Date	n/a	Date	1	Plastic	Fecal Cup	Iced	n/a	n/a	Fecal Coliform
Start Time	0600	Time	n/a	Time	n/a	Time	n/a	Time							NO3NO2
Stop Date	9-18-13	Analyst	n/a	Analyst	n/a	Analyst	n/a	Analyst							
Stop Time	0500	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B										

RELINQUISHED BY: (SIGNATURE) <i>Sham Law</i>	DATE 9-18-13	TIME 12:40	RELINQUISHED BY: (SIGNATURE) <i>KR</i>	DATE 9-18-13	TIME 1323
RECEIVED BY: (SIGNATURE) <i>KR</i>	DATE 9-18-13	TIME 12:40	RECEIVED BY: (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY: (SIGNATURE) <i>Sham Law</i>	DATE 9-18-13	TIME 1323	SAMPLE STATUS: <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception		



**SAMPLE RESULTS REPORT**

**REPORT TO**  
 Mark Bland  
 Water & Wastewater Board City of Madison  
 101 Ray Sanderson Drive  
 Madison, AL 35758

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NELAP Accredited  
 Florida DOH  
 #E871078

EPA/ADEM Certification  
 No. 40160

Tests within the scope of accreditation are indicated by an asterisk (\*).

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Sample ID	Analyte Name	Result	Units	Qual	Regulatory Limit
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Sample Point: Effluent Composite

Collected: 09/18/2013

Submitted: 09/18/2013

AC44445 \* Ammonia-Nitrogen  
 CAS: 7664-41-7

<0.100 mg/l

3.00

Sample Point: Effluent Grab

Collected: 09/18/2013

Submitted: 09/18/2013

AC44446 Fecal Coliform

30 colonies/100ml

100

Sample Point: Digester 1

Collected: 09/18/2013

Submitted: 09/18/2013

AC44447 Fecal Coliform

90300 mpn/g dry wt.

- Data Qualifiers:**
- B: Estimated BOD/CBOD value - final dissolved oxygen value less than 1.0 mg/l.
  - D: Estimated BOD/CBOD value - sample dissolved oxygen depletion less than method required 2.0 mg/l.
  - G: Glucose/Glutamic Acid standard outside quality control criteria for BOD/CBOD.
  - H: Sample beyond accepted holding time.
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  - T: Test temperature fell outside method specified range.
  - Y: Analysis performed from improperly preserved sample.

**Analysis Information**

Sample ID	Analysis	Method	Analyst	Analysis		BOD/CBOD/Fecal Analysis	
				Start Date/Time	End Date/Time	Start Date/Time	End Date/Time
AC44445	Ammonia-Nitrogen	SM 4500 NH3-C	LDM	09/20/2013	10:00		
AC44446	Fecal Coliform	SM 9222D-1997	RAC/LDM	09/18/2013	14:30	09/19/2013	15:10
AC44447	Fecal Coliform	SM 9221E	LDM	09/19/2013	07:00	09/20/2013	07:00

The results contained in this report are only representative of the sample(s) received.



September 25, 2013

Mark Bland  
Water & Wastewater Board City of Madison  
101 Ray Sanderson Drive  
Madison, AL 35758

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

<u>Sample ID Number</u>	<u>Sample Description</u>	<u>Date Collected</u>	<u>Time Collected</u>	<u>Date Submitted</u>
AC44445	Effluent Composite	9/18/13	05:00	9/18/13
AC44446	Effluent Grab	9/18/13	09:02	9/18/13
AC44447	Digester 1	9/18/13	08:55	9/18/13

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If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Reviewed by:

Karen Sutton  
Vice President Client Services





# SEPTEMBER

# 2013

## 48 HR ACUTE TOXICITY TEST

*Ceriodaphnia dubia*  
*Pimephales promelas*

# MADISON

PREPARED BY: Justin Wilkerson DATE: 09/11/13

REVIEWED BY: William D. Holloman DATE: 09/13/13

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
TOXICITY TEST REPORT SUMMARY

**1. GENERAL:**

NPDES PERMIT NO.: AL0071897 DSN: 001 COUNTY: Madison  
 Permittee: Madison Water and Wastewater Board  
 Facility Name: Madison WWTP  
 Agent submitting Report: Madison Water and Wastewater Board  
 Lab Conducting Toxicity Test(s): ENERSOLV Inc.  
 Months To Test: March, June, September, December  
 This Report for Toxicity Test(s) Required for the Month of: September 2013  
 Scheduled Test(s): Yes  No  Accelerated Test(s): Yes  No   
 Accelerated Test Number \_\_\_\_\_ of \_\_\_\_\_ For Failed Scheduled Test Date: \_\_\_\_\_  
 Test Type Required: 48-Hr Acute Screening:  -Hr Acute Definitive: \_\_\_\_\_  
 Short-term Chronic Screening: \_\_\_\_\_ Short-term Chronic Definitive: \_\_\_\_\_

Test Organism: *Pimephales promelas*

Test Organism: *Ceriodaphnia dubia*

Sam No.	Date/Time MM/DD/YY	Start HH:MM	Date/Time MM/DD/YY	Ended HH:MM	Control Valid	Date/Time MM/DD/YY	Start HH:MM	Date/Time MM/DD/YY	Ended HH:MM	Control Valid
AC42814	09/04/13	15:15	09/06/13	15:30	Yes	09/04/13	15:15	09/06/13	15:15	Yes

**2A. SUMMARY OF RESULTS FOR SCREENING TEST:**

Test Org.	Eff. Conc.	Test Number											
		(1)			(2)			(3)			(4)		
		Sur	Rep	Gro	Sur	Rep	Gro	Sur	Rep	Gro	Sur	Rep	Gro
C.d.	5	Pass											
P.p.	5	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	BOD5 mg/L	TSS mg/L	NH3 mg/L	pH mg/L	Alk mg/L	Hard mg/L	TRC mg/L	Cond umhos
AC42814				7.7	156	166		517

*Municipal Facilities Only*

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) \_\_\_\_\_ 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: Madison WWTP NPDES #: AL0071897 DSN: 001 Date: 09/04/13

4. SAMPLE COLLECTION:

Split Samples: N/A  Yes \_\_\_\_\_ (explain) \_\_\_\_\_

Samples Collected as Specified in the NPDES Permit: Yes  No (explain) \_\_\_\_\_

Receiving Water: Tennessee River Design Flow: \_\_\_\_\_ (MGD)

Sample ID	Sample(s) Collected				Arrival Temp (C)	Used in Test(s)	
	MM/DD/YY	HHMM	-	MM/DD/YY HHMM		MM/DD/YY	-
AC42814	09/03/13	06:00	-	09/04/13 05:00	2.7	09/04/13	- 09/06/13

5. CONTROL / DILUTION WATER:

Type	Prepared MM/DD/YY	Begin Use MM/DD/YY	Initial Water Chemistries				
			Hard.	Alk.	pH	Cond.	@ °C
MHSFW	09/03/13	09/04/13	94.8	65.4	7.82	367	20

6. TOXICITY TEST INFORMATION:

Test Species	Organism Age	Organism Source	Test Solution Concentrations (%)				
C.d.	<24h	In-house cultures	0	5			
P.p.	<72h	C.K. Associates	0	5			

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.	23.4 - 24.5	6.2 - 8.0	6.81 - 7.95	85
P.p.	23.6 - 24.7	7.8 - 8.0	7.18 - 7.67	85

7. FEEDING:

Not Fed:  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: Madison WWTP NPDES #: AL0071897 DSN: 001 Date: 09/04/13

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.)						
			0	0.2	0.4	0.6	0.8	1.0	
P.p.	08/28 - 08/30	MHSFW	0	0.2	0.4	0.6	0.8	1.0	
C.d.	08/28 - 08/30	MHSFW	0	0.1	0.2	0.3	0.4	0.5	

Test Org.	Results	95% Confidence Interval	Upper and Lower CUSUM Chart Control Limit (This Test)	Number (N)
P.p.	0.78	0.71 - 0.85	0.680 - 0.934	20
C.d.	0.32	0.30 - 0.35	0.277 - 0.390	20

9. TEST CONDITION VARIABILITY:

9.A. Deviations From Standard Test Conditions:

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9.B. Test Solution Manipulations or Test Modifications:

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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:

New permit requires 1 yearly test in September at an IWC of 5%. Previous testing was quarterly at 4%.

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Facility Name: Madison WWTP NPDES #: AL0071897 DSN: 001 Date: 09/04/13

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	5	
MORTALITY (%)	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: \_\_\_\_\_

TEST ORGANISM: *Pimephales promelas*

ACUTE TOXICITY INDICATED: YES \_\_\_\_\_ NO X

NO ACUTE STATISTICAL ANALYSIS NECESSARY: X

SOLUTION CONC. (%)	0	5	
MORTALITY (%)	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: \_\_\_\_\_

Sample Number AC4281

MHSFW Used 090313A

Conductance 517

Alkalinity 156

Hardness 1166

ENERSOLV Acute Toxicity Test

Date/Time Initiated 09/04/13 (1515) llw

Date/Time Ended 9/06/13 (1515) llw

Client Madison

IWC% 5%

Organism-Pimephales promelas

Organism age- < 48 hrs

Control	Rep#	#of Live Organisms			D.O. (mg/L)			pH (su)			Temp (°C) (+25.0)		
		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	7.92	7.33	7.11	24.5	25.4	25.0
	2	10	10	10									
IWC%	3	10	10	10	6.2	8.0	8.0	7.95	7.46	7.26	24.4	25.1	24.5
	4	10	10	10									
Date		09/04	9/5	9/6				Undiluted					
Time		1515	1545	1530				pH (su)*	7.7				
Analyst		llw	llw	llw				*as needed					

Organism-Ceriodaphnia dubia

Organism age- < 24 hrs

Control	Rep#	#of Live Organisms			D.O. (mg/L)			pH (su)			Temp (°C) (+25.0)		
		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	7.82	6.98	6.84	24.5	24.2	23.4
	2	5	5	5									
	3	5	5	5									
	4	5	5	5									
IWC%	5	5	5	5	6.2	8.0	8.0	7.95	7.11	6.81	24.4	24.2	23.4
	6	5	5	5									
	7	5	5	5									
	8	5	5	5									
Date		09/04	9/5	9/6				Undiluted					
Time		1515	1530	1515				pH (su)*	7.7				
Analyst		llw	llw	llw				*as needed					

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



**ANALYSIS REQUEST / CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	801		
PAGE	1	of	1

www.enersolv.com

COMPANY/CLIENT NAME Madison Water & Wastewater		ACCOUNT NUMBER	CLIENT P.O. NUMBER	ENERSOLV PROJECT NUMBER					<b>REQUESTED ANALYSES</b>										
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHYSICAL ADDRESS 101 Ray Sanderson Drive			CITY/STATE/ZIP Madison AL 35758														
CLIENT EMAIL		PHONE NUMBER 461-0845 ext 1	OTHER INFORMATION																
SAMPLE COLLECTED BY: <i>Johann Caris</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)			DATE DUE (REQUIRED)														
ENERSOLV LAB NO. <i>AC47814</i>		SAMPLE (USE ONE LINE PER CONTAINER)																	
		LOCATION CODE	DESCRIPTION	DATE	TIME	GRAB	COMP	48 Hour Acute Screen 2											
			Toxicity	9.4.13	0845		X							X					
			Hardness	9.4.13	0845														
Comments:		Flow _____ Collector to complete shaded areas, as applicable										SAMPLE TEMPERATURE RECEIVED @ <i>9.7.13</i>							
Field Information										Qty	Type	Vol.	Preserv.	Parameter					
<i>9.4.13</i>										.1	Plastic	1/2 Gallon	Plain	<i>A/B</i>					
<i>9.4.13</i>										1	Plastic	Pint	ITNO3						
Start Date	<i>9.4.13</i>	Date	N/A	Date	N/A	Date	N/A	Date	N/A										
Start Time	<i>0600</i>	Time	N/A	Time	N/A	Time	N/A	Time	N/A										
Stop Date	<i>9.4.13</i>	Analyst	N/A	Analyst	N/A	Analyst	N/A	Analyst	N/A										
Stop Time	<i>0500</i>	SM 4500H+	SM 4500-CI D	SM 4500-O G	SM 2550B														
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME								
<i>Johann Caris</i>		<i>9.4.13</i>	<i>1300</i>	<i>J. Simpson</i>		<i>9.4.13</i>	<i>1510</i>												
RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME								
<i>J. Simpson</i>		<i>9.4.13</i>	<i>1300</i>																
RECEIVED FOR LABORATORY USE BY: (SIGNATURE)		DATE	TIME	SAMPLE STATUS:															
<i>Chau</i>		<i>9.4.13</i>	<i>1510</i>	<input checked="" type="checkbox"/> Accepted		<input type="checkbox"/> Rejected				<input type="checkbox"/> Accepted with Exception									

# AUGUST 2013 48 HR ACUTE TOXICITY TEST

*Ceriodaphnia dubia*  
*Pimephales promelas*

# ACUTE SRT

PREPARED BY: [Signature] DATE: 8/28/13

REVIEWED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

2226 Ardmore Road, SE • Jackson, Alabama 36201  
P.O. Box 1606 • Decatur, Alabama 35601 • 256-355-4544 • Fax: 256-355-9846

ENERSOLV  
Standard Reference Toxicant Test  
Toxicant: Potassium Chloride

(SRT) *Ceriodaphnia dubia*  
Beginning Date/Time: 8/28/13 08:00  
End Date/Time: 8/29/13 08:00

Pimephales promelas			DO (mg/L)			Temp (deg. C)			Survivors			Temp (deg. C)		
KCl Cup	Survivors	%	0 h	24 h	48 h	0 h	24 h	48 h	0 h	24 h	48 h	0 h	24 h	48 h
0	10	100	100	100	100	20.0	20.0	20.0	10	10	10	20.0	20.0	20.0
0.1	10	100	100	100	100	20.0	20.0	20.0	10	10	10	20.0	20.0	20.0
0.2	10	100	100	100	100	20.0	20.0	20.0	10	10	10	20.0	20.0	20.0
0.4	10	100	100	100	100	20.0	20.0	20.0	10	10	10	20.0	20.0	20.0
0.6	10	100	100	100	100	20.0	20.0	20.0	10	10	10	20.0	20.0	20.0
0.8	10	100	100	100	100	20.0	20.0	20.0	10	10	10	20.0	20.0	20.0
1.0	10	100	100	100	100	20.0	20.0	20.0	10	10	10	20.0	20.0	20.0
1.2	10	100	100	100	100	20.0	20.0	20.0	10	10	10	20.0	20.0	20.0

*Ceriodaphnia dubia*  
LC50: 0.32  
LC1: 0.10  
LC10: 0.05  
Custom UCL: 0.30  
Custom LCL: 0.05

Sample ID: Allis Hard Equal  
MUSPW used: 11/1/13  
exp: 1/1/13

### August 2013 Acute SRT

DATE: 08/28/13

DURATION: 48 hrs

TOXICANT: KCL

SPECIES: *C. dubia*

Concentration (%)	Number Exposed	Mortalities
.00	20	1
.10	20	2
.20	20	1
.30	20	6
.40	20	19
.50	20	20

SPEARMAN-KARBER TRIM: 2.63%

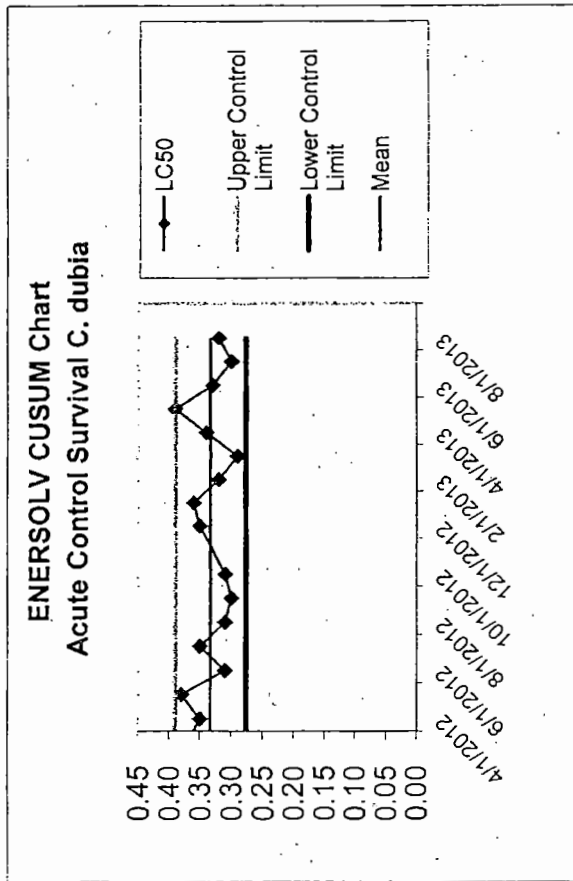
SPEARMAN-KARBER ESTIMATES: LC50: 0.32

95% LOWER CONFIDENCE: 0.30

95% UPPER CONFIDENCE: 0.35

NOTE: MORTALITY PROPORTIONS WERE NOT MONOTONICALLY INCREASING.

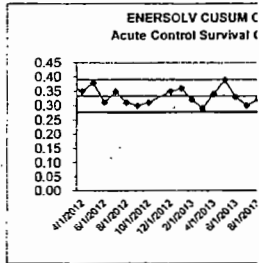
ADJUSTMENTS WERE MADE PRIOR TO SPEARMAN-KARBER ESTIMATION.



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
1	12/13/11	0.35	0.277	0.390	0.33
2	01/18/12	0.33	0.277	0.390	0.33
3	02/22/12	0.31	0.277	0.390	0.33
4	03/14/12	0.37	0.277	0.390	0.33
5	04/18/12	0.35	0.277	0.390	0.33
6	05/25/12	0.38	0.277	0.390	0.33
7	06/13/12	0.31	0.277	0.390	0.33
8	07/18/12	0.35	0.277	0.390	0.33
9	08/22/12	0.31	0.277	0.390	0.33
10	09/25/12	0.30	0.277	0.390	0.33
11	10/30/12	0.31	0.277	0.390	0.33
12	12/18/12	0.35	0.277	0.390	0.33
13	01/16/13	0.36	0.277	0.390	0.33
14	02/20/13	0.32	0.277	0.390	0.33
15	03/20/13	0.29	0.277	0.390	0.33
16	04/17/13	0.34	0.277	0.390	0.33
17	05/20/13	0.39	0.277	0.390	0.33
18	06/12/13	0.33	0.277	0.390	0.33
19	07/17/13	0.30	0.277	0.390	0.33
20	08/28/13	0.32	0.277	0.390	0.33

SUM = 6.67  
 MEAN = 0.33  
 STD DEV = 0.028  
 UPPER CONTROL LIMIT = 0.390  
 LOWER CONTROL LIMIT = 0.277  
 N = 20  
 COEFFICIENT OF VARIATION (CV) = 0.085



August 2013 Acute SRT

DATE: 08/28/13

DURATION: 48 hrs

TOXICANT: KCL

SPECIES: *P. promelas*

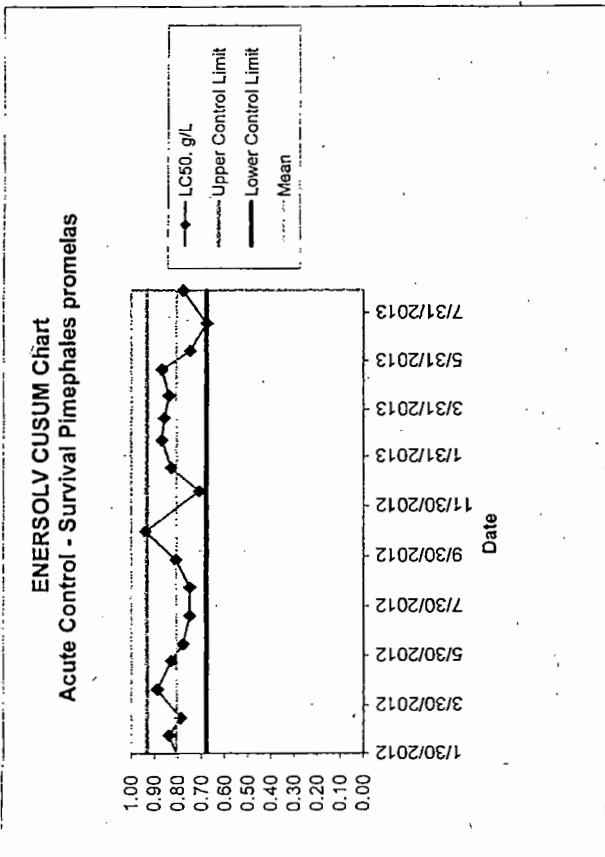
Concentration (%)	Number Exposed	Mortalities
.00	20	0
.20	20	0
.40	20	1
.60	20	3
.80	20	8
1.00	20	19

SPEARMAN-KARBER TRIM: 5.00%

SPEARMAN-KARBER ESTIMATES: LC50 = 0.78

95% LOWER CONFIDENCE: 0.71

95% UPPER CONFIDENCE: 0.85



ORGANISM: Pimephales promelas  
 REFERENCE TOXICANT: Potassium chloride SOURCE: Fisher

No.	DATE	LC50	MEAN	LOWER CONTROL LIMIT	UPPER CONTROL LIMIT	LAB CONTRC RESULT SQUARED
1	12/13/11	0.78	0.807	0.680	0.934	0.8649
2	01/18/12	0.79	0.807	0.680	0.934	0.7744
3	02/22/12	0.84	0.807	0.680	0.934	0.64
4	03/14/12	0.79	0.807	0.680	0.934	0.8649
5	04/18/12	0.89	0.807	0.680	0.934	0.8281
6	05/23/12	0.83	0.807	0.680	0.934	0.8649
7	06/13/12	0.78	0.807	0.680	0.934	0.8649
8	07/18/12	0.75	0.807	0.680	0.934	0.8281
9	08/22/12	0.75	0.807	0.680	0.934	0.8649
10	09/25/12	0.81	0.807	0.680	0.934	0.8281
11	10/30/12	0.94	0.807	0.680	0.934	0.7569
12	12/18/12	0.71	0.807	0.680	0.934	0.64
13	01/16/13	0.83	0.807	0.680	0.934	0.3136
14	02/20/13	0.87	0.807	0.680	0.934	0.1296
15	03/20/13	0.86	0.807	0.680	0.934	1.2996
16	04/17/13	0.84	0.807	0.680	0.934	0.3025
17	05/20/13	0.87	0.807	0.680	0.934	1.0404
18	06/12/13	0.75	0.807	0.680	0.934	1.0404
19	07/17/13	0.68	0.807	0.680	0.934	1.0404
20	08/28/13	0.78	0.807	0.680	0.934	1.0404

MEAN = 0.807

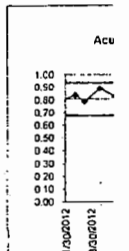
STD DEV = 0.0635

UPPER CONTROL LIMIT = 0.93401

LOWER CONTROL LIMIT = 0.67999

N = 20

COEFFICIENT OF VARIATION (C) = 0.079





**SEPTEMBER**

**2014**

**48 HR ACUTE  
TOXICITY TEST**

*Ceriodaphnia dubia*  
*Pimephales promelas*

**MADISON**

PREPARED BY: *Linda Wilhoys* DATE: *09/11/14*

REVIEWED BY: *William D. Dolderman* DATE: *09/12/14*



ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
TOXICITY TEST REPORT SUMMARY

**1. GENERAL:**

NPDES PERMIT NO.: AL0071897 DSN: 001 COUNTY: Madison  
 Permittee: Madison Water and Wastewater Board  
 Facility Name: Madison WWTP  
 Agent submitting Report: Madison Water and Wastewater Board  
 Lab Conducting Toxicity Test(s): ENERSOLV Inc.  
 Months To Test: March, June, September, December  
 This Report for Toxicity Test(s) Required for the Month of: September 2014  
 Scheduled Test(s): Yes  No  Accelerated Test(s): Yes  No   
 Accelerated Test Number \_\_\_\_\_ of \_\_\_\_\_ For Failed Scheduled Test Date: \_\_\_\_\_  
 Test Type Required: 48-Hr Acute Screening:  -Hr Acute Definitive: \_\_\_\_\_  
 Short-term Chronic Screening: \_\_\_\_\_ Short-term Chronic Definitive: \_\_\_\_\_

Test Organism: *Pimephales promelas*

Test Organism: *Ceriodaphnia dubia*

Sam No.	Date/Time MM/DD/YY	Start HH:MM	Date/Time MM/DD/YY	Ended HH:MM	Control Valid	Date/Time MM/DD/YY	Start HH:MM	Date/Time MM/DD/YY	Ended HH:MM	Control Valid
AC81652	09/03/14	15:10	09/05/14	15:15	Yes	09/03/14	15:00	09/05/14	15:25	Yes

**2A. SUMMARY OF RESULTS FOR SCREENING TEST:**

Test Org.	Eff. Conc.	Test Number											
		(1)		(2)		(3)		(4)					
		Sur	Rep	Gro	Sur	Rep	Gro	Sur	Rep	Gro	Sur	Rep	Gro
C.d.	5	Pass											
P.p.	5	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	BOD5 mg/L	TSS mg/L	NH3 mg/L	pH mg/L	Alk mg/L	Hard mg/L	TRC mg/L	Cond umhos
AC81652				7.4	153	170		486

*Municipal Facilities Only:*

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) \_\_\_\_\_ 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: Madison WWTP NPDES #: AL0071897 DSN: 001 Date: 09/03/14

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				Arrival Temp (C)	Used in Test(s)	
	MM/DD/YY	HHMM	-	MM/DD/YY HHMM		MM/DD/YY	-
AC81652	09/02/14	06:00	-	09/03/14 05:00	3.3	09/03/14	- 09/05/14

5. CONTROL / DILUTION WATER:

Type	Prepared MM/DD/YY	Begin Use MM/DD/YY	Initial Water Chemistries				
			Hard.	Alk.	pH	Cond.	@ °C
MHSFW	08/28/14	09/03/14	95.1	68.4	7.54	334	19.3

6. TOXICITY TEST INFORMATION:

Test Species	Organism Age	Organism Source	Test Solution Concentrations (%)				
C.d.	<24h	In-house cultures	0	5			
P.p.	<72h	C.K. Associates	0	5			

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.	23.4 - 24.9	7.9 - 8.0	7.08 - 7.44	88
P.p.	24.0 - 24.9	8.0 - 8.0	6.89 - 7.46	88

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: Madison WWTP NPDES #: AL0071897 DSN: 001 Date: 09/03/14

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.)						
			0	0.2	0.4	0.6	0.8	1.0	
P.p.	08/27 - 08/29	MHSFW	0	0.2	0.4	0.6	0.8	1.0	
C.d.	08/27 - 08/29	MHSFW	0	0.1	0.2	0.3	0.4	0.5	

Test Org.	Results	95% Confidence Interval	Upper and Lower CUSUM Chart Control Limit (This Test)	Number (N)
P.p.	0.81	0.73 - 0.90	0.638 - 0.931	20
C.d.	0.32	0.28 - 0.37	0.274 - 0.377	20

9. TEST CONDITION VARIABILITY:

9.A. Deviations From Standard Test Conditions:

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:

New permit requires 1 yearly test in September at an IWC of 5%. Previous testing was quarterly at 4%.

Facility Name: Madison WWTP NPDES #: AL0071897 DSN: 001 Date: 09/03/14

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	5	
MORTALITY (%)	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: \_\_\_\_\_

TEST ORGANISM: *Pimephales promelas*

ACUTE TOXICITY INDICATED: YES \_\_\_\_\_ NO X  
NO ACUTE STATISTICAL ANALYSIS NECESSARY: \_\_\_\_\_ X

SOLUTION CONC.(%)	0	5	
MORTALITY (%)	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: \_\_\_\_\_

ENERSO LV Acute Toxicity Screening Test

TOX-005-SOP A & TOX-006-SOP A rev. 2

Client Madison IWC % 5%

Sample ID ACB11652

Date/Time Initiated 9/3/14 (1500) UW

MHSFW Batch used 082814B

Date/Time Ended 9/5/14 (1515) UW

Chemistry: Conductance 486 Alkalinity 153 Hardness 170

Organism-*Pimephales promelas* 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	10	10	10	8.0	8.0	8.0	7.44	7.09	7.46	24.9	24.2	24.5
	2	10	10	10									
IWC%	3	10	10	10	8.0	8.0	8.0	7.44	7.07	7.44	24.8	24.0	24.7
	4	10	10	10									
Date		9/3/14	9/4	9/5				Undiluted					
Time		1510	1525	1515				pH (su)*	7.4				
Analyst		UW	UW	UW				*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	7.9	7.9	7.44	7.23	7.17	24.9	23.8	23.6
	2	5	5	5									
	3	5	5	5									
	4	5	5	5									
IWC%	5	5	5	5	8.0	8.0	8.0	7.44	7.08	7.27	24.8	23.4	23.4
	6	5	5	5									
	7	5	5	5									
	8	5	5	5									
Date		9/3/14	9/4	9/5				Undiluted					
Time		1500	1510	1525				pH (su)*	7.4				
Analyst		UW	UW	UW				*as needed					

P. promelas: Source EC 3T Lot # E-99316 Date received 09/03/14 Date hatched 09/02/14

C. dubia: Source In House Culture Brood board D Date/Time Hatched 9/02/14 between 0845 and 1610.

Comments: \_\_\_\_\_



**ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256)-350-0846

COC NUMBER	7601		
PAGE	1	of	1

www.enersolv.com

COMPANY/CLIENT NAME Madison Water & Wastewater		ACCOUNT NUMBER	CLIENT P.O. NUMBER	ENERSOLV PROJECT NUMBER	<b>REQUESTED ANALYSES</b>																									
CLIENT POINT OF CONTACT Jeff Taylor		CLIENT PHYSICAL ADDRESS 101 Ray Sanderson Drive		CITY/STATE/ZIP Madison AL 35758																										
CLIENT EMAIL		PHONE NUMBER 461-0845 ext 1	OTHER INFORMATION																											
SAMPLE COLLECTED BY <i>Johann Caris</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)																												
		DATE DUE (REQUIRED)			48 Hour Acute Screen																									
ENERSOLV LAB NO. <i>AL01652</i>		LOCATION CODE	DESCRIPTION Toxicity	DATE 9.3.14											TIME 0831	GRAB	COMP X	X												

**Comments:** Flow \_\_\_\_\_  
 Collector to complete shaded areas, as applicable

**SAMPLE TEMPERATURE RECEIVED @ 3.3°C**

Field Information									Qty	Type	Vol.	Preserv.	Parameter	
Sampler	pH	N/A	TRC	N/A	DO	N/A	Temp	N/A	1	Plastic	1/2 Gallon	Plain	A	Toxicity
Start Date	su	N/A	mg/l	N/A	mg/l	N/A	deg C	N/A	1	Plastic	Pint	HNO3	B	Hardness
Date	Date	Date	Date	Date	Date	Date	Date	Date						
Time	Time	Time	Time	Time	Time	Time	Time	Time						
Analyst	Analyst	Analyst	Analyst	Analyst	Analyst	Analyst	Analyst	Analyst						
SM 4500H+	SM 4500-CID	SM 4500-O G	SM 2550B											

RELINQUISHED BY: (SIGNATURE) <i>Johann Caris</i>	DATE 9.3.14	TIME 12:43	RELINQUISHED BY: (SIGNATURE) <i>Tom Bond</i>	DATE 9/3/14	TIME 1425	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY: (SIGNATURE) <i>Tom Bond</i>	DATE 9/3/14	TIME 12:43	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY: (SIGNATURE) <i>Jhal G</i>	DATE 9/3/14	TIME 1425	SAMPLE STATUS: <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					



# AUGUST 2014 48 HR ACUTE TOXICITY TEST

*Ceriodaphnia dubia*  
*Pimephales promelas*

# ACUTE SRT

PREPARED BY: Leslie Wilkington DATE: 9/8/14  
REVIEWED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

2220 Bellvue Road SE • Columbus, Alabama 35888  
764.866.0600 • Alabama 35892 • 256.250.8636 • Fax: 256.350.0600

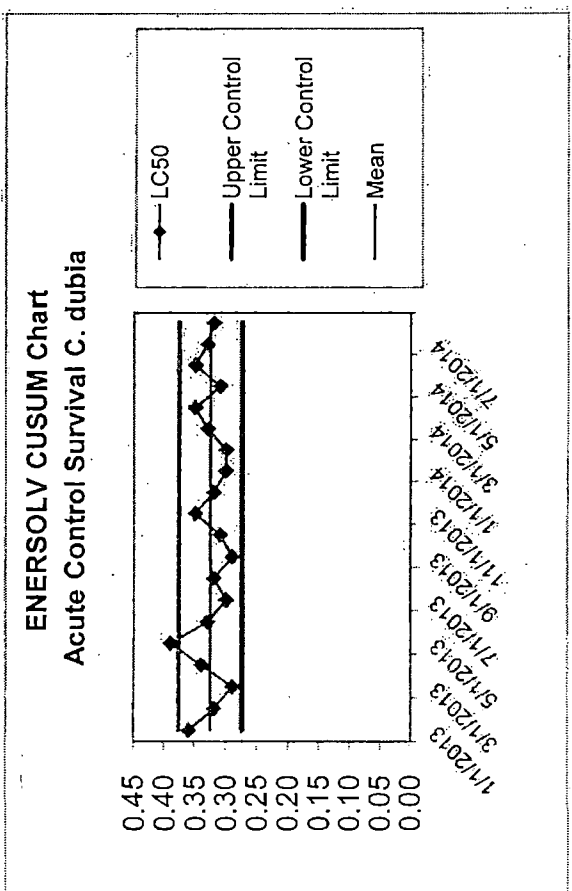
Pimephales promelas		Ceriodaphnia dubia	
KCL Cup	Survivors	KCL Cup	Survivors
0	20	0	20
0.02	20	0	20
0.04	20	0	20
0.06	20	0	20
0.08	20	0	20
0.10	20	0	20
0.12	20	0	20
0.15	20	0	20
0.20	20	0	20
0.25	20	0	20
0.30	20	0	20
0.35	20	0	20
0.40	20	0	20
0.45	20	0	20

### AUGUST 2014 ACUTE SRT

DATE: 08/27/14  
DURATION: 48 hrs  
TOXICANT: KCL  
SPECIES: C. dubia

Concentration (%)	Number Exposed	Mortality
0.00	20	0
0.10	20	1
0.20	20	3
0.30	20	5
0.40	20	15
0.50	20	20

SPEARMAN-KARBER TRIM: 5.00%  
SPEARMAN-KARBER ESTIMATES: LC50: 0.32  
95% LOWER CONFIDENCE: 0.28  
95% UPPER CONFIDENCE: 0.37



ENERSOLV, Inc.

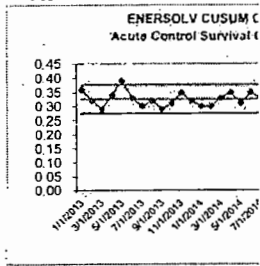
STANDARD REFERENCE TOXICANT CONTROL CHART

ORGANISM: CERIODAPHNIA DUBIA Duration: 48 hours  
 REFERENCE TOXICANT: Potassium chloride SOURCE: Fisher

No.	DATE	LC50	LOWER CONTROL LIMIT	UPPER CONTROL LIMIT	Mean
1	01/16/13	0.36	0.274	0.377	0.33
2	02/20/13	0.32	0.274	0.377	0.33
3	03/20/13	0.29	0.274	0.377	0.33
4	04/17/13	0.34	0.274	0.377	0.33
5	05/20/13	0.39	0.274	0.377	0.33
6	06/12/13	0.33	0.274	0.377	0.33
7	07/17/13	0.30	0.274	0.377	0.33
8	08/28/13	0.32	0.274	0.377	0.33
9	09/25/13	0.29	0.274	0.377	0.33
10	10/30/13	0.31	0.274	0.377	0.33
11	11/26/13	0.35	0.274	0.377	0.33
12	12/11/13	0.32	0.274	0.377	0.33
13	01/15/14	0.30	0.274	0.377	0.33
14	02/19/14	0.30	0.274	0.377	0.33
15	03/11/14	0.33	0.274	0.377	0.33
16	04/09/14	0.35	0.274	0.377	0.33
17	05/14/14	0.31	0.274	0.377	0.33
18	06/24/14	0.35	0.274	0.377	0.33
19	07/16/14	0.33	0.274	0.377	0.33
20	08/27/14	0.32	0.274	0.377	0.33

SUM = 6.51  
 MEAN = 0.33  
 STD DEV = 0.026  
 UPPER CONTROL LIMIT = 0.377  
 LOWER CONTROL LIMIT = 0.274  
 N = 20

COEFFICIENT OF VARIATION (CV) = 0.079



AUGUST 2014 ACUTE SRT

DATE: 08/27/14

DURATION: 48 hrs

TOXICANT: KCL

SPECIES: P. promelas

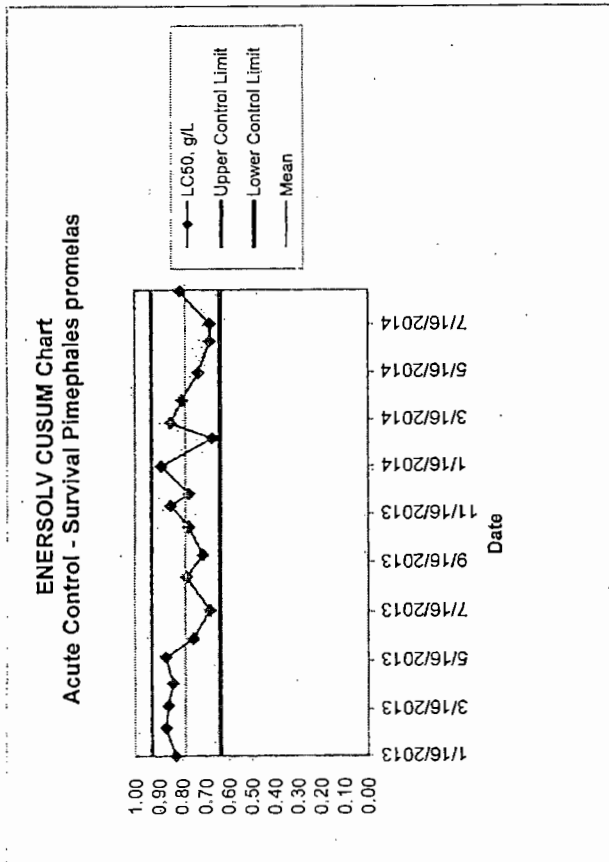
Concentration (%)	Number Exposed	Mortalities
.00	20	0
.20	20	0
.40	20	0
.60	20	3
.80	20	9
1.00	20	16

SPEARMAN-KARBER TRIM: 20.00%

SPEARMAN-KARBER ESTIMATES: LC50: 0.81

95% LOWER CONFIDENCE: 0.73

95% UPPER CONFIDENCE: 0.90



ORGANISM: Pimephales promelas  
 REFERENCE TOXICANT: Potassium chloride SOURCE: Fisher

No.	DATE	LC50	MEAN	LOWER CONTROL LIMIT	UPPER CONTROL LIMIT	LAB CONTRC RESULT SQUARED
1	01/16/13	0.83	0.7845	0.638	0.931	0.8649
2	02/20/13	0.87	0.7845	0.638	0.931	0.7744
3	03/20/13	0.86	0.7845	0.638	0.931	0.64
4	04/17/13	0.84	0.7845	0.638	0.931	0.8649
5	05/20/13	0.87	0.7845	0.638	0.931	0.8281
6	06/12/13	0.75	0.7845	0.638	0.931	0.8649
7	07/17/13	0.68	0.7845	0.638	0.931	0.8649
8	08/28/13	0.78	0.7845	0.638	0.931	0.8281
9	09/25/13	0.71	0.7845	0.638	0.931	0.8649
10	10/30/13	0.77	0.7845	0.638	0.931	0.8281
11	11/26/13	0.85	0.7845	0.638	0.931	0.7569
12	12/11/13	0.77	0.7845	0.638	0.931	0.64
13	01/15/14	0.89	0.7845	0.638	0.931	0.3136
14	02/19/14	0.67	0.7845	0.638	0.931	0.1296
15	03/11/14	0.85	0.7845	0.638	0.931	1.2996
16	04/09/14	0.80	0.7845	0.638	0.931	0.3025
17	05/14/14	0.73	0.7845	0.638	0.931	1.0404
18	06/24/14	0.68	0.7845	0.638	0.931	1.0404
19	07/16/14	0.68	0.7845	0.638	0.931	1.0404
20	08/27/14	0.81	0.7845	0.638	0.931	1.0404

MEAN = 0.7845

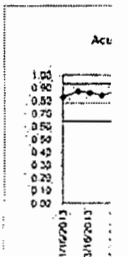
STD DEV = 0.0733

UPPER CONTROL LIMIT = 0.93111

LOWER CONTROL LIMIT = 0.63789

N = 20

COEFFICIENT OF VARIATION (C) = 0.093







# SEPTEMBER

# 2015

## 48 HR ACUTE TOXICITY TEST

*Ceriodaphnia dubia*  
*Pimephales promelas*

# MADISON

PREPARED BY:

*Bodie Willingham*

DATE:

*09/17/15*

REVIEWED BY:

*William H. Robinson*

DATE:

*09/18/15*



ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
TOXICITY TEST REPORT SUMMARY

**1. GENERAL:**

NPDES PERMIT NO.: AL0071897 DSN: 001 COUNTY: Madison  
 Permittee: Madison Water and Wastewater Board  
 Facility Name: Madison WWTP  
 Agent submitting Report: Madison Water and Wastewater Board  
 Lab Conducting Toxicity Test(s): ENERSOLV Inc.  
 Months To Test: March, June, September, December  
 This Report for Toxicity Test(s) Required for the Month of: September 2015  
 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 MM/DD/YY	Start HH:MM	Date/Time MM/DD/YY	Ended HH:MM	Control Valid	Date/Time MM/DD/YY	Start HH:MM	Date/Time MM/DD/YY	Ended HH:MM	Control Valid
AD20916	09/10/15	10:45	09/12/15	11:30	Yes	09/10/15	10:45	09/12/15	11:35	Yes

**2A. SUMMARY OF RESULTS FOR SCREENING TEST:**

Test Org.	Eff. Conc.	Test Number											
		(1)			(2)			(3)			(4)		
C.d.	5	Sur	Rep	Gro	Sur	Rep	Gro	Sur	Rep	Gro	Sur	Rep	Gro
P.p.	5	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	BOD5 mg/L	TSS mg/L	NH3 mg/L	pH mg/L	Alk mg/L	Hard mg/L	TRC mg/L	Cond umhos
AD20916				7.3	166	169		510

*Municipal Facilities Only*

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)        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: Madison WWTP NPDES #: AL0071897 DSN: 001 Date: 09/10/15

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				Arrival Temp (C)	Used in Test(s)	
	MM/DD/YY	HHMM	-	MM/DD/YY HHMM		MM/DD/YY	-
AD20916	09/08/15	06:00	-	09/09/15 05:00	2.4	09/10/15	- 09/12/15

5. CONTROL / DILUTION WATER:

Type	Prepared MM/DD/YY	Begin Use MM/DD/YY	Initial Water Chemistries				
			Hard.	Alk.	pH	Cond.	@ °C
MHSFW	09/04/15	09/10/15	96.1	65.8	7.57	457	25.0

6. TOXICITY TEST INFORMATION:

Test Species	Organism Age	Organism Source	Test Solution Concentrations (%)				
C.d.	<24h	In-house cultures	0	5			
P.p.	<72h	C.K. Associates	0	5			

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.	24.0 - 25.0	8.0 - 8.0	7.10 - 7.43	93
P.p.	24.0 - 25.0	8.0 - 8.0	7.22 - 7.43	93

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: Madison WWTP NPDES #: AL0071897 DSN: 001 Date: 09/10/15

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.)						
			0	0.2	0.4	0.6	0.8	1.0	
P.p.	08/25 - 08/27	MHSFW	0	0.2	0.4	0.6	0.8	1.0	
C.d.	08/25 - 08/27	MHSFW	0	0.1	0.2	0.3	0.4	0.5	

Test Org.	Results	95% Confidence Interval	Upper and Lower CUSUM Chart Control Limit (This Test)	Number (N)
P.p.	0.69	0.61 - 0.79	0.570 - 0.903	20
C.d.	0.38	0.35 - 0.41	0.274 - 0.387	20

9. TEST CONDITION VARIABILITY:

9.A. Deviations From Standard Test Conditions:

---



---

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:

New permit requires 1 yearly test in September at an IWC of 5%. Previous testing was quarterly at 4%.

---



---

Facility Name: Madison WWTP NPDES #: AL0071897 DSN: 001 Date: 09/10/15

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	5	
MORTALITY (%)	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: \_\_\_\_\_

TEST ORGANISM: *Pimephales promelas*

ACUTE TOXICITY INDICATED: YES \_\_\_\_\_ NO X  
NO ACUTE STATISTICAL ANALYSIS NECESSARY: X

SOLUTION CONC.(%)	0	5	
MORTALITY (%)	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: \_\_\_\_\_

ENER: Acute Toxicity Screening Test

TOX-005-SOP A & TOX-006-SOP A rev. 2

Client Madison IWC % 5%

Sample ID AD20916

Date/Time Initiated 9/10/15 (1045) UW

MHSFW Batch used 090415A

Date/Time Ended 9/12/15 (1135) DWW

Chemistry: Conductance 510 Alkalinity 166 Hardness 169

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	8.0	8.0	7.43	7.38	7.22	25.0	24.4	24.0
	2	10	10	10									
IWC%	3	10	10	10	8.0	8.0	8.0	7.41	7.34	7.31	24.4	24.4	24.1
	4	10	10	10									
Date		9/10	9/11	9/12				Undiluted					
Time		1045	1125	1130				pH (su)*	7.3				
Analyst		UW	UW	DWW				*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	8.0	7.43	7.36	7.19	25.0	24.3	24.1
	2	5	5	5									
	3	5	5	5									
	4	5	5	5									
IWC%	5	5	5	5	8.0	8.0	8.0	7.41	7.36	7.10	24.4	24.4	24.0
	6	5	5	5									
	7	5	5	5									
	8	5	5	5									
Date		9/10	9/11	9/12				Undiluted					
Time		1045	1130	1135				pH (su)*	7.3				
Analyst		UW	UW	DWW				*as needed					

P. promelas: Source EC & T Lot # E10774 Date received 9/10/15 Date hatched 9/10/15

C. dubia: Source In House Culture Brood board D Date/Time Hatched 9/9/15

Comments: \_\_\_\_\_



ANALYSIS REQUEST CHAIN OF CUSTODY RECORD  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256) 350-0846

COC NUMBER	40399		
PAGE	1	of	1
Digester			

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COMPANY/CLIENT NAME Water & WW Bd City of Madison		ACCOUNT NUMBER 1373	CLIENT P.O. NUMBER	ENERSOLV PROJECT NUMBER	REQUESTED ANALYSES																
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHYSICAL ADDRESS 701 Landess Circle		CITY/STATE/ZIP Madison, AL 35756																	
CLIENT EMAIL mbland@madisonutilities.org		PHONE NUMBER 256-461-0845	OTHER INFORMATION		148h-A-Cerio-Screen	148h-A-Minn-Screen															
SAMPLE COLLECTED BY <i>Shade Sporkman</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																	
ENERSOLV LAB NUMBER <i>AD20916</i>	ENERSOLV LOCATION CODE Madison-Eff-Tox	SAMPLE DESCRIPTION Outfall 001T	SAMPLE TRANSFER/GRAB DATE 9-9-15	SAMPLE TRANSFER/GRAB TIME 0821	GRAB	COMP	X	X	X												

Comments: Toxicity test to be performed during September  
 FLOW \_\_\_\_\_  
 Collector to complete shaded areas, as applicable  
 SAMPLE TEMPERATURE RECEIVED @ *7.4°C*

SAMPLER INFORMATION		FIELD INFORMATION							Qty	Type	Vol.	Preserv.	Parameter		
Start Date	9-8-15	pH		TRC		DO		Temp		1	Plastic	1/2 Gallon	Iced	A	Toxicity
Start Time	0600	su		mg/l		mg/l		deg C		1	Plastic	Pint	HNO3	B	Hardness
Stop Date	9-9-15	Date		Date		Date		Date							
Stop Time	0500	Time		Time		Time		Time							
		Analyst		Analyst		Analyst		Analyst							
		SM 4500H+B		SM 4500-CI D		SM 4500-O G		SM 2550B							

RELINQUISHED BY: (SIGNATURE) <i>Shade Sporkman</i>	DATE 9-9-15	TIME 1220	RELINQUISHED BY: (SIGNATURE) <i>Jimmy Sharp</i>	DATE 9-9-15	TIME 1305	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY: (SIGNATURE) <i>Jimmy Sharp</i>	DATE 9-9-15	TIME 1220	RECEIVED BY: (SIGNATURE) <i>Shade Sporkman</i>	DATE 9-9-15	TIME 1305	RECEIVED BY: (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY: (SIGNATURE) <i>Shade Sporkman</i>			DATE 9-9-15	TIME 1305	SAMPLE STATUS: <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception			



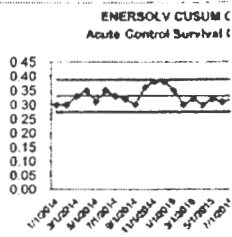




ENERSOLV, Inc  
 STANDARD REFERENCE TOXICANT CONTROL CHART  
 ORGANISM: CERIODAPHNIA DUBIA Duration: 48 hours

REFERENCE TOXICANT: Potassium chloride SOURCE: Fisher

No.	DATE	LC50	LOWER CONTROL LIMIT	UPPER CONTROL LIMIT	Mean
1	01/15/14	0.30	0.274	0.387	0.33
2	02/19/14	0.30	0.274	0.387	0.33
3	03/11/14	0.33	0.274	0.387	0.33
4	04/09/14	0.35	0.274	0.387	0.33
5	05/14/14	0.31	0.274	0.387	0.33
6	06/24/14	0.35	0.274	0.387	0.33
7	07/16/14	0.33	0.274	0.387	0.33
8	08/27/14	0.32	0.274	0.387	0.33
9	09/24/14	0.30	0.274	0.387	0.33
10	10/29/14	0.36	0.274	0.387	0.33
11	11/18/14	0.38	0.274	0.387	0.33
12	12/02/14	0.38	0.274	0.387	0.33
13	01/06/15	0.35	0.274	0.387	0.33
14	02/18/15	0.30	0.274	0.387	0.33
15	03/24/15	0.32	0.274	0.387	0.33
16	04/14/15	0.30	0.274	0.387	0.33
17	05/13/15	0.32	0.274	0.387	0.33
18	06/23/15	0.31	0.274	0.387	0.33
19	07/22/15	0.32	0.274	0.387	0.33
20	08/25/15	0.38	0.274	0.387	0.33



MEAN	LOWER WARNING LIMIT	UPPER WARNING LIMIT	LAB RESULT SQUARE
0.2812	0.1296	0.5734	0.0784
0.3515	0.1296	0.5734	0.1225
0.3515	0.1296	0.5734	0.1521
0.3515	0.1296	0.5734	0.1225
0.3515	0.1296	0.5734	0.1369
0.3515	0.1296	0.5734	0.1024
0.3515	0.1296	0.5734	0.16
0.3515	0.1296	0.5734	0.1156
0.3515	0.1296	0.5734	0.09
0.3515	0.1296	0.5734	0.1369
0.3515	0.1296	0.5734	0.1024
0.3515	0.1296	0.5734	0.09
0.3515	0.1296	0.5734	0.1369
0.3515	0.1296	0.5734	0.1225
0.3515	0.1296	0.5734	0.1444
0.3515	0.1296	0.5734	0.1024
0.3515	0.1296	0.5734	0.1444
0.3515	0.1296	0.5734	0.1521
0.3515	0.1296	0.5734	0.1936
0.3515	0.1296	0.5734	0.0961

SUM = 6.61  
 MEAN = 0.33  
 STD DEV = 0.028  
 UPPER CONTROL LIMIT = 0.387  
 LOWER CONTROL LIMIT = 0.274  
 N = 20  
 COEFFICIENT OF VARIATION (CV) = 0.086

SUM SQUARES = 2.5021  
 VARIANCE = 0.0219  
 UPPER WARNING LIMIT = 0.5734  
 LOWER WARNING LIMIT = 0.1296

AUGUST 2015 ACUTE SRT

DATE: 08/25/15  
 DURATION: 48 hrs  
 TOXICANT: KCL  
 SPECIES: *P. promelas*

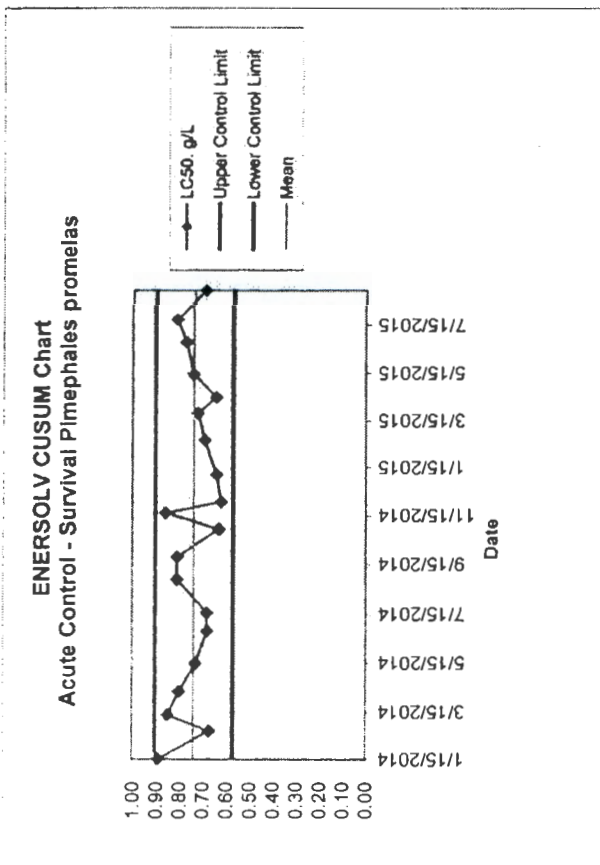
Concentration (%)	Number Exposed	Mortalities
.00	20	0
.20	20	1
.40	20	2
.60	20	4
.80	20	13
1.00	20	19

SPEARMAN-KARBER TRIM: 5.00%

SPEARMAN-KARBER ESTIMATES: LC50: 0.69

95% LOWER CONFIDENCE: 0.61

95% UPPER CONFIDENCE: 0.79





# SEPTEMBER 2016

## 48 HR ACUTE TOXICITY TEST

*Ceriodaphnia dubia*  
*Pimephales promelas*

# MADISON

PREPARED BY: *Leshia Wilkoff* DATE: 9/23/16

REVIEWED BY: *William D. Holloman* DATE: 9/23/16

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
TOXICITY TEST REPORT SUMMARY

**1. GENERAL:**

NPDES PERMIT NO.: AL0071897 DSN: 001 COUNTY: Madison  
 Permittee: Madison Water and Wastewater Board  
 Facility Name: Madison WWTP  
 Agent submitting Report: Madison Water and Wastewater Board  
 Lab Conducting Toxicity Test(s): ENERSOLV Inc.  
 Months To Test: September  
 This Report for Toxicity Test(s) Required for the Month of: September 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 MM/DD/YY	Start HH:MM	Date/Time MM/DD/YY	Ended HH:MM	Control Valid	Date/Time MM/DD/YY	Start HH:MM	Date/Time MM/DD/YY	Ended HH:MM	Control Valid
1611374-01	09/07/16	14:45	09/09/16	15:20	Yes	09/07/16	14:45	09/09/16	15:10	Yes

**2A. SUMMARY OF RESULTS FOR SCREENING TEST:**

Test Org.	Eff. Conc.	Test Number											
		(1)			(2)			(3)			(4)		
C.d.	P.p.	Sur	Rep	Gro	Sur	Rep	Gro	Sur	Rep	Gro	Sur	Rep	Gro
5	5	Pass											
5	5	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	BOD5 mg/L	TSS mg/L	NH3 mg/L	pH mg/L	Alk mg/L	Hard mg/L	TRC mg/L	Cond umhos
1611374-01				7.6	148	168		529

*Municipal Facilities Only*

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) 3.71 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: Madison WWTP NPDES #: AL0071897 DSN: 001 Date: 09/07/16

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: \_\_\_\_\_ (MGD)

Sample ID	Sample(s) Collected				Arrival Temp (C)	Used in Test(s)	
	MM/DD/YY	HHMM	-	MM/DD/YY HHMM		MM/DD/YY	-
1611374-01	09/06/16	06:00	-	09/07/16 05:00	4.4	09/07/16	- 09/09/16

5. CONTROL / DILUTION WATER:

Type	Prepared MM/DD/YY	Begin Use MM/DD/YY	Initial Water Chemistries				
			Hard.	Alk.	pH	Cond.	@ °C
MHSFW	09/01/16	09/07/16	94.9	66.4	7.52	421	25.0

6. TOXICITY TEST INFORMATION:

Test Species	Organism Age	Organism Source	Test Solution Concentrations (%)					
C.d.	<24h	In-house cultures	0	5				
P.p.	<48h	C.K. Associates	0	5				

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.	23.2 - 24.7	7.9 - 8.0	7.26 - 7.44	95
P.p.	24.1 - 25.0	7.9 - 8.0	7.36 - 7.59	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: Madison WWTP NPDES #: AL0071897 DSN: 001 Date: 09/07/16

8. REFERENCE TOXICANT TESTS:

Toxicant: Potassium chloride Source: Fisher Scientific CAS#: 7447-40-7

Solution concentration unit: mg/L  g/L  %  other (specify):

Test Org.	Test Date MM/DD - MM/DD	Control Water	Reference Test Solution Concentrations (Cont. to Highest Conc.)						
			0	0.06	0.12	0.25	0.50	1.0	
P.p.	08/31 - 09/02	MHSFW	0	0.06	0.12	0.25	0.50	1.0	
C.d.	08/31 - 09/02	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.	0.64	0.53 - 0.77	0.613 - 0.824	20
C.d.	0.35	95% Confidence limits not reliable	0.286 - 0.372	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:

New permit requires 1 yearly test in September at an IWC of 5%. Previous testing was quarterly at 4%.  
Monthly SRT endpoints determined using TOXSTAT and ICPIN programs.



Facility Name: Madison WWTP NPDES #: AL0071897 DSN: 001 Date: 09/07/16

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	5	
MORTALITY (%)	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: \_\_\_\_\_ # Repts.: \_\_\_\_\_ Critical Rank Sum: \_\_\_\_\_ (Non - Parametric)

COMMENTS: \_\_\_\_\_

TEST ORGANISM: *Pimephales promelas*

ACUTE TOXICITY INDICATED: YES \_\_\_\_\_ NO X

NO ACUTE STATISTICAL ANALYSIS NECESSARY: X

SOLUTION CONC.(%)	0	5	
MORTALITY (%)	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: \_\_\_\_\_ # Repts.: \_\_\_\_\_ Critical Rank Sum: \_\_\_\_\_ (Non - Parametric)

COMMENTS: \_\_\_\_\_

ENERSOLV Acute Toxicity Screening Test

TOX-005-SOP A & TOX-006-SOP A rev. 2

Client Madison IWC% 5%

Sample ID 161137401

Date/Time Initiated 09/07/16 (1445) UW

MHSFW Batch used 090116A

Date/Time Ended 09/09/16 (1510) UW

Chemistry: Conductance 529 Alkalinity 148 Hardness 108

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	8.0	8.0	7.44	7.49	7.36	24.7	25.0	24.2
	2	10	10	10									
IWC%	3	10	10	10	8.0	7.9	7.9	7.44	7.59	7.41	24.6	24.9	24.1
	4	10	10	10									
Date		09/07	9/08	9/09				Undiluted					
Time		1445	1535	1520				pH (su)*	7.6				
Analyst		UW	UW	UW				*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	8.0	7.44	7.36	7.31	24.7	23.6	23.4
	2	5	5	5									
	3	5	5	5									
	4	5	5	5									
IWC%	5	5	5	5	8.0	8.0	7.9	7.44	7.32	7.26	24.6	23.4	23.2
	6	5	5	5									
	7	5	5	5									
	8	5	5	5									
Date		09/07	9/08	9/09				Undiluted					
Time		1445	1520	1510				pH (su)*	7.6				
Analyst		UW	UW	UW				*as needed					

P. promelas: Source EC & T Lot # E-11627 Date received 09/07/16 Date hatched 09/06/16

C. dubia: Source In House Cultures Brood board D Date/Time read 09/06/16 0930 & 1600

Comments:

Element ID: BT62318



**ANALYSIS REQUEST ) CHAIN OF CUSTODY RECORD**  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256) 350-0846

COC NUMBER	1940
PAGE	of 1
Digester	

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COMPANY/CLIENT NAME Water & WW Bd City of Madison		ACCOUNT NUMBER 1373	CLIENT P.O. NUMBER	ENERSOLV PROJECT NUMBER	<b>REQUESTED ANALYSES</b>																		
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHYSICAL ADDRESS 701 Landess Circle		CITY/STATE/ZIP Madison, AL 35756																			
CLIENT EMAIL mbland@madisonutilities.org		PHONE NUMBER 256-461-0845	OTHER INFORMATION																				
SAMPLE COLLECTED BY Slade Sparkman		EXPEDITED REPORT DELIVERY (SURCHARGE)																					
		DATE DUE (REQUIRED)																					
ENERSOLV LAB NUMBER	ENERSOLV LOCATION CODE	SAMPLE DESCRIPTION	SAMPLE TRANSFER/GRAB DATE	SAMPLE TRANSFER/GRAB TIME	GRAB	COMP	148h-A-Cerio-Screen	148h-A-Minn-Screen															
1611374-01	Madison-Eff-Tox	Outfall 001T	9-7-16	0807		X	X	X															

**Comments:** Toxicity test to be performed during September  
 FLOW 3.71 MGD  
 Collector to complete shaded areas, as applicable

**SAMPLE TEMPERATURE RECEIVED @** 44°C

SAMPLER INFORMATION		FIELD INFORMATION						Qty	Type	Vol.	Preserv.	Parameter			
Start Date	9-6-16	pH		TRC		DO		Temp							
Start Time	0600	su		mg/l		mg/l		deg C		1	Plastic	1/2 Gallon	Iced	A	Toxicity
Stop Date	9-7-16	Date		Date		Date		Date		1	Plastic	Pint	HNO3	B	Hardness
Stop Time	0500	Time		Time		Time		Time							
		Analyst		Analyst		Analyst		Analyst							
		SM 4500H+B		SM 4500-Cl D		SM 4500-O G		SM 2550B							

RELINQUISHED BY: (SIGNATURE) <i>Slade Sparkman</i>	DATE 9-7-16	TIME 1223	RELINQUISHED BY: (SIGNATURE) <i>Sam Poss</i>	DATE 9/7/16	TIME 1410	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
RECEIVED BY: (SIGNATURE) <i>Sam Poss</i>	DATE 9/7/16	TIME 1223	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY: (SIGNATURE) <i>Mark</i>	DATE 9-7-16	TIME 1110	SAMPLE STATUS: <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					

# AUGUST 2016

## 48 HR ACUTE TOXICITY TEST

*Ceriodaphnia dubia*  
*Pimephales promelas*

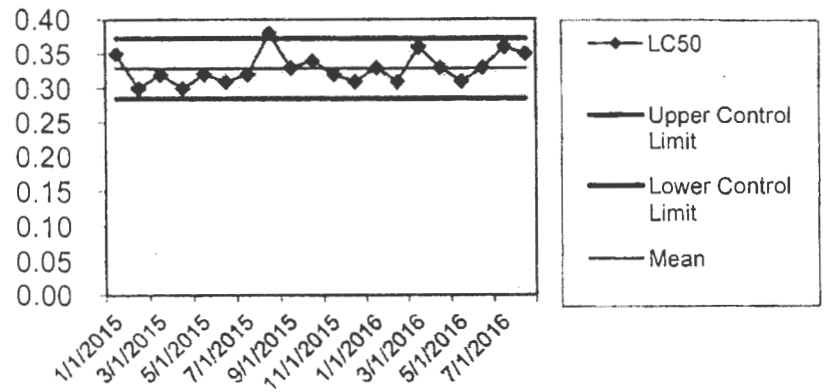
# ACUTE SRT

PREPARED BY: *Debra Willy* DATE: 9/1/16

REVIEWED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

2220 Bellvue Road SW • Decatur, Alabama 35601  
PO Box 1646 • Decatur, Alabama 35602 • (256) 350-0846 • Fax: (256) 350-0886

ENERSOLV CUSUM Chart  
Acute Control Survival *C. dubia*



ENERSOLV		Beginning Date/Time		KCl Conc		Survivors		DQ (mg/L)		Temperature (C)		pH	
Standard Reference Toxicant Test		08/31/16		0.00		0 h 24 h		0 h 24 h 48 h		0 h 24 h 48 h		0 h 24 h 48 h	
Toxicant: Potassium Chloride		08/31/16 (12:00)		%		No.		%		%		%	
<b><i>Ceriodaphnia dubia</i></b>													
0	1	5	5	5	5	5	5	5	5	5	5	5	5
0	2	5	5	5	5	5	5	5	5	5	5	5	5
0	3	5	5	5	5	5	5	5	5	5	5	5	5
0	4	5	5	5	5	5	5	5	5	5	5	5	5
0	5	5	5	5	5	5	5	5	5	5	5	5	5
0	6	5	5	5	5	5	5	5	5	5	5	5	5
0	7	5	5	5	5	5	5	5	5	5	5	5	5
0	8	5	5	5	5	5	5	5	5	5	5	5	5
0	9	5	5	5	5	5	5	5	5	5	5	5	5
0	10	5	5	5	5	5	5	5	5	5	5	5	5
0	11	5	5	5	5	5	5	5	5	5	5	5	5
0	12	5	5	5	5	5	5	5	5	5	5	5	5
0.06	1	10	10	10	10	10	10	10	10	10	10	10	10
0.06	2	10	10	10	10	10	10	10	10	10	10	10	10
0.06	3	10	10	10	10	10	10	10	10	10	10	10	10
0.06	4	10	10	10	10	10	10	10	10	10	10	10	10
0.06	5	10	10	10	10	10	10	10	10	10	10	10	10
0.06	6	10	10	10	10	10	10	10	10	10	10	10	10
0.06	7	10	10	10	10	10	10	10	10	10	10	10	10
0.06	8	10	10	10	10	10	10	10	10	10	10	10	10
0.06	9	10	10	10	10	10	10	10	10	10	10	10	10
0.06	10	10	10	10	10	10	10	10	10	10	10	10	10
0.06	11	10	10	10	10	10	10	10	10	10	10	10	10
0.06	12	10	10	10	10	10	10	10	10	10	10	10	10
0.25	1	10	10	10	10	10	10	10	10	10	10	10	10
0.25	2	10	10	10	10	10	10	10	10	10	10	10	10
0.25	3	10	10	10	10	10	10	10	10	10	10	10	10
0.25	4	10	10	10	10	10	10	10	10	10	10	10	10
0.25	5	10	10	10	10	10	10	10	10	10	10	10	10
0.25	6	10	10	10	10	10	10	10	10	10	10	10	10
0.25	7	10	10	10	10	10	10	10	10	10	10	10	10
0.25	8	10	10	10	10	10	10	10	10	10	10	10	10
0.25	9	10	10	10	10	10	10	10	10	10	10	10	10
0.25	10	10	10	10	10	10	10	10	10	10	10	10	10
0.25	11	10	10	10	10	10	10	10	10	10	10	10	10
0.25	12	10	10	10	10	10	10	10	10	10	10	10	10
0.5	1	10	10	10	10	10	10	10	10	10	10	10	10
0.5	2	10	10	10	10	10	10	10	10	10	10	10	10
0.5	3	10	10	10	10	10	10	10	10	10	10	10	10
0.5	4	10	10	10	10	10	10	10	10	10	10	10	10
0.5	5	10	10	10	10	10	10	10	10	10	10	10	10
0.5	6	10	10	10	10	10	10	10	10	10	10	10	10
0.5	7	10	10	10	10	10	10	10	10	10	10	10	10
0.5	8	10	10	10	10	10	10	10	10	10	10	10	10
0.5	9	10	10	10	10	10	10	10	10	10	10	10	10
0.5	10	10	10	10	10	10	10	10	10	10	10	10	10
0.5	11	10	10	10	10	10	10	10	10	10	10	10	10
0.5	12	10	10	10	10	10	10	10	10	10	10	10	10

Pimephales promelas		Ceriodaphnia dubia	
LC50	0.124	LC50	0.372
UCL	0.77	UCL	0.50
LCL	0.033	LCL	0.033
Cusum UCL	0.824	Cusum UCL	0.372
Cusum LCL	0.033	Cusum LCL	0.033

Conductance	
P promelas	C dubia
0	0
0.03	0.03
0.06	0.06
0.12	0.12
0.25	0.25
0.5	0.5
T.O.	T.O.

AUGUST 2016 ACUTE SRT  
DATE: 08/31/16  
DURATION: 48 hrs  
TOXICANT: KCl  
SPECIES: *C. dubia*

CONCENTRATION: 0.00%  
EXPOSED: 20  
NUMBER: 20  
MORTALITIES: 0

SPEARMAN-KÄRBER ESTIMATES: LC50: 0.35  
95% CONFIDENCE LIMITS  
ARE NOT RELIABLE.

ENERSOLV, Inc.

STANDARD REFERENCE TOXICANT CONTROL CHART

ORGANISM: CERIODAPHNIA DUBIA

Duration: 48 hours

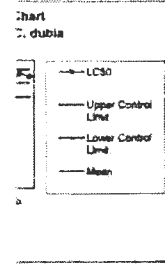
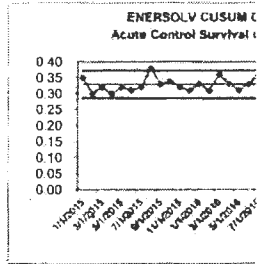
REFERENCE TOXICANT: Potassium chloride SOURCE: Fisher

No.	DATE	LCS0	LOWER CONTROL LIMIT	UPPER CONTROL LIMIT	Mean
-----	------	------	---------------------	---------------------	------

1	01/06/15	0.35	0.286	0.372	0.33
2	02/18/15	0.30	0.286	0.372	0.33
3	03/24/15	0.32	0.286	0.372	0.33
4	04/14/15	0.30	0.286	0.372	0.33
5	05/13/15	0.32	0.286	0.372	0.33
6	06/23/15	0.31	0.286	0.372	0.33
7	07/22/15	0.32	0.286	0.372	0.33
8	08/25/15	0.38	0.286	0.372	0.33
9	09/29/15	0.33	0.286	0.372	0.33
10	10/20/15	0.34	0.286	0.372	0.33
11	11/10/15	0.32	0.286	0.372	0.33
12	12/15/15	0.31	0.286	0.372	0.33
13	01/20/16	0.33	0.286	0.372	0.33
14	02/16/16	0.31	0.286	0.372	0.33
15	03/29/16	0.36	0.286	0.372	0.33
16	04/27/16	0.33	0.286	0.372	0.33
17	05/31/16	0.31	0.286	0.372	0.33
18	06/15/16	0.33	0.286	0.372	0.33
19	07/27/16	0.36	0.286	0.372	0.33
20	08/31/16	0.35	0.286	0.372	0.33

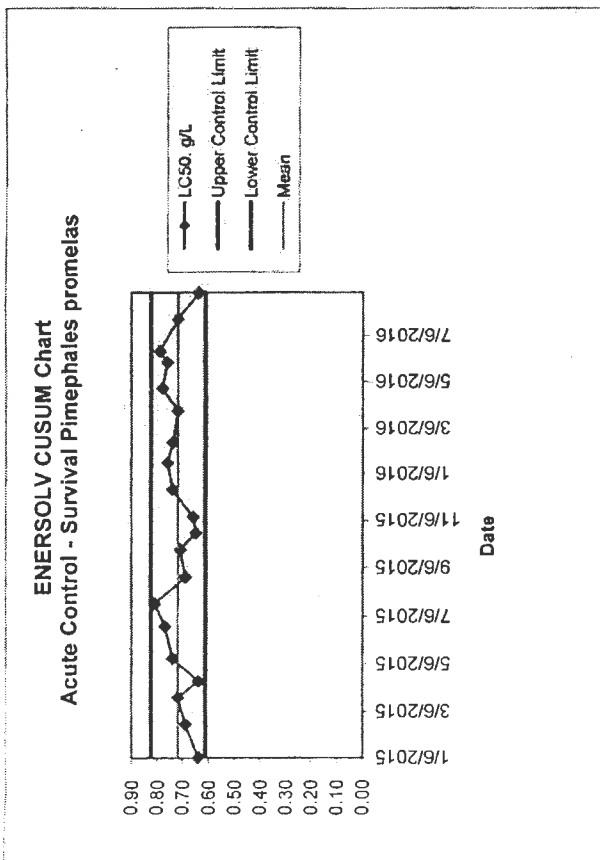
SUM = 6.58  
 MEAN = 0.33  
 STD DEV = 0.022  
 UPPER CONTROL LIMIT = 0.372  
 LOWER CONTROL LIMIT = 0.286  
 N = 20

COEFFICIENT OF VARIATION (CV) = 0.066



MEAN	LOWER WARNING LIMIT	UPPER WARNING LIMIT	LAB RESULT SQUARE
0.2812	0.1296	0.5734	0.0784
0.3515	0.1296	0.5734	0.1225
0.3515	0.1296	0.5734	0.1521
0.3515	0.1296	0.5734	0.1225
0.3515	0.1296	0.5734	0.1369
0.3515	0.1296	0.5734	0.1024
0.3515	0.1296	0.5734	0.16
0.3515	0.1296	0.5734	0.1156
0.3515	0.1296	0.5734	0.09
0.3515	0.1296	0.5734	0.1369
0.3515	0.1296	0.5734	0.1024
0.3515	0.1296	0.5734	0.09
0.3515	0.1296	0.5734	0.1369
0.3515	0.1296	0.5734	0.1225
0.3515	0.1296	0.5734	0.1444
0.3515	0.1296	0.5734	0.1024
0.3515	0.1296	0.5734	0.1444
0.3515	0.1296	0.5734	0.1521
0.3515	0.1296	0.5734	0.1936
0.3515	0.1296	0.5734	0.0961

SUM SQUARES = 2.5021  
 VARIANCE = 0.0219  
 UPPER WARNING LIMIT = 0.5734  
 LOWER WARNING LIMIT = 0.1296



AUGUST 2016 ACUTE SRT

DATE: 08/31/16

DURATION: 48 hrs

TOXICANT: KCL

SPECIES: P. promelas

Concentration (%)	Number Exposed	Mortalities
.00	20	0
.06	20	0
.12	20	0
.25	20	0
.50	20	5
1.00	20	18

SPEARMAN-KARBER TRIM: 10.00%

SPEARMAN-KARBER ESTIMATES: LC50: 0.64

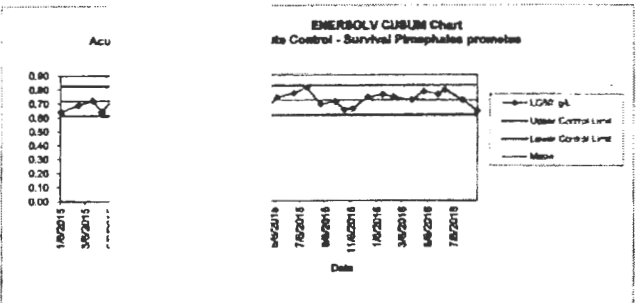
95% LOWER CONFIDENCE: 0.53

95% UPPER CONFIDENCE: 0.77

ORGANISM: Pimephales promelas  
 REFERENCE TOXIC/Potassium chloride SOURCE:

No.	DATE	LC50	MEAN	LOWER LIMIT	UPPER LIMIT	LAB CONTR	CONTRC	RESULT SQUARED
1	01/08/15	0.84	0.7185	0.613	0.824	0.8849		
2	02/18/15	0.89	0.7185	0.613	0.824	0.7744		
3	03/24/15	0.72	0.7185	0.613	0.824	0.64		
4	04/14/15	0.84	0.7185	0.613	0.824	0.8849		
5	05/13/15	0.74	0.7185	0.613	0.824	0.8281		
8	06/23/15	0.77	0.7185	0.613	0.824	0.8849		
7	07/22/15	0.81	0.7185	0.613	0.824	0.8849		
8	08/25/15	0.69	0.7185	0.613	0.824	0.8281		
9	09/29/15	0.71	0.7185	0.613	0.824	0.8849		
10	10/20/15	0.65	0.7185	0.613	0.824	0.8281		
11	11/10/15	0.86	0.7185	0.613	0.824	0.7569		
12	12/18/15	0.74	0.7185	0.613	0.824	0.64		
13	01/20/16	0.76	0.7185	0.613	0.824	0.3136		
14	02/16/16	0.74	0.7185	0.613	0.824	0.1296		
15	03/29/16	0.72	0.7185	0.613	0.824	1.2996		
16	04/27/16	0.78	0.7185	0.613	0.824	0.3025		
17	05/31/16	0.78	0.7185	0.613	0.824	1.0404		
18	06/15/16	0.79	0.7185	0.613	0.824	1.0404		
19	07/27/16	0.72	0.7185	0.613	0.824	1.0404		
20	08/31/16	0.64	0.7185	0.613	0.824	1.0404		

MEAN = 0.7185  
 STD DEV 0.0528  
 UPPER CONTROL LIMIT = 0.82419  
 LOWER CONTROL LIMIT = 0.61281  
 N = 20  
 COEFFICIENT OF VARIATION (C) 0.074







# SEPTEMBER 2017

## 48 HR ACUTE TOXICITY TEST

*Ceriodaphnia dubia*  
*Pimephales promelas*

# MADISON

PREPARED BY: Beth Willyfa DATE: 10/10/17  
REVIEWED BY: Lisa Jemy DATE: 10/11/17



ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
TOXICITY TEST REPORT SUMMARY

**1. GENERAL:**

NPDES PERMIT NO.: AL0071897 DSN: 001 COUNTY: Madison  
 Permittee: Madison Water and Wastewater Board  
 Facility Name: Madison WWTP  
 Agent submitting Report: Madison Water and Wastewater Board  
 Lab Conducting Toxicity Test(s): ENERSOLV Inc.  
 Months To Test: September  
 This Report for Toxicity Test(s) Required for the Month of: September 2017  
 Scheduled Test(s): Yes  No  Accelerated Test(s): Yes  No   
 Accelerated Test Number \_\_\_\_\_ of \_\_\_\_\_ For Failed Scheduled Test Date: \_\_\_\_\_  
 Test Type Required: 48-Hr Acute Screening:  -Hr Acute Definitive: \_\_\_\_\_  
 Short-term Chronic Screening: \_\_\_\_\_ Short-term Chronic Definitive: \_\_\_\_\_

Test Organism: *Pimephales promelas*

Test Organism: *Ceriodaphnia dubia*

Sam No.	Date/Time MM/DD/YY	Start HH:MM	Date/Time MM/DD/YY	Ended HH:MM	Control Valid	Date/Time MM/DD/YY	Start HH:MM	Date/Time MM/DD/YY	Ended HH:MM	Control Valid
1713442-01	09/26/17	11:30	09/28/17	11:55	Yes	09/26/17	11:30	09/28/17	11:45	Yes

**2A. SUMMARY OF RESULTS FOR SCREENING TEST:**

Test Org.	Eff. Conc.	Test Number											
		(1)			(2)			(3)			(4)		
C.d.	5	Sur	Rep	Gro	Sur	Rep	Gro	Sur	Rep	Gro	Sur	Rep	Gro
P.p.	5	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	BOD5 mg/L	TSS mg/L	NH3 mg/L	pH mg/L	Alk mg/L	Hard mg/L	TRC mg/L	Cond umhos
1713442-01				7.8	154	186		545

*Municipal Facilities Only*

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) \_\_\_\_\_ MGD (2) \_\_\_\_\_ MGD (3) \_\_\_\_\_ MGD

Comments: No flow indicated on Chain of Custody

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: Madison WWTP NPDES #: AL0071897 DSN: 001 Date: 09/26/17

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: \_\_\_\_\_ (MGD)

Sample ID	Sample(s) Collected				Arrival Temp (C)	Used in Test(s)	
	MM/DD/YY	HHMM	-	MM/DD/YY HHMM		MM/DD/YY	-
1713442-01	09/24/17	06:00	-	09/25/17 05:00	3.0	09/26/17	- 09/28/17

5. CONTROL / DILUTION WATER:

Type	Prepared MM/DD/YY	Begin Use MM/DD/YY	Initial Water Chemistries				
			Hard.	Alk.	pH	Cond.	@ °C
MHSFW	09/22/17	09/26/17	93.4	65.8	7.65	390	25.0

6. TOXICITY TEST INFORMATION:

Test Species	Organism Age	Organism Source	Test Solution Concentrations (%)				
C.d.	<24h	In-house cultures	0	5			
P.p.	<48h	C.K. Associates	0	5			

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.	23.5 - 24.8	8.0 - 8.0	7.28 - 7.46	96
P.p.	24.0 - 24.8	8.0 - 8.0	7.28 - 7.46	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: Madison WWTP NPDES #: AL0071897 DSN: 001 Date: 09/26/17

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.)						
			0	0.06	0.12	0.25	0.50	1.0	
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:

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9.B. Test Solution Manipulations or Test Modifications:

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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:

New permit requires 1 yearly test in September at an IWC of 5%. Previous testing was quarterly at 4%.  
Monthly SRT endpoints determined using TOXSTAT and ICPIN programs.

Facility Name: Madison WWTP NPDES #: AL0071897 DSN: 001 Date: 09/26/17

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	5	
MORTALITY (%)	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: \_\_\_\_\_

TEST ORGANISM: *Pimephales promelas*

ACUTE TOXICITY INDICATED: YES \_\_\_\_\_ NO X

NO ACUTE STATISTICAL ANALYSIS NECESSARY: X

SOLUTION CONC.(%)	0	5	
MORTALITY (%)	0.05	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: \_\_\_\_\_

ENERSOLV Acute Toxicity Screening Test

TOX-005-SOP A & TOX-006-SOP A rev. 2

Client Madison IWC % 5%

Sample ID 1713442-01

Date/Time Initiated 9/26/17 (1130) UW

MHSFW Batch used 092217B

Date/Time Ended 9/28/17 (1145) UW

Chemistry, Conductance 545 Alkalinity 154 Hardness 186

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	8.0	8.0	7.39	7.31	7.28	24.8	24.7	24.2
	2	10	10	9									
IWC%	3	10	10	10	8.0	8.0	8.0	7.46	7.38	7.34	24.7	24.1	24.5
	4	10	10	10									
	Date	9/26	9/27	9/28	Undiluted			pH (su)*			7.8		
	Time	1130	<del>1030</del>	1155	*as needed								
	Analyst	UW	JPL	UW									

Organism-Ceriodaphnia dubia OK 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	8.0	7.39	7.30	7.28	24.8	24.1	23.5
	2	5	5	5									
	3	5	5	5									
	4	5	5	5									
IWC%	5	5	5	5	8.0	8.0	8.0	7.46	7.39	7.32	24.7	24.3	23.8
	6	5	5	5									
	7	5	5	5									
	8	5	3-5	5									
	Date	9/26	9/27	9/28	Undiluted			pH (su)*			7.8		
	Time	1130	1130	1145	*as needed								
	Analyst	UW	JPL	UW									

P. promelas: Source EC & T Lot # POE-12532 Date received 9/26/17 Date hatched 9/25/17

C. dubia: Source In House Aetna Brood board D Date/Time: 9/25/17 0430 & 1430

Comments: 9/27 Analyst had difficulty viewing C. dubia due to opacity of medicine cups.



ANALYSIS REQUEST AND CUSTODY RECORD  
 2220 BELTLINE ROAD SW DECATUR, ALABAMA 35601  
 (256) 350-0846

COC NUMBER	107359	
PAGE	1	of 1

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COMPANY/CLIENT NAME Water & WW Bd City of Madison		ACCOUNT NUMBER 1373	CLIENT P.O. NUMBER	ENERSOLV PROJECT NUMBER	REQUESTED ANALYSES																	
CLIENT POINT OF CONTACT Mark Bland		CLIENT PHYSICAL ADDRESS 701 Landess Circle		CITY/STATE/ZIP Madison, AL 35756		148h-A-Cerio-Screen	148h-A-Minn-Screen															
CLIENT EMAIL mbland@madisonutilities.org		PHONE NUMBER 256-461-0845	OTHER INFORMATION																			
SAMPLE COLLECTED BY <i>Johnn Caris</i>		EXPEDITED REPORT DELIVERY (SURCHARGE)		DATE DUE (REQUIRED)																		
ENERSOLV LAB NUMBER 173442.01	ENERSOLV LOCATION CODE Madison-Eff-Tox	SAMPLE DESCRIPTION Outfall 001T	SAMPLE TRANSFER/GRAB DATE 9.25.17	SAMPLE TRANSFER/GRAB TIME 0844	GRAB	COMP	X	X	X													

Comments: Toxicity test to be performed during September  
 FLOW \_\_\_\_\_  
 Collector to complete shaded areas, as applicable  
 SAMPLE 3.0L  
 RECEIVED @

SAMPLER INFORMATION	FIELD INFORMATION						Qty	Type	Vol.	Preserv.	Parameter	
	Start Date: 9.24.17	pH	TRC	DO	Temp		1	Plastic	1/2-Gallon	Iced	A	Toxicity
Start Time: 0600	Date	Date	Date	Date		1	Plastic	Pint	HNO3	B	Hardness	
Stop Date: 9.25.17	Time	Time	Time	Time								
Stop Time: 0500	Analyst	Analyst	Analyst	Analyst								
	SM 4500H+B	SM 4500-CI-D	SM 4500-O-G	SM 2550B								

RELINQUISHED BY (SIGNATURE) <i>Johnn Caris</i>	DATE 9.25.17	TIME 11:15	RELINQUISHED BY (SIGNATURE) <i>[Signature]</i>	DATE 9.25.17	TIME 1340	RELINQUISHED BY (SIGNATURE)	DATE	TIME
RECEIVED BY (SIGNATURE) <i>[Signature]</i>	DATE 9.25.17	TIME 1115	RECEIVED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY USE BY (SIGNATURE) <i>[Signature]</i>	DATE 9.25.17	TIME 1340	SAMPLE STATUS: <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception					

Dilution Water QA/QC Log  
Toxicity Testing Laboratory

Date	ID#	Dil. Water Type	T.H. mg/L CaCO <sub>3</sub>	T.A. mg/L CaCO <sub>3</sub>	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	107.3	7.44	316	25.0	0.109
3/23/17	032117B	MHSFW	93.7	105.4	7.44	302	25.0	0.109
4/4/17	040317A	MHSFW	97.3	67.4	7.59	461	25.0	0.109
4/17/17	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	25.0	0.111
4/28/17	042617B	MHSFW	95.9	104.6	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	66.2	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	063017A	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	073017A	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
8/10/17	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
8/22/17	081817B	MHSFW	94.4	65.0	7.70	360	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
		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



# SEPTEMBER 2017

## 48 HR ACUTE TOXICITY TEST

*Ceriodaphnia dubia*  
*Pimephales promelas*

# ACUTE SRT

PREPARED BY: Lucia Wilhaya DATE: 10/10/17

REVIEWED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

2220 Bellline 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*

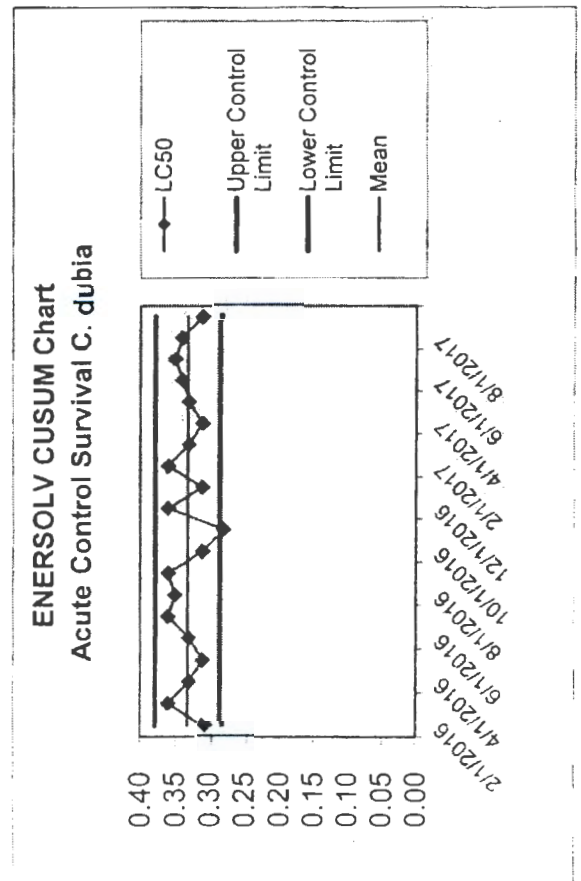
Concentration (g)	Number Exposed	Mortalities
00	20	0
03	20	0
.06	20	2
12	20	3
25	20	8
.50	20	14

SPEARMAN-KARBER TRIM: 30.00%

SPEARMAN-KARBER ESTIMATES: LC50: 0.31

95% LOWER CONFIDENCE: 0.19

95% UPPER CONFIDENCE: 0.51



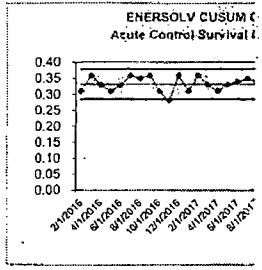
KCl Conc. (g/L)	Survivors No.	OD (mg/L)	Temp (deg C)	pH	Ceriodaphnia dubia	
					KCl Conc. (g/L)	Survivors No.
0	20	0.0	20.0	7.2	0.0	20
0.03	20	0.0	20.0	7.2	0.0	20
0.06	18	0.0	20.0	7.2	0.0	18
0.12	17	0.0	20.0	7.2	0.0	17
0.25	12	0.0	20.0	7.2	0.0	12
0.50	6	0.0	20.0	7.2	0.0	6
1.00	0	0.0	20.0	7.2	0.0	0

2/12/2016 4/12/2016 6/12/2016 8/12/2016 10/12/2016 12/12/2016 2/12/2017 4/12/2017 6/12/2017 8/12/2017

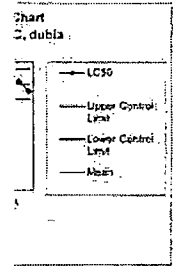


ENERSOLV, Inc  
 STANDARD REFERENCE TOXICANT CONTROL CHART  
 ORGANISM: CERIODAPHNIA DUBIA Duration: 48 hours  
 REFERENCE TOXICANT: Potassium chloride SOURCE: Fisher

No.	DATE	LC50	LOWER CONTROL LIMIT	UPPER CONTROL LIMIT	Mean
1	02/16/16	0.31	0.285	0.379	0.33
2	03/29/16	0.36	0.285	0.379	0.33
3	04/27/16	0.33	0.285	0.379	0.33
4	05/31/16	0.31	0.285	0.379	0.33
5	06/15/16	0.33	0.285	0.379	0.33
6	07/27/16	0.36	0.285	0.379	0.33
7	08/31/16	0.35	0.285	0.379	0.33
8	09/28/16	0.36	0.285	0.379	0.33
9	10/26/16	0.31	0.285	0.379	0.33
10	11/29/16	0.28	0.285	0.379	0.33
11	12/14/16	0.36	0.285	0.379	0.33
12	01/24/17	0.31	0.285	0.379	0.33
13	02/22/17	0.36	0.285	0.379	0.33
14	03/15/17	0.33	0.285	0.379	0.33
15	04/26/17	0.31	0.285	0.379	0.33
16	05/24/17	0.33	0.285	0.379	0.33
17	06/21/17	0.34	0.285	0.379	0.33
18	07/25/17	0.35	0.285	0.379	0.33
19	08/30/17	0.34	0.285	0.379	0.33
20	09/26/17	0.31	0.285	0.379	0.33



MEAN	LOWER WARNING LIMIT	UPPER WARNING LIMIT	LAB RESULT SQUARE
0.2812	0.1296	0.5734	0.0784
0.3515	0.1296	0.5734	0.1225
0.3515	0.1296	0.5734	0.1521
0.3515	0.1296	0.5734	0.1225
0.3515	0.1296	0.5734	0.1369
0.3515	0.1296	0.5734	0.1024
0.3515	0.1296	0.5734	0.16
0.3515	0.1296	0.5734	0.1156
0.3515	0.1296	0.5734	0.09
0.3515	0.1296	0.5734	0.1369
0.3515	0.1296	0.5734	0.1024
0.3515	0.1296	0.5734	0.09
0.3515	0.1296	0.5734	0.1369
0.3515	0.1296	0.5734	0.1225
0.3515	0.1296	0.5734	0.1444
0.3515	0.1296	0.5734	0.1024
0.3515	0.1296	0.5734	0.1444
0.3515	0.1296	0.5734	0.1521
0.3515	0.1296	0.5734	0.1936
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  
 COEFFICIENT OF VARIATION (CV) 0.070

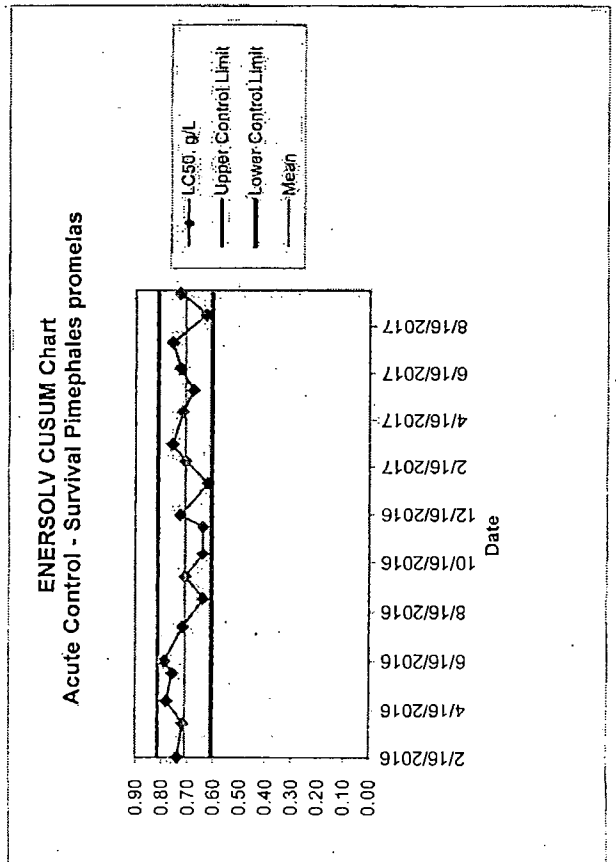
SUM SQUARES = 2.5021  
 VARIANCE = 0.0219  
 UPPER WARNING LIMIT = 0.5734  
 LOWER WARNING LIMIT 0.1296

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 LIMIT	UPPER LIMIT	CONTRC RESULT	CONTRC 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	11/29/16	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	0.63	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

