

MUNICIPAL WATER POLLUTION PREVENTION (MWPP) ANNUAL REPORT

SUBMITTED BY:

TREATMENT FACILITY: H.C. Morgan WPCF NPDES #: AL0050237

MUNICIPALITY: City of Auburn COUNTY: Lee

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Title

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Date: May 4, 2015

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Consulting Engineer

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Date: May 4, 2015

***WPCF operations data and Biosolids Program report are provided as certified records submitted to ADEM and EPA by Veolia Water North America as a contract operator. This report summarizes this data.**

MWPP Annual Report

Information Source List

You will need the following information to complete your compliance maintenance report that covers calendar year 2014 (due **May 31, 2015**).

- Part 1 A. The average plant influent flow for each month (million gallons per day) in 2014.
- B. The average plant influent BOD (CBOD) for each month (mg/l and lb/day) in 2014.
- C. Your plant's average design flow (MGD) and design BOD loading (lbs/day).
- Part 2 A. The monthly average permit and DMR effluent concentration for BOD (CBOD), TSS, NH₃-N and/or TKN in mg/l for 2014.
- B. Your monthly average effluent limits and DMR loading for BOD, TSS, NH₃-N and/or TKN in lbs/day for 2014.
- Part 3 The age of your treatment plant defined as the number of years since the last major reconstruction to increase the organic or hydraulic capacity of the plant. The last calendar year (2014) minus the year the new construction was brought on-line.
- Part 4 Bypass and overflow information. This is the number of days in all of 2014 when there was a bypass or overflow of untreated wastewater due to heavy rain or due to equipment failure whether intentional or inadvertent from all collection systems tributary to this treatment facility.
- Part 5 A. Describe characteristics and quantity of sludge generated.
- B. If you landspread sludge, how many months of sludge storage does your plant have? This should include on-site and off-site storage from the treatment plant. The digester capacity may be used in the calculation.
- Part 6 A. List method you dispose of your sludge.
- B. How many approved land disposal sites for sludge do you have? How many months or years will these be available for use?
- Part 7 The number of sewer extensions which were installed in your community last year. You need to get the design population, design flow and design BOD for each sewer extension from your engineer.
- Part 8 Operator Certification
- Part 9 Financial Status

Instructions to the Operator-in-Charge

1. Complete all sections of the MWPP Report, to the best of your ability.
2. Parts 1 through 8 contain questions for which points will be generated. These points are intended to communicate to the Department and the governing body or owner what actions will be necessary to prevent effluent violations. Place the point totals from parts 1 through 8 on Page 18, the Point Calculation page.
3. Add up the point totals on page 18.
4. Submit the MWPP Report to the governing body and the consulting engineer and owner for their review and approval.
5. The governing body should pass a resolution (see Attachment 1) which contains the following points:
 - a. The resolution or letter should acknowledge the governing body or owner has reviewed the MWPP Report.
 - b. The resolution or letter should indicate what actions would be taken to prevent effluent violations. Proposed actions should address where maximum or close to maximum points were generated in the MWPP report.
 - c. The resolution or letter should provide any other information the governing body or owner deems appropriate.
6. **The MWPP Report and the resolution or letter must be submitted or mailed in May 31, 2015, to Municipal Branch, Water Division, ADEM, P.O. Box 301463, Montgomery, AL 36130-1463 listed on the letter which is attached to this report.**

Part 1: Influent Loading/Flows:

A. List the average monthly volumetric flows and BOD₅ (CBOD₅) loadings received at your facility during the last calendar year (2014).

<u>Month</u>	<u>Col. 1 Average Monthly Flowrate (MGD)</u>	<u>Col. 2 Average Monthly BOD₅ (CBOD₅) Concentration (mg/l)</u>	<u>Col. 3 Average Loading BOD₅ or (CBOD₅) (lbs/day*)</u>
January	<u>7.598</u>	<u>118.2</u>	<u>6719</u>
February	<u>8.648</u>	<u>116.5</u>	<u>8755</u>
March	<u>8.893</u>	<u>145.4</u>	<u>10043</u>
April	<u>11.797</u>	<u>88.3</u>	<u>8622</u>
May	<u>7.800</u>	<u>134.1</u>	<u>9013</u>
June	<u>6.947</u>	<u>113.8</u>	<u>9222</u>
July	<u>6.482</u>	<u>115.7</u>	<u>6410</u>
August	<u>6.687</u>	<u>120.5</u>	<u>6939</u>
September	<u>6.684</u>	<u>132.6</u>	<u>7347</u>
October	<u>6.135</u>	<u>129.8</u>	<u>7180</u>
November	<u>5.775</u>	<u>144.0</u>	<u>7611</u>
December	<u>6.072</u>	<u>150.4</u>	<u>7812</u>
Annual Avg.	<u>7.460</u>	<u>126</u>	<u>7973</u>

*As reported on NPDES Discharge Monitoring Reports (DMR'S) and as required by EPA's NPDES Self-Monitoring System, User Guide, March 1985.

B. List the average design flow and average design BOD₅ loading for your facility in the blanks below. If you are not aware of these design quantities, contact your consulting engineer or the Alabama Department of Environmental Management.

	<u>Avg. Design Flow</u>	<u>Avg. Design BOD₅ Loading (lbs/day)</u>
Design Criteria:	<u>11.25 MMADF</u>	<u>17358</u>
90% of the Design Criteria:	<u>10.13</u>	<u>15622</u>

- C. How many times did the monthly flow (Col. 1) to the WWTP exceed 90% of design flow? 1 (Circle the appropriate number)

0-4 = 0 points; 5 or more = 5 points

- D. How many times did the monthly flow (Col. 1) to the WWTP exceed the design flow? 1 (Circle the appropriate number)

0 = 0 points; **1-2 = 5 points**; 3-4 = 10 points; 5 or more = 15 points

- E. How many times did the monthly BOD₅ (or CBOD₅)* loading (lbs/day) (Col. 3) to the WWTP exceed 90% of the design loading? 0 (Circle the appropriate number)

0-1 = 0 points; 2-4 = 5 points; 5 or more = 10 points

- F. How many times did the monthly BOD₅ (or CBOD₅)* loading (lbs/day)(Col. 3) to the WWTP exceed the design loading? 0 (Circle the appropriate number)

0 = 0 points; 1 = 10 points; 2 = 20 points; 3 = 30 points; 4 = 40 points; 5 or more = 50 points

- G. Add together each point value you circled for C through F and place this sum in the blank below.

C points = 0

D points = 5

E points = 0

F points = 0

TOTAL POINTS VALUE OR PART 1 5

Enter this value on the calculation page at the back of the MWPP, page 16.

*To obtain equivalent BOD₅ loading for comparison with design loading for those permittees using influent CBOD₅, divide annual average CBOD₅, loading in lbs/day from Part 1, A by 0.7.

Part 2: Effluent Quality/Plant Performance

A. List the monthly average permit limits for the facility in the blanks below and the average monthly effluent DMR BOD₅, (CBOD₅) TSS, NH₃-N and/or TKN concentration produced by your facility during the last calendar year (2014).

(1.) NPDES Permit Concentration

	<u>Months</u>	<u>BOD₅ (or CBOD₅) (mg/l)</u>	<u>TSS(mg/l)</u>	<u>NH₃-N (mg/l)</u>	<u>TKN (mg/l)</u>
Permit Limit	Dec- <u>Apr</u>	<u>20</u>	<u>30</u>	<u>3</u>	<u>6</u>
	May- <u>Nov</u>	<u>8</u>	<u>30</u>	<u>2</u>	<u>4</u>

(2.) DMR Concentration

<u>Quarter</u>	<u>Month</u>	<u>BOD₅(or CBOD₅)(mg/l)</u>	<u>TSS (mg/l)</u>	<u>NH₃-N (mg/l)</u>	<u>TKN (mg/l)</u>
1	January	<u>2.3</u>	<u>3.7</u>	<u>0.2</u>	<u>0.7</u>
	February	<u>2.0</u>	<u>2.5</u>	<u>0.2</u>	<u>0.7</u>
	March	<u>2.3</u>	<u>4.1</u>	<u>0.1</u>	<u>0.5</u>
2	April	<u>2.1</u>	<u>3.0</u>	<u>0.1</u>	<u>0.5</u>
	May	<u>2.0</u>	<u>1.5</u>	<u>0.1</u>	<u>0.5</u>
	June	<u>2.8</u>	<u>4.1</u>	<u>0.1</u>	<u>0.8</u>
3	July	<u>2.1</u>	<u>2.2</u>	<u>0.1</u>	<u>0.6</u>
	August	<u>2.1</u>	<u>2.0</u>	<u>0.1</u>	<u>0.6</u>
	September	<u>2.0</u>	<u>1.8</u>	<u>0.1</u>	<u>0.6</u>
4	October	<u>2.0</u>	<u>1.6</u>	<u>0.1</u>	<u>0.7</u>
	November	<u>2.0</u>	<u>2.8</u>	<u>0.1</u>	<u>0.7</u>
	December	<u>2.0</u>	<u>2.5</u>	<u>0.1</u>	<u>0.7</u>
Annual Average:		<u>2.1</u>	<u>2.7</u>	<u>0.1</u>	<u>0.6</u>

B. List the monthly average permit limit and DMR loadings below:

(1.) NPDES Permit Loading

	<u>Months</u>	<u>BOD₅ (or CBOD₅) (lbs/day*)</u>	<u>TSS (lbs/day*)</u>	<u>NH₃-N (lbs/day*)</u>	<u>TKN(lbs/day*)</u>
Permit Limit:	Dec- <u>Apr</u>	<u>1876</u>	<u>2814</u>	<u>281</u>	<u>562</u>
	May- <u>Nov</u>	<u>750</u>	<u>2814</u>	<u>187</u>	<u>375</u>

(2) DMR Loading

<u>Quarter</u>	<u>Month</u>	<u>BOD₅(or CBOD₅)(lbs/day*)</u>	<u>TSS (lbs/day*)</u>	<u>NH₃-N (lbs/day*)</u>	<u>TKN (lbs/day*)</u>
1	January	<u>141</u>	<u>231</u>	<u>10</u>	<u>42</u>
	February	<u>152</u>	<u>195</u>	<u>13</u>	<u>48</u>
	March	<u>164</u>	<u>288</u>	<u>6</u>	<u>38</u>
2	April	<u>208</u>	<u>294</u>	<u>7</u>	<u>51</u>
	May	<u>132</u>	<u>103</u>	<u>3</u>	<u>34</u>
	June	<u>167</u>	<u>247</u>	<u>3</u>	<u>46</u>
3	July	<u>114</u>	<u>120</u>	<u>3</u>	<u>34</u>
	August	<u>117</u>	<u>113</u>	<u>3</u>	<u>35</u>
	September	<u>114</u>	<u>101</u>	<u>3</u>	<u>32</u>
4	October	<u>104</u>	<u>81</u>	<u>4</u>	<u>35</u>
	November	<u>98</u>	<u>138</u>	<u>4</u>	<u>32</u>
	December	<u>103</u>	<u>126</u>	<u>3</u>	<u>38</u>
Annual Average:		<u>135</u>	<u>170</u>	<u>5</u>	<u>39</u>

*See Page 4 for explanation

C. During the past year did either the BOD₅ concentration (mg/l) and/or loading (lbs/day), exceed the product of 1.4 times the monthly average permit limit during two months of any consecutive quarters.

(Circle the appropriate response.)

No = 0 points; yes = 121 points

D. During the past year did either the BOD₅ concentration (mg/l) and/or loading (lbs/day), exceed the monthly average permit limit during four months of any two consecutive quarters. (Circle the appropriate response.)

No = 0 points; yes = 121 points

E. During the past year did the effluent TSS concentration (mg/l) or loading (lbs/day), exceed the product of 1.4 times the monthly average permit limit during two months of any two consecutive quarters. (Circle the appropriate response.)

No = 0 points; yes = 121 points

F. During the past year did either the TSS concentration (mg/l) and/or loading (lbs/day), exceed the monthly average permit limit during four months of any two consecutive quarters. (Circle the appropriate response.)

No = 0 points; yes = 121 points

G. During the past year did either the NH₃-N or TKN concentration (mg/l) and/or loading (lbs/day), exceed the product of 1.4 times the monthly average permit limit during two months of any two consecutive quarters. (Circle the appropriate response.)

No = 0 points; yes = 121 points

H. During the past year did either the NH₃-N or TKN concentration (mg/l) and/or loading (lbs/day), exceed the monthly average permit limit during four months of any two consecutive quarters. (Circle the appropriate response.)

No = 0 points; yes = 121 points

I. Place each point value circled for C through H in the blank below:

C Points = 0

D Points = 0

E Points = 0

F Points = 0

G Points = 0

H Points = 0

HIGHEST INDIVIDUAL POINT VALUE FOR PART 2 (C-H) **0** (HIGHEST POINT = 121)

Enter this value on the calculation page at the back of the MWPP, page 16.

Part 3: Age of the Wastewater Treatment Facilities

A. What year was the wastewater treatment plant constructed or last reconstructed? 2013*

*** The facility underwent a major upgrade that increased the plant capacity to 9.0 MGD AADF in 2005. A project to upgrade the facility to a treatment capacity of 11.25 MGD MMADF began in February 2012 and was completed Spring 2013.**

Subtract the above answer from the report year to determine age:

$$\text{Age} = (\text{Last Calendar year}) - (\text{Answer to A.})$$

$$\text{Age } \underline{1} = (\underline{2014}) - (\underline{2013})$$

Enter Age in Part C., below.

B. Check the type of treatment facility that is employed:

	Factor
<input checked="" type="checkbox"/> Mechanical Treatment Plant	2.0
<input type="checkbox"/> Aerated Lagoon	1.5
<input type="checkbox"/> Stabilization Pond	1.0
<input type="checkbox"/> Other (Specify	1.0

C. Multiply the factor listed next to the type of the facility your community employees by the age of your facility to determine the total point above value for Part 3:

$$\begin{array}{l} \text{TOTAL POINT} = \underline{2.0} \text{ X } \underline{1} = \underline{2} \text{ points} \\ \text{VALUE FOR} \quad \text{(factor)} \quad \text{(Age)} \\ \text{PART \#3} \end{array}$$

If the point total exceeds 40 points, enter only 40 for the Part 3 total on page 16. Otherwise, enter the above value on the calculation page at the back of the MWPP Report, page 16.

Facility Name: H.C. Morgan WPCF

Part 4: Bypassing and Overflows

- A. How many bypass or overflow events of untreated wastewater occurred in the last year at the WWTF due to heavy rain? 0
- B. How many bypass or overflow events of untreated wastewater occurred in the last year prior to the headworks of the WWTF due to heavy rain? 0
- C. How many of the bypass or overflow events listed in Parts A and B above have been corrected such that future bypass or overflow events at the same location due to heavy rain are not anticipated? 0
- D. Add together Part A and Part B and subtract Part C from that total.
A + B - C = 0 (Circle one)

0 = 0 points; 1 = 5 points; 2 = 10 points; 3 = 15 points; 4 = 20 points; 5 = 25 points; 6 = 30 points; 7 = 35 points; 8 = 40 points; 9 = 45 points; 10 = 50 points; 11 or more = 100 points.

- E. How many bypass or overflow events of untreated wastewater occurred in the last year at the WWTF due to equipment failure (Note: This includes clogged/broken lines or manholes)? 0
- F. How many bypass or overflow events of untreated wastewater occurred in the last year due to equipment failure prior to the headworks of the WWTF. (Note: This includes clogged/broken lines or manholes)? 5
- G. How many of the bypass or overflow events listed in Parts E and F above have been corrected such that future bypass or overflow events at the same location due to the same equipment failure are not anticipated? 5
- H. Add together Part E and Part F and subtract Part G from that total.
E + F - G = 0

0 = 0 points; 1 = 5 points; 2 = 10 points; 3 = 15 points; 4 = 20 points; 5 = 25 points; 6 = 30 points; 7 = 35 points; 8 = 40 points; 9 = 45 points; 10 = 50 points; 11 or more = 100 points.

- I. Add together each point value circled in D and H and place in the blank below:

TOTAL POINT VALUE FOR PART 4 0

Enter this value on the calculation page at the back of the MWPP, page 18.

Note all bypass or overflow events that have occurred in the last year (for any reason) must be individually reported on the form provided (See Attachment 2) and submitted with this MWPP report.

Facility Name: **H.C. Morgan WPCF**

Part 5: Sludge Quantity and Storage

- A. Please provide the information concerning your sludge quantity, characteristics and storage practices based on available data as requested on Attachment 3. (**See attached 2014 Annual 503 Reports for the Auburn, AL H.C. Morgan WPCF and Northside WPCF.**)
- B. How many months of sludge storage capacity does your wastewater/treatment facility have available, either on-site or off-site? (i.e., How many months can your facility operate without land spreading or disposing of sludge?)

(Circle the appropriate point total.)

Greater than or equal to 4 months = 0 points
Less than 4 months, but greater than or equal to 3 months = 10 points
Less than 3 months, but greater than or equal to 2 months = 20 points
Less than 2 months, but greater than or equal to 1 month = 30 points
Less than one month = 50 points

TOTAL POINT VALUE FOR PART 5 30

Enter this value on calculation page at the back of the MWPP Report, page 18.

Part 6: Sludge Disposal Practices and Sites

- A. Please provide the sludge disposal practices and site information based on available data as requested on Attachment 3. (**See attached 2014 Annual 503 Reports for the Auburn, AL H.C. Morgan WPCF and Northside WPCF.**)
- B. Does your facility have access to (and approval for) sufficient land disposal sites to provide proper land disposal for (Circle the appropriate point total.)

3 or more years = 0 points;
24-35 months = 10 points;
12-23 months = 20 points;
6-12 months = 30 points;
Less than 6 months = 50 points

TOTAL POINT VALUE FOR PART 6 20*

Enter this value on the calculation page at the back of the MWPP Report, page 18.

***Currently have a recurring 1 year lease with property owner of land application site.
Working to get a longer lease.**

Facility Name: **H.C. Morgan WPCF**

Part 7: New Development

Are there any major new developments (industrial, commercial, or residential) in the last calendar year or anticipated in the next 2-3 years, such that either flow or BOD₅ loadings to the sewerage system could significantly increase? Estimate additional loading below:

Design

Design

Population: * 592 persons/yr Flow: 100 gpd/person (11.25 mgd MMADF design capacity)

- Using 100 gal/person/day as an estimate and based on annual average BOD (7973 lbs/day)
- Additional BOD = (7973 lbs/day/7.46 MGD x 1,000,000) x 59,200 gpd = **63.27 lbs BOD/day**

Estimated Future BOD < Design BOD₅: *17,358 lbs/day (MMAD)

* Values above estimated from H.C. Morgan WPCF Facility Master Plan (CH2M Hill, 2010) and Long Term Wastewater Treatment and Disposal Master Plan (CH2M Hill, 2005). The City began transferring all flow from the Northside WPCF to the H.C. Morgan WPCF on January 30, 2013. Flow has increased by approximately 1.5 – 2.0 mgd with the temporary closure of the Northside WPCF. The permitted capacity of the H.C. Morgan WPCF increased to 11.25 mgd (MMADF) with the reissuance of the facility's NPDES permit in 2012 and completion of the construction of the upgrades detailed below.

List Industry and/or residential Developments:

The City continues development in the West Technology Park that is served by the H.C. Morgan WPCF. Property has recently been obtained that will expand the West Technology Park in the future and this expansion will be served by the H.C. Morgan WPCF. Development in a large commercial retail development, West Pace Village, located south of the interstate has recently picked up with construction of a new hotel and this property is served by the H.C. Morgan WPCF. In 2014, residential, commercial and industrial construction activity continued or commenced at several developments that will be served by the H.C. Morgan WPCF including: 160 Ross (residential), Grove Hill 14(residential), Heart of Auburn Retail (commercial), West Pace (Marriott Hotel), Project Wales (industrial), Project Special K (industrial), and Seohan (industrial). Residential and commercial growth in 2015 is anticipated at a similar pace to 2014. The H.C. Morgan WPCF was expanded to 9 MGD (AADF) of treatment capacity in 2005. The facility was expanded again in 2013 to an 11.25 MGD (MMADF) treatment capacity. The City's NPDES permit for the H.C. Morgan WPCF was reissued effective March 1, 2012 with a treatment capacity of 11.25 MGD. Hydraulic and process improvements were needed at the H.C. Morgan WPCF prior to transferring all flow from the Northside WPCF to the H.C. Morgan WPCF. Construction of these improvements began in 2011 with installation of a new, redundant belt filter press at the H.C. Morgan WPCF and a new screen at the Northside WPCF. Construction of the H.C. Morgan WPCF 2012 Improvements project began in February 2012 and was completed in the Spring of 2013. These improvements are based on recommendations outlined in the H.C. Morgan WPCF and Northside WPCF Facility Master Plans (CH2M Hill, 2009-2010) and the Saugahatchee TMDL Implementation Plan that was submitted to ADEM in July 2009. The City began transferring all flow from the Northside WPCF to the H.C. Morgan WPCF on January 30, 2013. The City's growth has resulted in manageable increases in hydraulic and organic loading. Industries are generally low water users and residential load is relatively small per home.

Will the additional loading overload the plant? (Circle One)

No = 0 points; Yes = 121 points

Place the point number in the blank below.

TOTAL POINT VALUE FOR PART 7 0 (highest point total = 121)

Enter this value on the calculation page at the back of the MWPP Report, page 16.

Part 8: Operator Certification

Complete the WWTF and Collection System Personnel inventory on Attachment 4.

Do both the plant operator and collection system staffing comply with ADEM Administrative Code; Division 10, Operator Certification Program?

Yes = 0 points

No = 121 points

TOTAL POINT VALUE FOR PART 8 0 (highest point total = 121)

Enter this value on the calculation page at the back of the MWPP Report, page 18.

Facility Name: **H.C. Morgan WPCF**

Part 9: Financial Status

- A. Are User-Charge Revenues sufficient to cover operation and maintenance expenses? If no, how are O&M costs being financed? **Include user charge rates. Yes. A sewer rate study was completed in December 2008. New rates were adopted in January 2009 and implemented April 1, 2009 and April 1, 2010. A second rate study was completed in 2011 and new rate increases were approved by the City with increases effective October 1, 2011, 2012 and 2013 (not implemented). An updated rate study was completed in 2014 and no rate increase was recommended for 2014.**

Residential Minimum \$14.81/first 3,000 gallons Plus rate \$4.94/1,000 gal.

Industrial Minimum \$14.81/first 3,000 gallons Plus rate \$4.94/1,000 gal.

Monthly residential rate based on 6,000 gallons usage \$29.63

***Please complete the above information based on your user charge rates for the report year. You may attach a sample water and sewer bill for clarity.**

- B. What financial resources do you have available to pay for your wastewater improvements/reconstruction/needs?

User fees, surcharges, sewer access fees, borrowing and developer contributions to the system.

Part 10: Subjective Evaluation

- A. Describe briefly the physical and structural conditions of the wastewater treatment facility:

Structurally and physically the plant is in good to excellent condition. New anoxic tanks and headworks were added in 2005 to satisfy new permit requirements and to handle the plant capacity upgrade. All tanks and basins are in good condition. Pumps, motors and equipment are repaired or replaced as needed. All equipment is generally in good condition. A new redundant belt filter press, washwater pumps, sludge feed pumps and polymer feed system were installed in 2011. Construction of the H.C. Morgan WPCF 2012 Improvements Project was completed in 2013. This project consisted of: (1) Partial demolition and structural modifications to the old headworks; (2) Improvements to the existing aeration/anoxic basins to include: the addition of nitrified recycle pumps and force mains, construction of a new poured-in-place concrete baffle wall, replacement of the existing fine bubble diffusers and the addition of new gates between the existing basins; (3) Construction of a new 35-foot diameter gravity thickener; (4) Construction of two new, pre-stressed concrete, 100-foot diameter aerobic digesters and ancillary equipment; (5) Modification of the existing chlorine contact basin, installation of a new ultraviolet (UV) disinfection system and decommissioning of the chlorine gas and sulfur dioxide disinfection system; (6) New thickened sludge pump station; (7) Installation of the electrical, instrumentation, piping and other ancillary facilities associated with the new and modified facilities; and (8) In-plant supervisory control and data acquisition (SCADA) improvements. In 2013, the City also replaced two (2) existing clarifier drives and one (1) gravity thickener drive that were installed in 1985, due to equipment age and wear. The City currently has a project under design to replace the existing blowers that were installed in 1985. These new blowers will be installed in 2015. The City is currently working with it's engineering consultant, CH2M HILL, to develop a task order for updating the H.C. Morgan WPCF Facility Master Plan that was completed in 2010 with the intent of updating this Plan in 2015.

- B. Describe the general condition of the sewer system: (sewer lines, manholes, lift stations)

The collection and conveyance system is generally in average to good condition. The City has limited sanitary sewer overflows (SSOs) which occur primarily as a result of grease accumulation, root intrusion and inflow and infiltration (I/I). There are areas within the H.C. Morgan service area where the collection system receives I/I that the City is actively evaluating. The City has completed numerous sewer system evaluation surveys (SSES) and sewer rehabilitation projects to prioritize and address I/I within the H.C. Morgan service basin. During this past year, construction of a sewer rehabilitation project in Southside Sewer Basin 17B (vicinity of Woodfield Drive, North College Street and North Gay Street) began with construction anticipated to be completed in 2015. The City initiated a flow monitoring study in the H.C. Morgan service basin in January 2015 to evaluate rehabilitation efforts thus far and to determine future rehabilitation needs. This study will be completed in the Spring of 2015. The City also completed an upgrade of the lift station SCADA system in 2014 that will allow for better monitoring, control and analysis of the City's lift stations. The City is currently working toward installing standby diesel pumps at all of its lift stations to enable backup

pumping during a power outage or maintenance issue. The City has one additional pump to purchase and install and this will be done later in 2015.

- C. What sewerage system improvements does the community have planned for construction in the next 5 years?

Some process improvements are expected at the H.C. Morgan WPCF in the next 5 years. The City began design of a project to replace the blowers at the facility in 2014. The blowers are anticipated to be installed in 2015. The City's engineering consultant, CH2M HILL, will update the H.C. Morgan WPCF Facility Master Plan in 2015 that will guide future improvements to the facility. The City will continue to actively address I/I issues through rehabilitation of aging sewer infrastructure during the next 5 years and will evaluate system capacity improvements as necessary.

- D. What was the theoretical design life of the plant and what do you believe is the remaining useful life of the wastewater treatment facilities?

The theoretical design life of the plant is 20 – 40 years. The current remaining useful life of the WPCF is 20 - 40 years due to the upgrades completed in 2013 associated with the H.C. Morgan WPCF 2012 Improvements Project.

- E. What problems, if any, have been experienced over the last year that have threatened treatment or conveyance within the system?

High flows occasionally experienced due to I/I during heavy rain events. SSOs caused by grease accumulation and root intrusion. Although minimal, equipment failures occasionally occur at the WPCF.

- F. Is your community presently involved in formal planning for treatment facility upgrading?

Yes. The Water Resource Management Department tasked its engineering consultant, CH2M Hill, with performing comprehensive facility master plans of the H.C. Morgan WPCF and the Northside WPCF. These plans were finalized in 2010 and provide technical guidance on future upgrades and expansion of the facilities. The City also submitted a TMDL Implementation Plan to ADEM in July 2009 that outlines the City's plan to address the Saugahatchee TMDL by conveying flow from the Northside WPCF to the H.C. Morgan WPCF and the upgrades that are needed prior to transferring flow. Full implementation of the TMDL plan was realized in January 2013 with the temporary closure of the Northside WPCF and the transferring of flow from the Northside WPCF to the H.C. Morgan WPCF. The City is currently working with its engineering consultant, CH2M HILL, to develop a task order for updating the H.C. Morgan and Northside WPCF Facility Master Plans. It is anticipated that these Plans will be updated in 2015.

- G. How many days in the last year were there residential backups at any point in the collection system for any reason, except clogging of the lateral connection? 5 SSO Events

- H. Does your plant have a written plan for preventative maintenance on major equipment items? If yes, describe.

Yes. Preventative maintenance is documented and tracked using the MP2 Maintenance Program and OPS 32 software program (Veolia Water). A card file is kept on all equipment. Electronic and hard copies of all equipment O & M manuals are filed at both the H.C. Morgan WPCF and the City's Water and Sewer Complex. The City implemented CityWorks work order software for its sewer collection system in 2014 that allows the City to develop and maintain a more efficient work order database for the sewer collection system.

- I. Does this preventive maintenance program depict frequency of intervals, types of lubrication and other preventative maintenance tasks necessary for each piece of equipment? (Circle One) Yes No
- J. Are these preventative maintenance tasks, as well as equipment problems, being recorded and filed so future maintenance problems can be assessed properly? (Circle One) Yes No
- K. Describe any major repairs or mechanical equipment replacement that you made in the last year and include the approximate cost for those repairs. Do not include major treatment plant construction or upgrading programs.

* Items below do not include the major equipment upgrades that were included in the H.C. Morgan 2012 Improvements project or the clarifier and thickener drive replacements.

- 1. Replaced one (1) grit pump - \$5,311
- 2. Replaced Admin Lift Station Pump - \$5,700
- 3. Replaced Clarifier Waste Valve - \$4,244

- L. Any additional comments? (Attach additional sheets if necessary.)

Part 11: Summary Sheet

1. Fill in the values from parts 1 through 8 in the columns below. Add the numbers in the left column to determine the MWPP Report point total that the wastewater system has generated for the previous calendar year.

<u>Actual Values</u>	<u>Maximum Possible</u>
Part 1 <u>5</u> points	80 points
Part 2 <u>0</u> points	121 points
Part 3 <u>2</u> points	40 points
Part 4 <u>0</u> points	200 points
Part 5 <u>30</u> points	50 points
Part 6 <u>20</u> points	50 points
Part 7 <u>0</u> points	121 points
Part 8 <u>0</u> points	121 points
Total <u>57</u> points	783 points

2. Circle the facility type that best describes your plant's treatment and disposal of the wastewater:

Mechanical plant with surface water discharge

Aerated Lagoon or stabilization pond with surface water discharge

Mechanical plant using land disposal of liquid wastes

Aerated Lagoon or stabilization pond using land disposal of Liquid wastes

3. Circle the range that describes what action is needed to address any problems identified in the report and have resolution completed on page 20.

0 - 70 pts. - Actions as Appropriate*

71 - 120 pts. - Departmental Recommendation Range*

121 - 783 - Municipality Action Range*

***Other actions may be required by NPDES outside the scope of this report.**

4. In questions #1, do any of the point values in the left column equal the maximum (right column) that could be generated for that particular question? (Circle One) Yes **No**
5. If the answer to question 4 is yes, provide a written explanation for this situation in the space below.

N/A

SANITARY SEWER OVERFLOW EVENT REPORTING FORM

NOTE: This form is to be used to document written notification of a sanitary sewer overflow event or sewage release within five days of becoming aware of the event.

Permittee Name: City of Auburn Permit Number: AL0050237

Facility Name: H.C. Morgan WPCF County: Lee

Date/Time SSO Began: 3/24/2014; 4:30 PM Date/Time SSO Stopped: 3/24/2014; 5:20 PM

Estimated Volume Discharged: 100 gallons (Mandatory)

Estimated Volume is: () <1,000gal () >1,000gal () >10,000gal () >100,000gal () >1,000,000gal

Was Department verbally notified within 24 hours? () Yes () No Date/Time of Notification: 3/25/2014; 8:01 AM

Person that verbally notified Department: Jimmy Segrest Phone Number: 334-501-3069

Did you contact the SSO hotline? () Yes () No

Indicate source of discharge event: () manhole () lift station () broken line
() cleanout () treatment plant () other (describe): _____

Location of discharge (street address, etc.): 1501 West Samford Avenue, Auburn, AL

Known or suspected cause of the discharge: Blockage in sewer main caused by debris accumulation

Ultimate destination of discharge: () ground absorbed () creek or river (provide name): UT of Parkerson Mill Creek
() storm drain () drainage ditch () other (describe): _____

Monitoring of the receiving water is: () complete () ongoing

Describe corrective actions taken, plans to eliminate future discharges, and actions or plans to mitigate impacts to the environment and/or public health (attach additional sheets if necessary): Sewer personnel used a high pressure water jet to relieve the blockage and the discharge ceased. This line will be inspected via CCTV to determine further maintenance needs.

Indicate efforts to notify public (check all that apply):
() press release () other (describe): City Website
() placement of signs () notice not required, because: _____

Indicate other officials notified (check all that apply):
() county health department () other (describe): Water Resource Management Director
() notice not required, because: _____

Were any public water supply intake locations effected? () No () Yes If yes, who was notified? _____

Matt R. Dunn, P.E./Watershed Div. Mgr.
Name/Title of Facility Representative

Signature of Responsible Official
(If > 10,000 gal)

Mar 25, 2014
Date

I certify that I have personally examined and am familiar with the information submitted herein. Based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information to be true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment.

ONE COPY OF A USGS QUAD SHEET OR OTHER GEOGRAPHICALLY REFERENCED MAP MUST BE ATTACHED SHOWING THE EXACT LOCATION OF ALL DISCHARGES GREATER THAN 10,000 GALLONS.



3.24.14
1501 West Samford Avenue
Auburn, Al
SSO Location Map



Collection System Division
Location Map



DATE CALL RECEIVED 3/24/2014 TIME CALL RECEIVED 4:30 A.M./P.M. (P.M.)
COMPLAINT REPORTED BY COA Staff
LOCATION OF DISCHARGE: 1501 W. Sanford Ave Auburn AL 36832

NATURE OF OVERFLOW:

- City Sewer Line Discharge
- City Sewer Line Blockage
- Lift Station Alarm/Discharge
- Manhole Discharge
- Other

SEWER DISCHARGE INFORMATION
SOURCE OF OVERFLOW:

- Broken Sewer Line
- Manhole Discharge
- Lift Station Discharge
- Other

CAUSE OF OVERFLOW:

- Damaged Sewer Line
- Failed/Collapsed Sewer Line
- Sewer Blockage-Grease
- Damaged Manhole
- Failed Collapsed Manhole
- Cause not listed above: _____
- Insufficient Capacity
- Root Intrusion Into Sewer Line
- Sewer Blockage- Debris
- Lift Station Power Failure
- Lift Station Equipment Failure

DESTINATION OF DISCHARGE:

- Onto Ground
 - Into Storm Drain
 - Into Ground
 - Into Water
 - Onto Street
- WAS THERE A VISIBLE DISCHARGE INTO A BODY OF WATER Yes No
(If yes, document with photos)

DURATION OF OVERFLOW (Please fill out below):

From (Date and Time) 3/24/2014, 4:30 A.M./P.M. (P.M.)
To (Date and Time) 3/24/2014, 5:20 A.M./P.M. (P.M.)

Action Taken The crew used a high pressure jetting machine to relieve the blockage in the sewer main. This line will be inspected in order to determine further maintenance needs.

WEATHER CONDITIONS (Check One):

- NO RAIN
- LIGHT RAIN
- MODERATE RAIN
- HEAVY RAIN
- PREVIOUS RAIN

Completed By Jimmy Segrest Date 3/25/2014

(THIS SECTION TO BE COMPLETED BY SUPERVISOR)

ESTIMATED QUANTITY OF DISCHARGE:

- Less than 100 gal.
 - Less than 500 gal.
 - Less than 1,000 gal.
- Other estimated flows (Less or more than above) est. 100 gal ±

REPORTABLE UNPERMITTED DISCHARGE:

- REPORTABLE
- NON-REPORTABLE

Supervisor [Signature]

Date 3/25/14

H.C. Morgan Pollution Control
AL 0050237
ADEM Hotline Notified
3/25/14 8:01am

3/24/14 1501 W. Sanford Avenue



3/24/14 W. Semford Avenue



SANITARY SEWER OVERFLOW EVENT REPORTING FORM

NOTE: This form is to be used to document written notification of a sanitary sewer overflow event or sewage release within five days of becoming aware of the event.

Permittee Name: City of Auburn Permit Number: AL0050237
Facility Name: H.C. Morgan WPCF County: Lee
Date/Time SSO Began: 3/31/14; 8:56 AM Date/Time SSO Stopped: 3/31/14; 9:50 AM
Estimated Volume Discharged: 280 gallons (Mandatory)
Estimated Volume is: <1,000gal >1,000gal >10,000gal >100,000gal >1,000,000gal
Was Department verbally notified within 24 hours? Yes No Date/Time of Notification: 4/1/14; 7:39 AM
Person that verbally notified Department: Jimmy Segrest Phone Number: 334-501-3069
Did you contact the SSO hotline? Yes No

Indicate source of discharge event: manhole lift station broken line
 cleanout treatment plant other (describe): _____

Location of discharge (street address, etc.): 1717 South College Street, Auburn, AL (wooded lot just east of this address)

Known or suspected cause of the discharge: Blockage caused by debris accumulation in sewer main

Ultimate destination of discharge: ground absorbed creek or river (provide name): UT of Town Creek
 storm drain drainage ditch other (describe): _____

Monitoring of the receiving water is: complete ongoing

Describe corrective actions taken, plans to eliminate future discharges, and actions or plans to mitigate impacts to the environment and/or public health (attach additional sheets if necessary): Sewer personnel used a high pressure water jet to relieve the blockage and the discharge ceased. This line will be inspected in order to determine further maintenance needs.

Indicate efforts to notify public (check all that apply):
 press release other (describe): City Website
 placement of signs notice not required, because: _____

Indicate other officials notified (check all that apply):
 county health department other (describe): Water Resource Management Director
 notice not required, because: _____

Were any public water supply intake locations effected? No Yes If yes, who was notified? _____

Matt R. Dunn, P.E./Watershed Div. Mgr. Apr 2, 2014
Name/Title of Facility Representative Signature of Responsible Official Date
(If > 10,000 gal)

I certify that I have personally examined and am familiar with the information submitted herein. Based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information to be true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment.

ONE COPY OF A USGS QUAD SHEET OR OTHER GEOGRAPHICALLY REFERENCED MAP MUST BE ATTACHED SHOWING THE EXACT LOCATION OF ALL DISCHARGES GREATER THAN 10,000 GALLONS.



DATE CALL RECEIVED 3/31/14 TIME CALL RECEIVED 8:56 (A.M.) P.M.
COMPLAINT REPORTED BY COA Staff
LOCATION OF DISCHARGE: 1717 S. College St., Auburn AL (wooded lot just east of this address)

NATURE OF OVERFLOW:

- City Sewer Line Discharge
- City Sewer Line Blockage
- Lift Station Alarm/Discharge
- Manhole Discharge
- Other

SEWER DISCHARGE INFORMATION
SOURCE OF OVERFLOW:

- Broken Sewer Line
- Manhole Discharge
- Lift Station Discharge
- Other

CAUSE OF OVERFLOW:

- Damaged Sewer Line
- Failed/Collapsed Sewer Line
- Sewer Blockage-Grease
- Damaged Manhole
- Failed Collapsed Manhole
- Cause not listed above: _____
- Insufficient Capacity
- Root Intrusion Into Sewer Line
- Sewer Blockage- Debris
- Lift Station Power Failure
- Lift Station Equipment Failure

DESTINATION OF DISCHARGE:

- Onto Ground
- Into Storm Drain
- Into Ground
- Into Water
- Onto Street

Discharged into a unnamed tributary of town creek.

WAS THERE A VISIBLE DISCHARGE INTO A BODY OF WATER Yes No
(If yes, document with photos)

DURATION OF OVERFLOW (Please fill out below):

From (Date and Time) 3/31/2014, 8:56 (A.M.) P.M.
To (Date and Time) 3/31/2014, 9:50 (A.M.) P.M.

Action Taken The crew used a high pressure jetting machine to relieve the blockage.
Will go back and CCTV for further maintenance needs.

WEATHER CONDITIONS (Check One):

- NO RAIN
- LIGHT RAIN
- MODERATE RAIN
- HEAVY RAIN
- PREVIOUS RAIN

Completed By *[Signature]* Date 3/31/2014

(THIS SECTION TO BE COMPLETED BY SUPERVISOR)

ESTIMATED QUANTITY OF DISCHARGE:

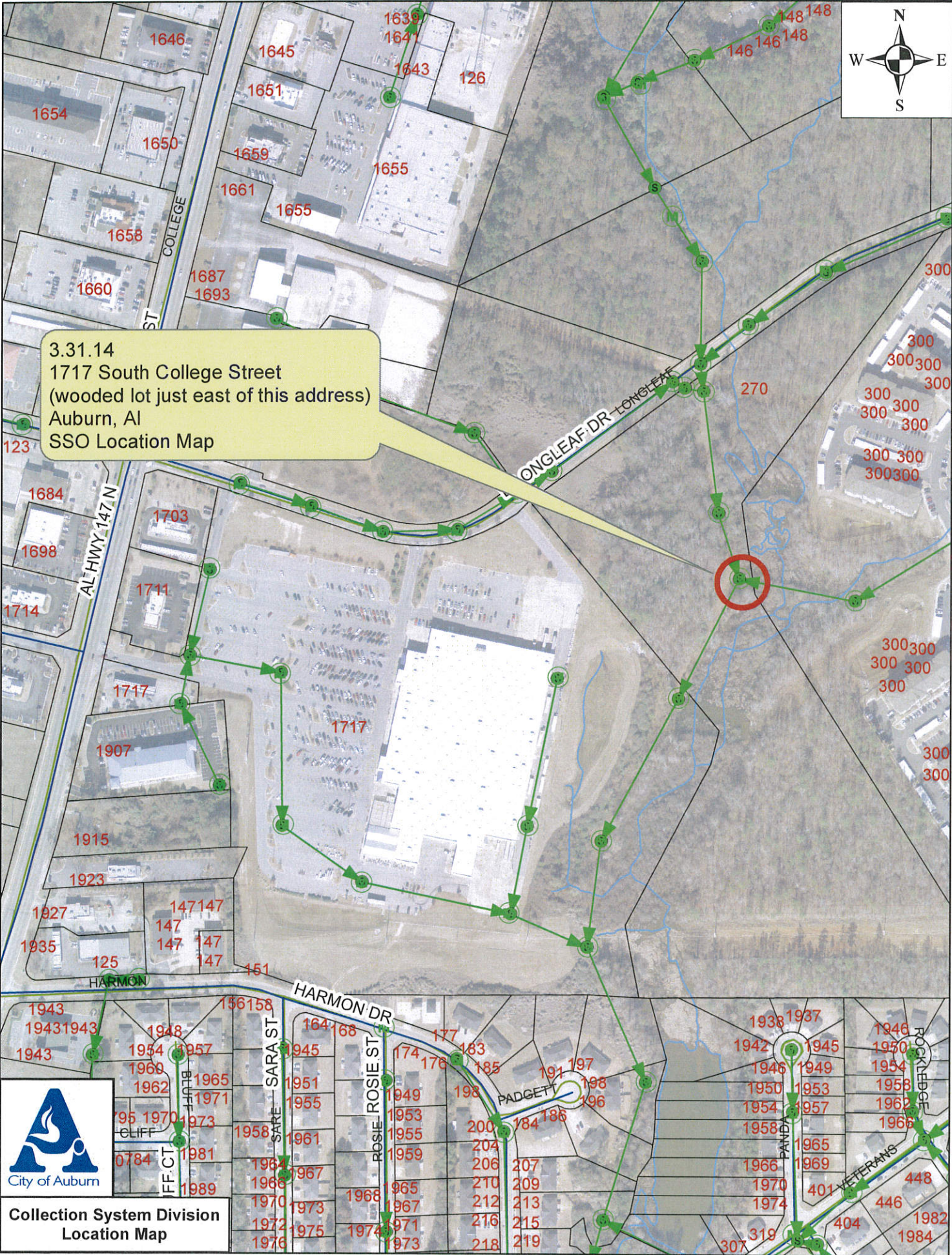
- Less than 100 gal.
 - Less than 500 gal.
 - Less than 1,000 gal.
- Other estimated flows (Less or more than above) est at approx 280 gallons

called to ADEM on 4/1/2014 at 7:39am H.C. Morgan Pollution control Facility - permit number - ALO050237

REPORTABLE UNPERMITTED DISCHARGE:

- REPORTABLE
- NON-REPORTABLE

Supervisor *[Signature]* Date 4/2/14

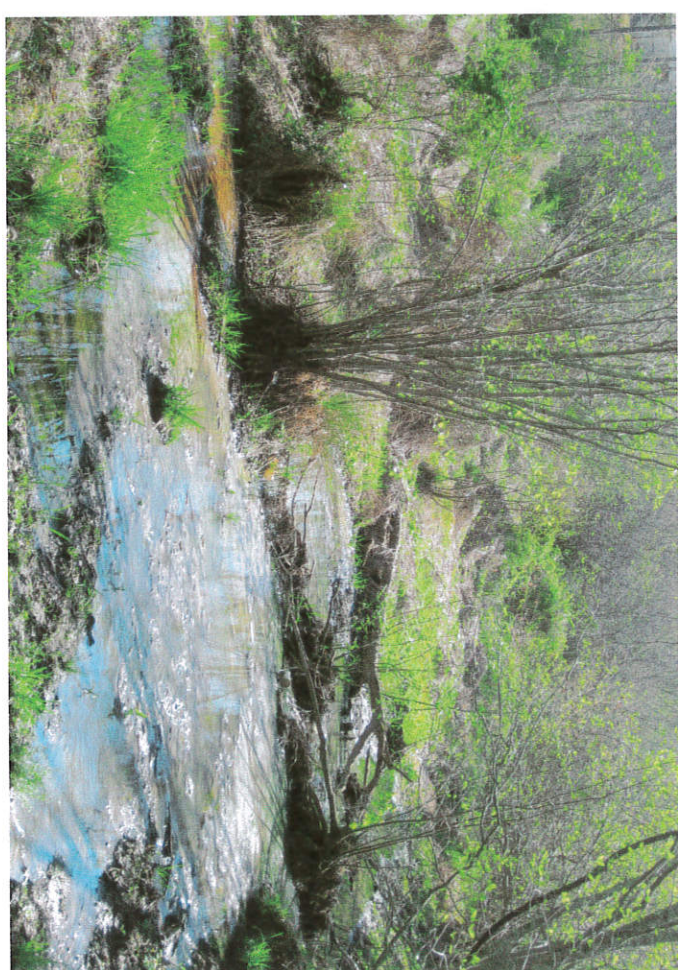
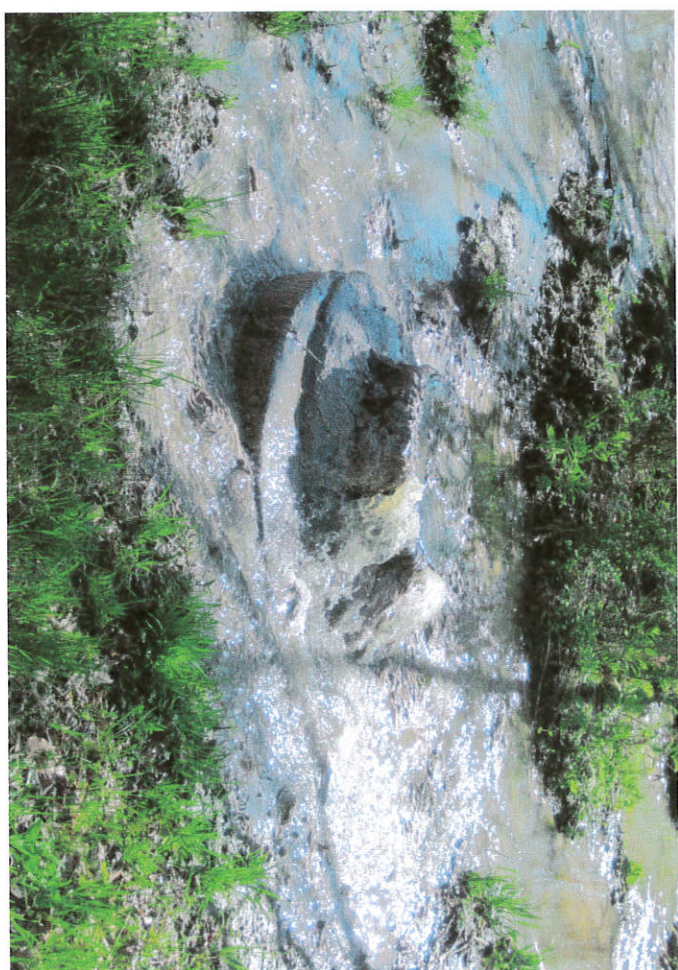
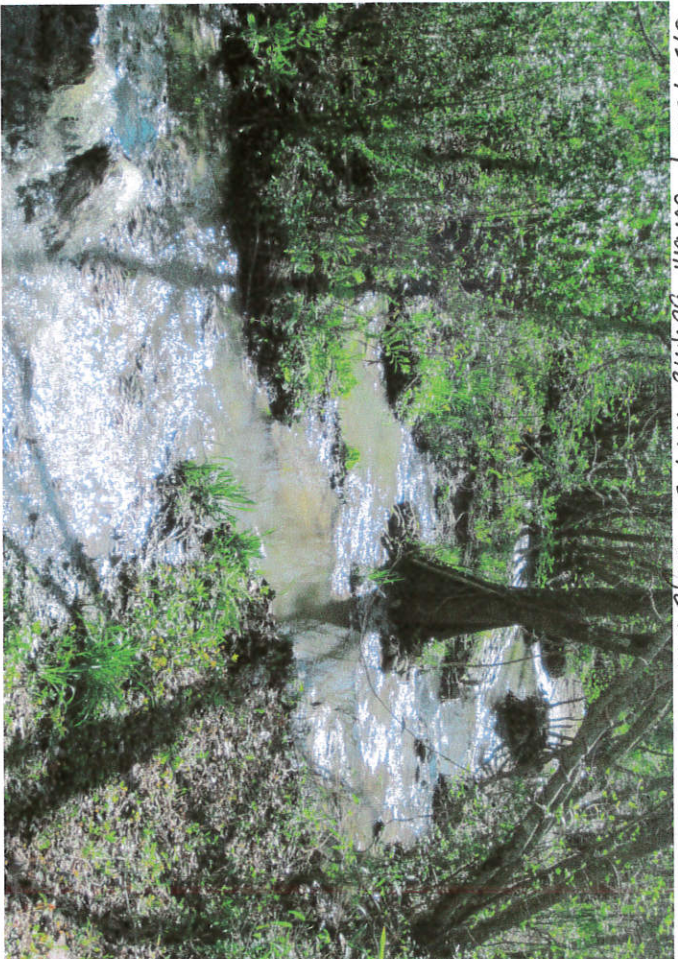


3.31.14
1717 South College Street
(wooded lot just east of this address)
Auburn, Al
SSO Location Map



City of Auburn
Collection System Division
Location Map

3/31/2014 Outfall behind 1717 S. College St.



SANITARY SEWER OVERFLOW EVENT REPORTING FORM

NOTE: This form is to be used to document written notification of a sanitary sewer overflow event or sewage release within five days of becoming aware of the event.

Permittee Name: City of Auburn Permit Number: AL0050237

Facility Name: H.C. Morgan WPCF County: Lee

Date/Time SSO Began: 7/25/14; 3:00 PM Date/Time SSO Stopped: 7/25/14; 6:30 PM

Estimated Volume Discharged: 1,050 gallons (Mandatory)

Estimated Volume is: () <1,000gal () >1,000gal () >10,000gal () >100,000gal () >1,000,000gal

Was Department verbally notified within 24 hours? () Yes () No Date/Time of Notification: 7/26/14; 11:32 AM

Person that verbally notified Department: Jimmy Segrest Phone Number: 334-501-3069

Did you contact the SSO hotline? () Yes () No

Indicate source of discharge event: () manhole () lift station () broken line
() cleanout () treatment plant () other (describe): _____

Location of discharge (street address, etc.): 826 Shell Toomer Parkway, Auburn, AL

Known or suspected cause of the discharge: Sewer blockage created by debris in sewer main.

Ultimate destination of discharge: () ground absorbed () creek or river (provide name): UT of Parkerson Mill Creek
() storm drain () drainage ditch () other (describe): _____

Monitoring of the receiving water is: () complete () ongoing

Describe corrective actions taken, plans to eliminate future discharges, and actions or plans to mitigate impacts to the environment and/or public health (attach additional sheets if necessary): Sewer maintenance personnel used a high pressure water jet to relieve the blockage and the discharge ceased. This line will be inspected to determine further maintenance needs.

Indicate efforts to notify public (check all that apply):
() press release () other (describe): City Website
() placement of signs () notice not required, because: _____

Indicate other officials notified (check all that apply):
() county health department () other (describe): Water Resource Management Director
() notice not required, because: _____

Were any public water supply intake locations effected? () No () Yes If yes, who was notified? _____

Matt R. Dunn, P.E./WRM Assistant Director
Name/Title of Facility Representative

Signature of Responsible Official
(if > 10,000 gal)

Aug 4, 2014
Date

I certify that I have personally examined and am familiar with the information submitted herein. Based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information to be true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment.

ONE COPY OF A USGS QUAD SHEET OR OTHER GEOGRAPHICALLY REFERENCED MAP MUST BE ATTACHED SHOWING THE EXACT LOCATION OF ALL DISCHARGES GREATER THAN 10,000 GALLONS.





DATE CALL RECEIVED 7/25/2014 TIME CALL RECEIVED 3:00 A.M./P.M.
COMPLAINT REPORTED BY Auburn Links Golf Course
LOCATION OF DISCHARGE: 826 Shell Toomer Pkwy

NATURE OF OVERFLOW:

- City Sewer Line Discharge
- City Sewer Line Blockage
- Lift Station Alarm/Discharge
- Manhole Discharge
- Other

SEWER DISCHARGE INFORMATION
SOURCE OF OVERFLOW:

- Broken Sewer Line
- Manhole Discharge
- Lift Station Discharge
- Other

CAUSE OF OVERFLOW:

- Damaged Sewer Line
- Failed/Collapsed Sewer Line
- Sewer Blockage-Grease
- Damaged Manhole
- Failed Collapsed Manhole
- Cause not listed above: _____
- Insufficient Capacity
- Root Intrusion Into Sewer Line
- Sewer Blockage- Debris
- Lift Station Power Failure
- Lift Station Equipment Failure

DESTINATION OF DISCHARGE:

- Onto Ground
- Into Storm Drain
- Into Ground
- Into Water
- Onto Street

unnamed tributary of Parkinson Mill Creek

WAS THERE A VISIBLE DISCHARGE INTO A BODY OF WATER Yes No
(If yes, document with photos)

DURATION OF OVERFLOW (Please fill out below):

From (Date and Time) 7/25/2014 3:00 A.M./P.M.
To (Date and Time) 7/25/2014 6:30 A.M./P.M.

Action Taken The crew used a high powered water jet machine to relieve the blockage, and clear the line. The discharge soon ceased. This line will be inspected, in order to determine further maintenance needs.

WEATHER CONDITIONS (Check One):

- NO RAIN
- LIGHT RAIN
- MODERATE RAIN
- HEAVY RAIN
- PREVIOUS RAIN

Completed By *J. S. A.* Date 7/25/2014
(THIS SECTION TO BE COMPLETED BY SUPERVISOR)

ESTIMATED QUANTITY OF DISCHARGE:

- Less than 100 gal.
- Less than 500 gal.
- Less than 1,000 gal.
- Other estimated flows (Less or more than above) 1,050 gal

*ADSM Hotline
Notified 7/26/2014 11:32am
H.C Morgan Pollution
Control Facility
Permit Number - AL0050237*

REPORTABLE UNPERMITTED DISCHARGE:

- REPORTABLE
- NON-REPORTABLE

Supervisor *Matt P.* Date 8/4/14



7/25/14 826 Shell Toon OKAY

7/25/14 826 Still Toomer Pkwy



SANITARY SEWER OVERFLOW EVENT REPORTING FORM

NOTE: This form is to be used to document written notification of a sanitary sewer overflow event or sewage release within five days of becoming aware of the event.

Permittee Name: City of Auburn Permit Number: AL0050237

Facility Name: H.C. Morgan WPCF County: Lee

Date/Time SSO Began: 7/28/14; 7:22 PM Date/Time SSO Stopped: 7/28/14; 9:15 PM

Estimated Volume Discharged: 525 gallons (Mandatory)

Estimated Volume is: (✓) <1,000gal () >1,000gal () >10,000gal () >100,000gal () >1,000,000gal

Was Department verbally notified within 24 hours? (✓) Yes () No Date/Time of Notification: 7/29/14; 1:07 PM

Person that verbally notified Department: Mikel Thompson Phone Number: 334-501-3073

Did you contact the SSO hotline? (✓) Yes () No

Indicate source of discharge event: (✓) manhole () lift station () broken line
() cleanout () treatment plant () other (describe): _____

Location of discharge (street address, etc.): 359 East Magnolia Avenue, Auburn, AL

Known or suspected cause of the discharge: Sewer blockage created by sand bags placed in manhole by contractor for temporary bypass pumping associated with sewer line replacement project.

Ultimate destination of discharge: () ground absorbed (✓) creek or river (provide name): UT of Town Creek
() storm drain () drainage ditch () other (describe): _____

Monitoring of the receiving water is: () complete (✓) ongoing

Describe corrective actions taken, plans to eliminate future discharges, and actions or plans to mitigate impacts to the environment and/or public health (attach additional sheets if necessary): A bypass pump was utilized to pump down the manhole containing the sand bags. The sand bags were removed from the mouth of the sewer main and the discharge ceased.

Indicate efforts to notify public (check all that apply):
() press release (✓) other (describe): City Website
() placement of signs () notice not required, because: _____

Indicate other officials notified (check all that apply):
() county health department (✓) other (describe): Water Resource Management Director
() notice not required, because: _____

Were any public water supply intake locations effected? (✓) No () Yes If yes, who was notified? _____

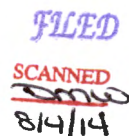
Matt R. Dunn, P.E./WRM Assistant Director
Name/Title of Facility Representative

Signature of Responsible Official
(If > 10,000 gal)

Aug 4, 2014
Date

I certify that I have personally examined and am familiar with the information submitted herein. Based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information to be true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment.

ONE COPY OF A USGS QUAD SHEET OR OTHER GEOGRAPHICALLY REFERENCED MAP MUST BE ATTACHED SHOWING THE EXACT LOCATION OF ALL DISCHARGES GREATER THAN 10,000 GALLONS.





DATE CALL RECEIVED 7/28/14 TIME CALL RECEIVED 7:22 A.M./~~P.M.~~
 COMPLAINT REPORTED BY COA Staff
 LOCATION OF DISCHARGE: 359 East Magnolia Avenue Auburn, Al

NATURE OF OVERFLOW:

City Sewer Line Discharge Manhole Discharge
 City Sewer Line Blockage Other
 Lift Station Alarm/Discharge

SEWER DISCHARGE INFORMATION
SOURCE OF OVERFLOW:

Broken Sewer Line Lift Station Discharge
 Manhole Discharge Other

CAUSE OF OVERFLOW:

Damaged Sewer Line Insufficient Capacity
 Failed/Collapsed Sewer Line Root Intrusion Into Sewer Line
 Sewer Blockage-Grease Sewer Blockage- Debris
 Damaged Manhole Lift Station Power Failure
 Failed Collapsed Manhole Lift Station Equipment Failure
 Cause not listed above: Sewer blockage - sand bags

DESTINATION OF DISCHARGE:

Onto Ground Into Ground Onto Street
 Into Storm Drain Into Water
 WAS THERE A VISIBLE DISCHARGE INTO A BODY OF WATER Yes No
 (If yes, document with photos) * Into unnamed tributary of Town Creek
To look for photos of stream

DURATION OF OVERFLOW (Please fill out below):

From (Date and Time) 7/28/14, 7:22 A.M./~~P.M.~~
 To (Date and Time) 7/28/14, 9:15 A.M./~~P.M.~~

Action Taken The maintenance crew utilized a diesel driven bypass-pump to pump down the manhole containing the sandbags. This allowed the discharge to cease. The sandbags were removed from the mouth of the outgoing sewer main and the sewer line was returned to proper operation.

WEATHER CONDITIONS (Check One):
 NO RAIN LIGHT RAIN MODERATE RAIN HEAVY RAIN PREVIOUS RAIN

Completed By [Signature] Date 7/30/14
 (THIS SECTION TO BE COMPLETED BY SUPERVISOR)

ESTIMATED QUANTITY OF DISCHARGE:
 Less than 100 gal. Less than 500 gal. Less than 1,000 gal.
 Other estimated flows (Less or more than above) estimated at approx 525 gallons

ADEM Hotline notified
 7/29/14 1:07 pm
 Al # 0050237

REPORTABLE UNPERMITTED DISCHARGE:
 REPORTABLE NON-REPORTABLE

Supervisor [Signature] Date 8/4/14

7/28/14 359 East Magnolia Avenue





7.28.14
359 East Magnolia Avenue
Auburn, Al
SSO Location Map

141

132

ROSS

106

403

N ROSS ST

359

E MAGNOLIA AV

MAGNOLIA

DUPLEX

DUPLEX CT

S ROSS ST

366

358

102

106

101



City of Auburn

Collection System Division
Location Map

SANITARY SEWER OVERFLOW EVENT REPORTING FORM

NOTE: This form is to be used to document written notification of a sanitary sewer overflow event or sewage release within five days of becoming aware of the event.

Permittee Name: City of Auburn Permit Number: AL0050237

Facility Name: H.C. Morgan WPCF County: Lee

Date/Time SSO Began: 8/26/14; 2:45 PM Date/Time SSO Stopped: 8/26/14; 3:20 PM

Estimated Volume Discharged: 175 gallons (Mandatory)

Estimated Volume is: <1,000gal >1,000gal >10,000gal >100,000gal >1,000,000gal

Was Department verbally notified within 24 hours? Yes No Date/Time of Notification: 8/27/14; 8:02 AM

Person that verbally notified Department: Jimmy Segrest Phone Number: 334-501-3069

Did you contact the SSO hotline? Yes No

Indicate source of discharge event: manhole lift station broken line
 cleanout treatment plant other (describe): _____

Location of discharge (street address, etc.): 359 East Magnolia Avenue, Auburn, AL

Known or suspected cause of the discharge: Sewer plug in line. Contractor's plug became lodged in the sewer line causing a backup while performing work on a sewer line along Ross Street.

Ultimate destination of discharge: ground absorbed creek or river (provide name): _____
 storm drain drainage ditch other (describe): _____

Monitoring of the receiving water is: complete ongoing

Describe corrective actions taken, plans to eliminate future discharges, and actions or plans to mitigate impacts to the environment and/or public health (attach additional sheets if necessary): The contractor used two pumps to pump the line down and remove the sewer plug from the line. The discharge soon ceased.

Indicate efforts to notify public (check all that apply):
 press release other (describe): City website
 placement of signs notice not required, because: _____

Indicate other officials notified (check all that apply):
 county health department other (describe): Water Resource Management Director
 notice not required, because: _____

Were any public water supply intake locations effected? No Yes If yes, who was notified? _____

Matt R. Dunn, P.E./Watershed Div. Mgr.
Name/Title of Facility Representative

Signature of Responsible Official
(If > 10,000 gal)

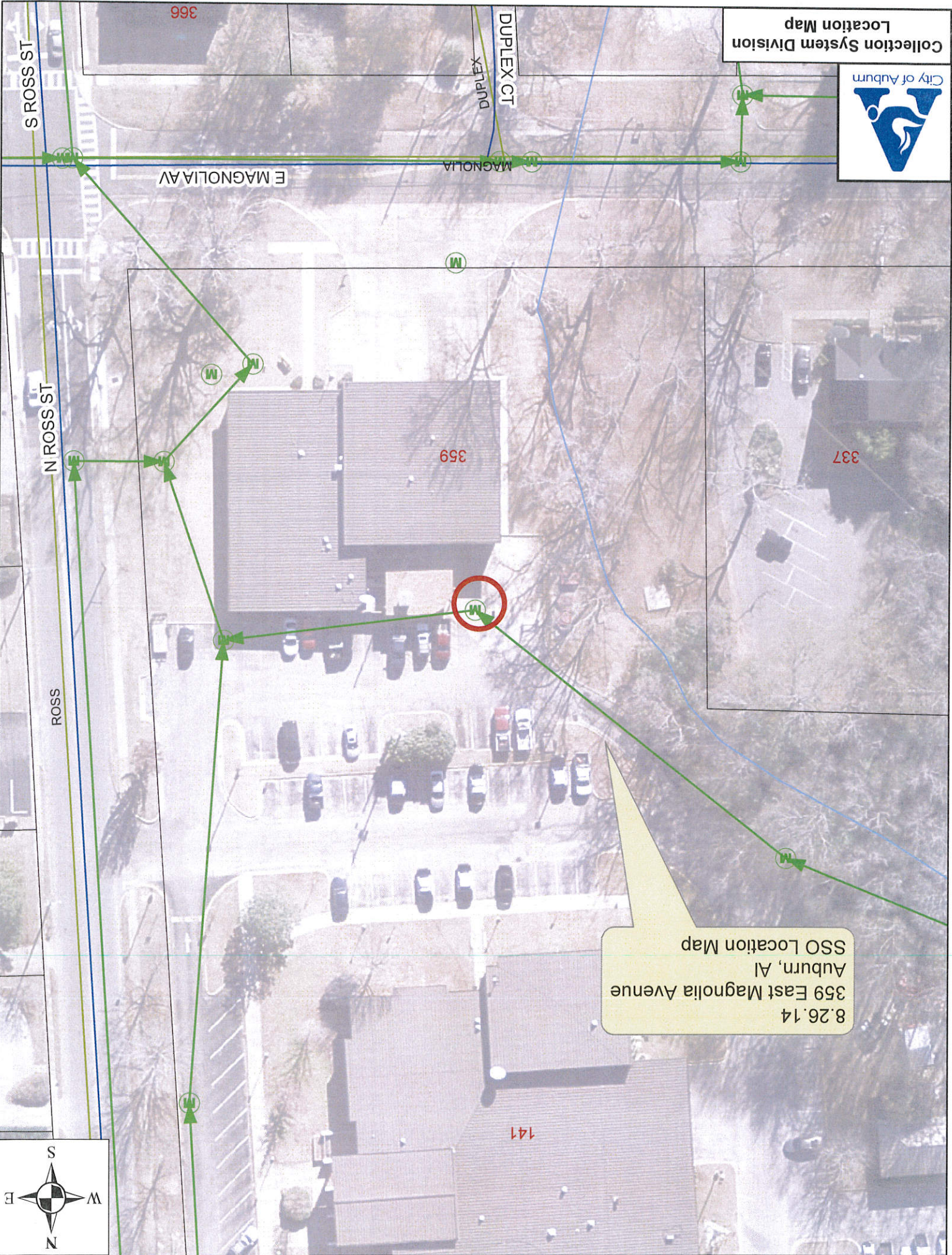
Aug 28, 2014
Date

I certify that I have personally examined and am familiar with the information submitted herein. Based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information to be true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment.

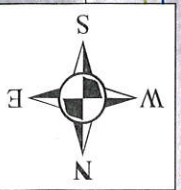
ONE COPY OF A USGS QUAD SHEET OR OTHER GEOGRAPHICALLY REFERENCED MAP MUST BE ATTACHED SHOWING THE EXACT LOCATION OF ALL DISCHARGES GREATER THAN 10,000 GALLONS.



Collection System Division
Location Map



8.26.14
359 East Magnolia Avenue
Auburn, Al
SSO Location Map





DATE CALL RECEIVED 8/26/2014 TIME CALL RECEIVED 2:45 A.M. (P.M.)
COMPLAINT REPORTED BY CoVA staff
LOCATION OF DISCHARGE: 359 E. Magnolia Av

NATURE OF OVERFLOW:

- City Sewer Line Discharge
- City Sewer Line Blockage
- Lift Station Alarm/Discharge
- Manhole Discharge
- Other

SEWER DISCHARGE INFORMATION
SOURCE OF OVERFLOW:

- Broken Sewer Line
- Manhole Discharge
- Lift Station Discharge
- Other flowing through well of manhole into storm drain structure

CAUSE OF OVERFLOW:

- Damaged Sewer Line
 - Failed/Collapsed Sewer Line
 - Sewer Blockage-Grease
 - Damaged Manhole
 - Failed Collapsed Manhole
 - Cause not listed above: sewer plug in line. ("Plug was being used during rehab project.")
 - Insufficient Capacity
 - Root Intrusion Into Sewer Line
 - Sewer Blockage- Debris
 - Lift Station Power Failure
 - Lift Station Equipment Failure
- (Contractor was unable to remove the plug in enough time in order to prevent a backup)

DESTINATION OF DISCHARGE:

- Onto Ground
 - Into Storm Drain
 - Into Ground
 - Into Water
 - Onto Street
- WAS THERE A VISIBLE DISCHARGE INTO A BODY OF WATER Yes No
(If yes, document with photos)

DURATION OF OVERFLOW (Please fill out below):

From (Date and Time) 8/26/14, 2:45 A.M. (P.M.)
To (Date and Time) 8/26/14, 3:20 A.M. (P.M.)

Action Taken The Contractor used two pumps to pump the line down, and remove the sewer plug from the line. The discharge soon ceased.

WEATHER CONDITIONS (Check One):

- NO RAIN
- LIGHT RAIN
- MODERATE RAIN
- HEAVY RAIN
- PREVIOUS RAIN

Completed By [Signature] Date 8/27/14

(THIS SECTION TO BE COMPLETED BY SUPERVISOR)

ESTIMATED QUANTITY OF DISCHARGE:

- Less than 100 gal.
 - Less than 500 gal.
 - Less than 1,000 gal.
- Other estimated flows (Less or more than above) approximately 175 gallons

REPORTABLE UNPERMITTED DISCHARGE:

- REPORTABLE
- NON-REPORTABLE

Supervisor [Signature] Date 8/28/14

ADEM Hotline notified
8/27/14 at 8:02am
H.C. Purjinn Pollution
control Facility -
AL0050237



January 16, 2015

Ms. Mary Mattox
U.S. Environmental Protection Agency
Sam Nunn Federal Center
61 Forsyth Street
Atlanta, Georgia 30303-8260

**RE: 40 CFR Part 503 2014 Annual Biosolids Report
H.C. Morgan Water Pollution Control Facility (WPCF), Auburn, Alabama
NPDES Permit No. AL0050237**

Dear Ms. Mattox,

Please find attached the 2014 Annual Biosolids Report for the H.C. Morgan WPCF in Auburn, Alabama as required by Title 40, Code of Federal Regulations (CFR), Part 503. The Table of Contents in the report outlines the specific items included in the report and the location where these items can be found in the report.

If you have any questions, or need any additional information, please feel free to contact me at (334) 826-7340 or by e-mail at staley.fincher@veolia.com.

Sincerely,

A handwritten signature in black ink that reads "Staley E. Fincher".

Staley E. Fincher
Project Manager

Enclosure

cc: Matt R. Dunn, P.E., City of Auburn
Eric A. Carson, P.E., City of Auburn
File





Auburn, AL
H.C. Morgan WPCF Annual 503 Report
Total Biosolids Produced in 2014
Total Class B Biosolids
Dry Tons= 1,506
Metric Tons= 1,367





Table of Contents

Section 1: Certification Letters

Section 2: Description of Biosolids Management, Land Application Procedures and Site Map

Section 3: Process Photographs

Section 4: Field Loadings

Section 5: Soil Samples

Section 6: Sour Test Option 4

Section 7: Pathogen Reduction



SECTION 1: CERTIFICATION LETTERS



Veolia Water
616 Sandhill Rd.
Auburn, AL 36830
Tel. 334.826.7340/Fax 334.826.0572
Email- staley.fischer@veolia.com



CERTIFICATION FOR MANAGEMENT PRACTICES

“Certification Statement of determinations for Pollutant Concentration (PC) Biosolids for land application met the specific criteria as set forth in Table 3 of §503.13 (Pollutant Concentrations), and the frequency of monitoring as set forth in Table 1 of §503.16 (Frequency of Monitoring – Land Application).”

I certify, under penalty of law, that the requirements to obtain information in Table 3 of 40 CFR Part 503.13 and in Table 1 for 40 CFR Part 503.16 have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the requirements to obtain information have been met. I am aware that there are significant penalties for false certification including fine and imprisonment.

Staley Fincher
Project Manager

A handwritten signature in black ink that reads "Staley Fincher".

Veolia Water North America

City of Auburn H.C. Morgan Water Pollution Control Facility

NPDES #: AL0050237

Phone #: (334) 826-7340

Date: 2-16-15



CERTIFICATION FOR MANAGEMENT PRACTICES

Certification Statement for Class B Pathogens Reduction and Site Restrictions

I certify, under penalty of law, that the Class B Pathogen Reduction and application site restrictions for land application of Class B biosolids in accordance with 40 CFR Part 503.32(b)(2,5) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the site restrictions have been met. I am aware that there are significant penalties for false certification including fine and imprisonment.

Pathogen requirement is being met at the facility by Aerobic Digestion, Alternative 1: Seven samples of treated sewage (biosolids) shall be collected and the geometric mean fecal coliform density of these samples shall be less than 2 million CFU or MPN per gram of biosolids (dry weight basis).

Staley Fincher

A handwritten signature in black ink that reads "Staley Fincher".

Project Manager

Veolia Water North America

City of Auburn H.C. Morgan Water Pollution Control Facility

NPDES #: AL0050237

Phone #: (334) 826-7340

Date:

7-10-15





CERTIFICATION FOR MANAGEMENT PRACTICES

Certification Statement for Vector Attraction Reduction

I certify, under penalty of law, that the vector attraction reduction requirements in 40 CFR 503.33(b)(4) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including fine and imprisonment.

Vector Attraction Reduction is being met at the facility by Option 4: The specific oxygen uptake rate (SOUR) is the mass of oxygen consumed per unit time per unit mass of total solids (dry-weight basis) in the Biosolids. Reduction in vector attraction can be demonstrated if the SOUR of the Biosolids that are used or disposed, determined at 20 Celsius, is equal to or less than 1.5 milligrams of oxygen per hour per gram of total Biosolids (dry-weight basis).

Staley Fincher
Project Manager

A handwritten signature in black ink that reads "Staley Fincher".

Veolia Water

City of Auburn H.C. Morgan Water Pollution Control Facility

NPDES #: AL0050237

Phone #: (334) 826-7340

Date: 2-16-15





CERTIFICATION FOR MANAGEMENT PRACTICES

Certification Statement for following the Alabama Cooperative Extension Service in Lee County, Alabama Suggestions for Nutrient Loading Management Practices

I certify, under penalty of law, that the I have followed the direction of the Alabama Cooperative Extension Service guidance and suggestions for nutrient loadings, specifically Plant Available Nitrogen (PAN), to meet the requirements of 40 CFR 503.14. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine the site restrictions have been met. I am aware that there are significant penalties for false certification including fine and imprisonment.

Staley Fincher
Project Manager

A handwritten signature in black ink that reads "Staley Fincher".

Veolia Water

City of Auburn H.C. Morgan Water Pollution Control Facility

NPDES #: AL0050237

Phone #: (334) 826-7340

Date: 7-10-13





CERTIFICATION FOR MANAGEMENT PRACTICES

Certification Statement for Management Practices

I certify, under penalty of law, that the management practices in 40 CFR 503.14 have been met for each land application site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices have been met. I am aware that there are significant penalties for false certification including fine and imprisonment.

A handwritten signature in black ink that reads "Mathan Holt".

Mathan Holt

Mathan Holt Construction, LLC

City of Auburn H.C. Morgan Water Pollution Control Facility

NPDES #: AL0050237

Phone #: (334) 319-1492

Date: 2-12-15





CERTIFICATION FOR MANAGEMENT PRACTICES

Certification Statement for Land Owner or Lease Holder Verification Notification

I certify, under penalty of law, that the lease holder Veolia Water has provided the Land Owner with notice and necessary information regarding the requirement to implement the site restrictions in 40 CFR 503.32(b)(5). This notification has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the requirements for notification of applicable site restrictions have been met. I am aware that there are significant penalties for false certification including fine and imprisonment.

A handwritten signature in black ink, appearing to read "Mathan Holt", written over a horizontal line.

Mathan Holt

Mathan Holt Construction, LLC

City of Auburn H.C. Morgan Water Pollution Control Facility

NPDES #: AL0050237

Phone #: (334) 319-1492

Date:

2-12-15



Section 2: Description of Biosolids Management, Land Application Procedure and Site Map



CITY OF AUBURN

H. C. MORGAN WATER POLLUTION CONTROL FACILITY

BIOSOLIDS MANAGEMENT PRACTICES

1. Class B Pathogen Requirements are being met at the H. C. Morgan WPCF by extended aeration in a four stage surface aerated digester process. Pictures of the aerobic digesters are attached.
2. Class B Vector Attraction Requirements are being met by Option 4, the Specific Oxygen Uptake Rate (SOUR) test.



Description of Land Application Procedures

The following procedures ensure that biosolids produced at the H.C. Morgan WPCF are properly land applied according to 40 CFR 503.

The equipment used during these procedures includes:

- Caterpillar 930H Wheel Loader
- Kenworth W900 Truck
- SmithCo S2 Double Axle Side Dump Trailer
- Caterpillar 420E IT Backhoe Loader
- Case IH MXM 190 Tractor
- Kuhn Knight 8150 Side Discharge Spreader

At the H.C. Morgan WPCF, the biosolids are conveyed to one of five bins. Once the bins have reached capacity, the applier (Mathan Holt Construction LLC) arrives with the Kenworth W900 Truck and the empty SmithCo S2 Side Dump Trailer to the H.C. Morgan WPCF to be loaded with biosolids. The applier maneuvers the truck/trailer in position to allow the side dump trailer to be loaded by the Caterpillar 930H Wheel Loader. Starting from a single bin, the applier operates the wheel loader to scoop the biosolids into the front bucket, and then dump the biosolids into the side dump trailer until the side dump trailer reaches Alabama State Department of Transportation gross weight limits (88,000 lbs). The biosolids are then hauled to M&M Trucking Company to have the gross weight officially determined. Using a TARE weight previously established, the actual weight of biosolids hauled can be calculated. After gross weight determination, the biosolids are hauled approximately 17 miles to the land application site on Union Camp Road in Notasulga, AL, which is 3 miles south of downtown. From Union Camp Road, the applier enters a private drive where the operator must unlock the entrance gate in order to enter the application site. The operator then uses a hydraulic control system to dump the biosolids from the side dump trailer at a designated area.

After the biosolids have arrived at the land application site, the Case IH MXM 190 Tractor and the attached Kuhn Knight 8150 Side Discharge Spreader Implement are used to apply the biosolids to the land. The operator maneuvers the tractor and empty spreader in position for the biosolids to be loaded by the Caterpillar 420E IT Backhoe Loader. From the designated dump area, the applier operates the backhoe to scoop the biosolids into the front bucket, and to dump the biosolids into the spreader until the spreader reaches maximum capacity (approximately 30 cubic yards). The operator then opens another entrance gate into one of five designated fields (A, B, C, D or E) to allow the tractor and

spreader implement to enter and apply the biosolids. Once positioned in a set field, the operator begins a predetermined route to spread a finite amount of biosolids onto the field until that amount is reached.


The biosolids are spread via the Case IH MXM 190 Tractor and Kuhn Knight 8150 Side Discharge Spreader Implement through the following procedure. The operator positions the tractor and spreader implement to a location in a set field in order to ensure even distribution of biosolids for the predetermined amount of biosolids to be spread. Using hydraulic controls, a hammer discharge hatch (located on the left side of the spreader) is opened approximately 4-6 inches. Then the PTO drive is engaged. From there, the tractor is switched from the neutral position to the forward position and throttled to approximately 1600-1950 rpm. After that, the hammer discharge hatch is opened to its maximum height. Gears 1-6 have been found to be appropriate speeds for spreading depending on the field terrain, size of the field and amount of biosolids required to be spread.

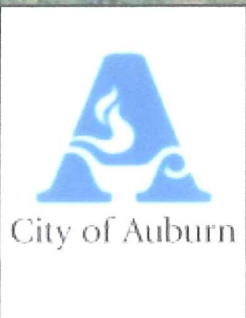
The amount of applied biosolids is regulated under the guidance of the Alabama Agricultural Extension Office according to EPA 40 CFR 503. Two times a year soil tests are performed by Auburn University to show that the biosolids are applied in manageable amounts to reach suggested levels of plant available nitrogen for Coastal Bermuda Grass fields. Since the land application site is a working cattle and hay farm, the land application site is closely monitored to ensure that grazing or harvesting of hay is not permissible until after the 30-day restriction according to 40 CFR 503. In order to ensure a safe field for cattle to graze, biosolids applied fields are selected and rotated in conjunction with cattle grazing fields with the 30-day restriction as the basis of selection.

In the month of December 2014 the biosolids were hauled to the Prather Property land application site, Field A which is approximately 22 miles from Auburn and located at 7235 County Road 388 in Cusseta, Alabama. The operator must unlock the field gate to enter the property located on the left approximately ½ mile onto the dirt portion on County Road 388 after leaving the paved portion. The above procedures were followed at this site as well.



Legend

-  Umbach Property
-  Field Delineation



City of Auburn
Umbach Biosolids Land Application Site

0 500 1,000 2,000 Feet

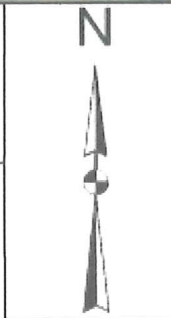


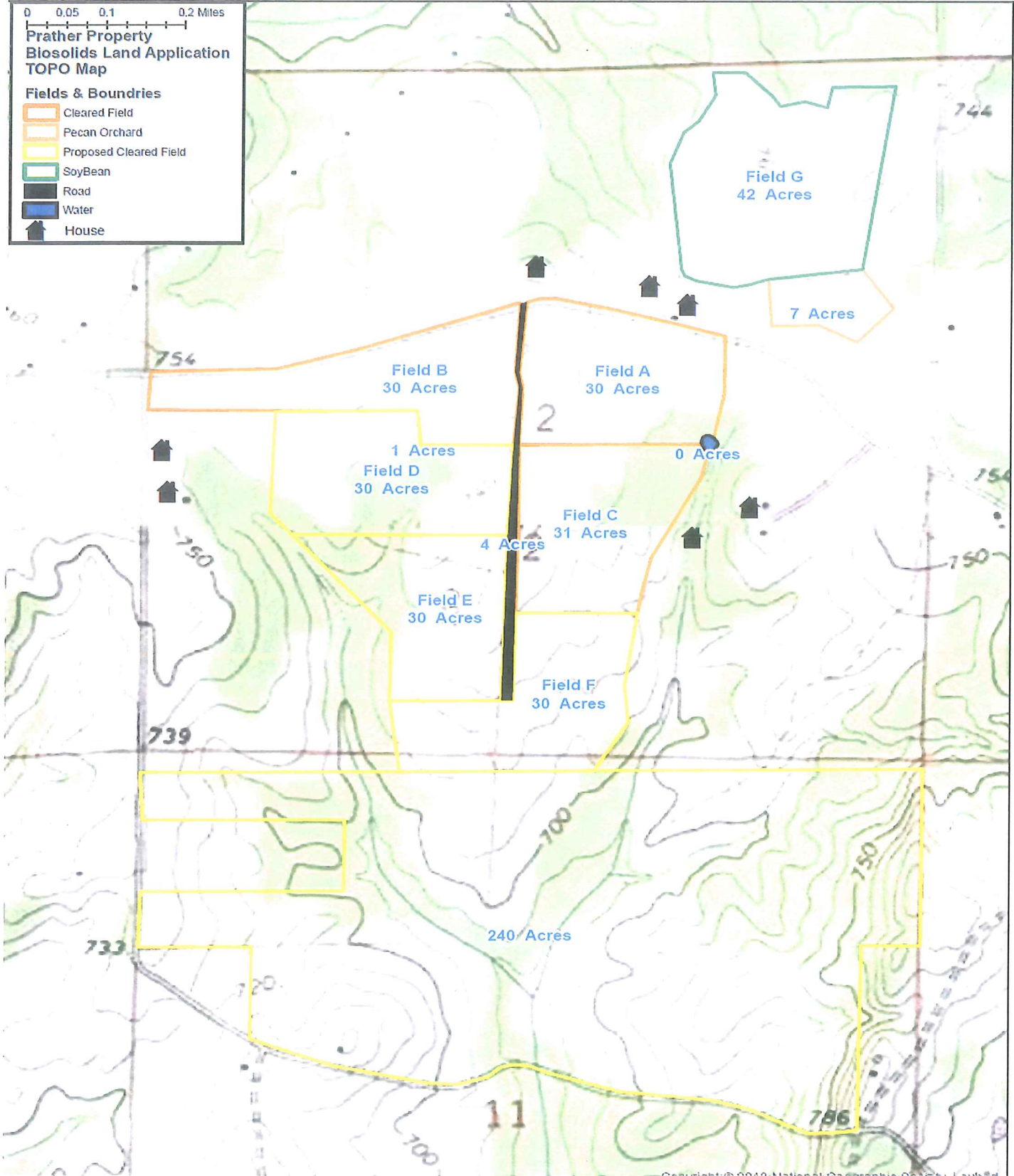
Figure 1
Field ID
CoA WRM
2/14/2011

0 0.05 0.1 0.2 Miles

**Prather Property
Biosolids Land Application
TOPO Map**

Fields & Boundries

- Cleared Field
- Pecan Orchard
- Proposed Cleared Field
- SoyBean
- Road
- Water
- House



Section 3: Process Photographs Aerobic Lagoons, Belt Press Building, Sludge Storage Bins, and Aerobic Digesters



Aerated Lagoons



Aerobic Digesters



Veolia Water
616 Sandhill Rd.
Auburn, AL 36830
Tel 334.826.7340/Fax 334.826.0572
Email -staley.fincher@veolia.com



Section 4: Field Loadings



Umbach UM-A

2014 LAND APPLICATION LOADING RATES

Metals	Pollutant Concentration Limits for PC Biosolids (Table 3) (mg/kg)	Average Analysis Results (mg/kg)	Total Amount of pollutant (kg/ha)
Arsenic	41	21.9	0.36
Cadmium	39	29.7	0.49
Chromium	1200	40.3	0.66
Copper	1500	268.0	4.41
Lead	300	28.3	0.47
Mercury	17	3.9	0.06
Molybdenum	N/A	12.6	0.21
Nickel	420	19.8	0.33
Selenium	36	26.9	0.44
Zinc	2800	612.3	10.08
Phosphorus	N/A	26,965.8	443.89
Parameter	mg/kg (avg)		lbs/ton
T-Nitrogen	39,369.0	$0.5*(NH_3*0.002)+(NO_2/NO_3*0.002)$	1.9
Nitrate-Nitrite	317.0	$(TKN*0.002)-(NH_3*0.002)$	78.7
Ammonia	1,231.3	(Nitrate-Nitrite*0.2)	15.7
TKN	40,600.3	PAN lbs/ton	17.6
% Solids	17.1		
Wet Tons Applied	1,285	Dry Tons	220
Property	Acres	Hectares	Dry Tons Applied
Umbach UM-A	30	12.1	220
Tons/Acre	Metric Tons Applied	Metric Tons Per Hectare	Nitrogen Applied lbs/ac
7.3	199.8	16.5	129
Nitrogen Applied, kg/ha		Grow Periods per Year	PAN lbs/ac
53		3	43

SAMPLE FORMAT FOR PROVIDING NOTICE AND NECESSARY INFORMATION

This form is to assist compliance with the bulk sewage sludge notification requirements (503.12(f)). If the sewage sludge meets the Exceptional Quality requirements, however, then the notification requirements do not apply.

Part I.- To Be Completed by PREPARERS of Sewage Sludge

A. Please provide pollutant concentrations

Pollutant	Concentration (mg/kg) Measured Dry Weight (Indicate monthly average or instantaneous value)	Pollutant Concentrations (mg/kg) (Table 3 40 CFR 503.13) (monthly average)	Ceiling Concentrations* (Table 1 in 40 CFR 503.13) (instantaneous maximum)
Arsenic	21.9	41	75
Cadmium	29.7	39	85
Chromium	40.3	1,200	3,000
Copper	268.0	1,500	4,300
Lead	28.3	300	840
Mercury	3.9	17	57
Molybdenum	12.6	N/A	75
Nickel	19.8	420	420
Selenium	26.9	36	100
Zinc	612.3	2,800	7,500
TKN	40,600.3	N/A	N/A
NH ₄ ⁺ -N	1,231.3	N/A	N/A
NO ₃ -N	317.0	N/A	N/A

*Sewage sludge may not be land applied if any pollutant concentrations in any sample exceed these values.

B. Pathogen Reduction (40 CFR 503.32)-Please indicate the level achieved

Class A Class B

C. Vector Attraction Reduction (40 CFR 503.33)-Please indicate the option performed

Option 1 Option 2 Option 3 Option 4

Option 5 Option 6 Option 7 Option 8

No vector attraction reduction options were performed

D. 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 the 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.

A. Name and Official Title (type or print) Staley E. Fincher	B. Area Code and Telephone Number 334-826-7340
C. Signature <i>Staley E. Fincher</i>	D. Date Signed <i>2-10-15</i>

Part II - To Be Completed by LAND APPLICERS of Sewage Sludge

Land applicers using non-EQ sludge should provide the following information, when applicable to the landowner/leaseholder.

A. If the pollutant levels in the sewage sludge do not meet the pollutant concentration limits in Table 3 of 40 CFR Part 503, then the land applicer should provide the landowner with the following information:

1. Location of land application site UMBACH, Union Camp Rd., Notasulga, AL 36866 UM-A
2. Number of hectares where the bulk sewage sludge was applied 12.1
3. Date and time bulk sewage sludge was applied January 1, 2014 - December 31, 2014
4. Amount of bulk sewage sludge applied in metric tons, dry weight 199.8
5. Record the amount of each metal and nitrogen applied and appropriate units (i.e., kilograms per hectare, pounds per acre):

Units	Aluminum	Chromium	Chloride	Copper	Lead	Magnesium	Nickel	Selenium	Zinc	Available Nitrogen
kg/ha	0.36	0.49	0.66	4.41	0.47	0.06	0.33	0.44	10.08	53

B. If a Class B pathogen reduction alternative was used (see Part I), then the following site restrictions must be met. Please check the boxes for the site restrictions met if any.

- A. Food crops that may touch the sewage sludge/soil mixture cannot be harvested before the end of the following waiting period:
 1. If harvested parts are totally above the land wait to harvest for 14 months after the application of sewage sludge.
 2. If harvested parts are below the land surface and the sewage sludge remains on top of the soil for 4 months or longer before the field was plowed, wait to harvest for 20 months after the initial application of sewage sludge.
 3. If harvested parts are below the land surface, and the sewage sludge was incorporated into the soil within 4 months of being applied, wait to harvest for 38 months after the initial application.
- B. Food crops that do not touch the sewage sludge/soil mixture, feed crops, and fiber crops cannot be harvested for 30 days after sewage sludge application.
- C. Animals cannot be grazed on the land for 30 days after application of the sewage sludge.
- D. If harvested turf is used for a lawn or other purpose where there is a high potential for public exposure, then the turf cannot be harvested for 1 year after the application of the sewage sludge to the land.
- E. Public access to land with a high potential for public exposure (e.g., parks, playgrounds, golf courses) will be restricted for 1 year after the application of the sewage sludge.
- F. Public access to land with a low potential for public exposure (e.g., private property, remote or restricted public lands) will be restricted for 30 days after the application of the sewage sludge.

C. If the preparer did not perform any of the vector attraction reduction Options 1-8 (see Part I), then either Option 9 or 10 must be performed by the land applicer. Please indicate if Option 9 or 10 was performed. Check appropriate box.

- Option 9-Subsurface Injection Option 10-Incorporated (plowed) Into the Soil N/A

D. 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 the 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.

A. Name and Official Title (type or print) Staley E. Fincher	B. Area Code and Telephone Number 334-826-7340
C. Signature <i>Staley E. Fincher</i>	D. Date Signed <i>2-16-15</i>

Umbach UM-B

2014 LAND APPLICATION LOADING RATES

Metals	Pollutant Concentration Limits for PC Biosolids (Table 3) (mg/kg)	Average Analysis Results (mg/kg)	Total Amount of pollutant (kg/ha)
Arsenic	41	21.9	0.24
Cadmium	39	29.7	0.33
Chromium	1200	40.3	0.44
Copper	1500	268.0	18.91
Lead	300	28.3	0.31
Mercury	17	3.9	0.04
Molybdenum	N/A	12.6	0.14
Nickel	420	19.8	0.22
Selenium	36	26.9	0.30
Zinc	2800	612.3	6.72
Phosphorus	N/A	26,965.8	295.93
Parameter	mg/kg (avg)		lbs/ton
T-Nitrogen	39,369.0	$0.5*(NH_3*0.002)+(NO_2/NO_3*0.002)$	1.9
Nitrate-Nitrite	317.0	$(TKN*0.002)-(NH_3*0.002)$	78.7
Ammonia	1,231.3	(Nitrate-Nitrite*0.2)	15.7
TKN	40,600.3	PAN lbs/ton	17.6
% Solids	17.1		
Wet Tons Applied	1,142	Dry Tons	196
Property	Acres	Hectares	Dry Tons Applied
Umbach UM-B	40	16.2	196
Tons/Acre	Metric Tons Applied	Metric Tons Per Hectare	Nitrogen Applied lbs/ac
4.9	177.6	11.0	86
Nitrogen Applied, kg/ha		Grow Periods per Year	PAN lbs/ac
35		3	29

SAMPLE FORMAT FOR PROVIDING NOTICE AND NECESSARY INFORMATION

This form is to assist compliance with the bulk sewage sludge notification requirements (503.12(f)). If the sewage sludge meets the Exceptional Quality requirements, however, then the notification requirements do not apply.

Part I - To Be Completed by PREPARERS of Sewage Sludge

A. Please provide pollutant concentrations

Pollutant	Concentration (mg/kg) Measured Dry Weight (Indicate monthly average or instantaneous value)	Pollutant Concentrations (mg/kg) (Table 3 40 CFR 503.13) (monthly average)	Ceiling Concentrations* (Table 1 in 40 CFR 503.13) (instantaneous maximum)
Arsenic	21.9	41	75
Cadmium	29.7	39	85
Chromium	40.3	1,200	3,000
Copper	268.0	1,500	4,300
Lead	28.3	300	840
Mercury	3.9	17	57
Molybdenum	12.6	N/A	75
Nickel	19.8	420	420
Selenium	26.9	36	100
Zinc	612.3	2,800	7,500
TKN	40,600.3	N/A	N/A
NH ₄ ⁺ -N	1,231.3	N/A	N/A
NO ₃ -N	317.0	N/A	N/A

*Sewage sludge may not be land applied if any pollutant concentrations in any sample exceed these values.

B. Pathogen Reduction (40 CFR 503.32)-Please indicate the level achieved

Class A Class B

C. Vector Attraction Reduction (40 CFR 503.33)-Please indicate the option performed


Option 1 Option 2 Option 3 Option 4

Option 5 Option 6 Option 7 Option 8

No vector attraction reduction options were performed

D. 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 the 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.

A. Name and Official Title (<i>type or print</i>) Staley E. Fincher	B. Area Code and Telephone Number 334-826-7340
C. Signature 	D. Date Signed 2/16/15

Part II - To Be Completed by LAND APPLICERS of Sewage Sludge

Land applicers using non-EQ sludge should provide the following information, when applicable to the landowner/leaseholder.

A. If the pollutant levels in the sewage sludge do not meet the pollutant concentration limits in Table 3 of 40 CFR Part 503, then the land applicer should provide the landowner with the following information:

1. Location of land application site UMBACH, Union Camp Rd., Notasulga, AL 36866 UM-B
2. Number of hectares where the bulk sewage sludge was applied 16.2
3. Date and time bulk sewage sludge was applied January 1, 2014 - December 31, 2014
4. Amount of bulk sewage sludge applied in metric tons, dry weight 177.6
5. Record the amount of each metal and nitrogen applied and appropriate units (i.e., kilograms per hectare, pounds per acre):

	Aluminum	Barium	Cadmium	Chromium	Copper	Lead	Magnesium	Nickel	Phosphorus	Zinc	Available Nitrogen
kg/ha	0.24	0.33	0.44	18.91	0.31	0.04	0.22	0.30	6.72	35	

B. If a Class B pathogen reduction alternative was used (see Part I), then the following site restrictions must be met. Please check the boxes for the site restrictions met if any.


- A. Food crops that may touch the sewage sludge/soil mixture cannot be harvested before the end of the following waiting period:
 1. If harvested parts are totally above the land wait to harvest for 14 months after the application of sewage sludge.
 2. If harvested parts are below the land surface and the sewage sludge remains on top of the soil for 4 months or longer before the field was plowed, wait to harvest for 20 months after the initial application of sewage sludge.
 3. If harvested parts are below the land surface, and the sewage sludge was incorporated into the soil within 4 months of being applied, wait to harvest for 38 months after the initial application.
- B. Food crops that do not touch the sewage sludge/soil mixture, feed crops, and fiber crops cannot be harvested for 30 days after sewage sludge application.
- C. Animals cannot be grazed on the land for 30 days after application of the sewage sludge.
- D. If harvested turf is used for a lawn or other purpose where there is a high potential for public exposure, then the turf cannot be harvested for 1 year after the application of the sewage sludge to the land.
- E. Public access to land with a high potential for public exposure (e.g., parks, playgrounds, golf courses) will be restricted for 1 year after the application of the sewage sludge.
- F. Public access to land with a low potential for public exposure (e.g., private property, remote or restricted public lands) will be restricted for 30 days after the application of the sewage sludge.

C. If the preparer did not perform any of the vector attraction reduction Options 1-8 (see Part I), then either Option 9 or 10 must be performed by the land applicer. Please indicate if Option 9 or 10 was performed. Check appropriate box.

- Option 9-Subsurface Injection Option 10-Incorporated (plowed) Into the Soil N/A

D. 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 the 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.

A. Name and Official Title (type or print) Staley E. Fincher	B. Area Code and Telephone Number 334-826-7340
C. Signature 	D. Date Signed 2-16-15

Umbach UM-C

2014 LAND APPLICATION LOADING RATES

Metals	Pollutant Concentration Limits for PC Biosolids (Table 3) (mg/kg)	Average Analysis Results (mg/kg)	Total Amount of pollutant (kg/ha)
Arsenic	41	21.9	0.48
Cadmium	39	29.7	0.65
Chromium	1200	40.3	0.88
Copper	1500	268.0	5.88
Lead	300	28.3	0.62
Mercury	17	3.9	0.09
Molybdenum	N/A	12.6	0.28
Nickel	420	19.8	0.43
Selenium	36	26.9	0.59
Zinc	2800	612.3	13.44
Phosphorus	N/A	26,965.8	591.86
Parameter	mg/kg (avg)		lbs/ton
T-Nitrogen	29,369.0	$0.5 \times (\text{NH}_3 \times 0.002) + (\text{NO}_2/\text{NO}_3 \times 0.002)$	1.9
Nitrate-Nitrite	317.0	$(\text{TKN} \times 0.002) - (\text{NH}_3 \times 0.002)$	78.7
Ammonia	1,231.3	(Nitrate-Nitrite * 0.2)	15.7
TKN	40,600.3	PAN lbs/ton	17.6
% Solids	17.1		
Wet Tons Applied	1,714	Dry Tons	293
Property	Acres	Hectares	Dry Tons Applied
Umbach UM-C	30	12.1	293
Tons/Acre	Metric Tons Applied	Metric Tons Per Hectare	Nitrogen Applied lbs/ac
9.8	266.0	22.0	172
Nitrogen Applied, kg/ha		Grow Periods per Year	PAN lbs/ac
71		3	57

SAMPLE FORMAT FOR PROVIDING NOTICE AND NECESSARY INFORMATION

This form is to assist compliance with the bulk sewage sludge notification requirements (503.12(f)). If the sewage sludge meets the Exceptional Quality requirements, however, then the notification requirements do not apply.

Part I - To Be Completed by PREPARERS of Sewage sludge

A. Please provide pollutant concentrations

Pollutant	Concentration (mg/kg) Measured Dry Weight (Indicate monthly average or instantaneous value)	Pollutant Concentrations (mg/kg) (Table 3 40 CFR 503.13) (monthly average)	Ceiling Concentrations* (Table 1 in 40 CFR 503.13) (instantaneous maximum)
Arsenic	21.9	41	75
Cadmium	29.7	39	85
Chromium	40.3	1,200	3,000
Copper	268.0	1,500	4,300
Lead	28.3	300	840
Mercury	3.9	17	57
Molybdenum	12.6	N/A	75
Nickel	19.8	420	420
Selenium	26.9	36	100
Zinc	612.3	2,800	7,500
TKN	40,600.3	N/A	N/A
NH ₄ -N	1,231.3	N/A	N/A
NO ₃ -N	317.0	N/A	N/A

*Sewage sludge may not be land applied if any pollutant concentrations in any sample exceed these values.

B. Pathogen Reduction (40 CFR 503.32)-Please indicate the level achieved

Class A Class B

C. Vector Attraction Reduction (40 CFR 503.33)-Please indicate the option performed

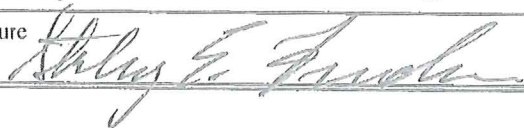
Option 1 Option 2 Option 3 Option 4

Option 5 Option 6 Option 7 Option 8

No vector attraction reduction options were performed

D. 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 the 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.

A. Name and Official Title (type or print) Staley E. Fincher	B. Area Code and Telephone Number 334-826-7340
C. Signature 	D. Date Signed 2-16-15

Part II - To Be Completed by LAND APPLICERS of Sewage Sludge

Land applicers using non-EQ sludge should provide the following information, when applicable to the landowner/leaseholder.

A. If the pollutant levels in the sewage sludge do not meet the pollutant concentration limits in Table 3 of 40 CFR Part 503, then the land applicer should provide the landowner with the following information:

1. Location of land application site UMBACH, Union Camp Rd., Notasulga, AL 36866 UM-C
2. Number of hectares where the bulk sewage sludge was applied 12.1
3. Date and time bulk sewage sludge was applied January 1, 2014 - December 31, 2014
4. Amount of bulk sewage sludge applied in metric tons, dry weight 266.5
5. Record the amount of each metal and nitrogen applied and appropriate units (i.e., kilograms per hectare, pounds per acre):

	Belt	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc	Available Nitrogen
kg/ha	0.48	0.65	0.88	5.88	0.62	0.09	0.43	0.59	13.44	71	

B. If a Class B pathogen reduction alternative was used (see Part I), then the following site restrictions must be met. Please check the boxes for the site restrictions met if any.

A. Food crops that may touch the sewage sludge/soil mixture cannot be harvested before the end of the following waiting period:

- 1. If harvested parts are totally above the land wait to harvest for 14 months after the application of sewage sludge.
- 2. If harvested parts are below the land surface and the sewage sludge remains on top of the soil for 4 months or longer before the field was plowed, wait to harvest for 20 months after the initial application of sewage sludge.
- 3. If harvested parts are below the land surface, and the sewage sludge was incorporated into the soil within 4 months of being applied, wait to harvest for 38 months after the initial application.

B. Food crops that do not touch the sewage sludge/soil mixture, feed crops, and fiber crops cannot be harvested for 30 days after sewage sludge application.

C. Animals cannot be grazed on the land for 30 days after application of the sewage sludge.

D. If harvested turf is used for a lawn or other purpose where there is a high potential for public exposure, then the turf cannot be harvested for 1 year after the application of the sewage sludge to the land.

E. Public access to land with a high potential for public exposure (e.g., parks, playgrounds, golf courses) will be restricted for 1 year after the application of the sewage sludge.


F. Public access to land with a low potential for public exposure (e.g., private property, remote or restricted public lands) will be restricted for 30 days after the application of the sewage sludge.

C. If the preparer did not perform any of the vector attraction reduction Options 1-8 (see Part I), then either Option 9 or 10 must be performed by the land applicer. Please indicate if Option 9 or 10 was performed. Check appropriate box.

- Option 9-Subsurface Injection Option 10-Incorporated (plowed) Into the Soil N/A

D. 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 the 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.

A. Name and Official Title (type or print) Staley E. Fincher	B. Area Code and Telephone Number 334-826-7340
C. Signature 	D. Date Signed 2-16-15

Umbach UM-D

2014 LAND APPLICATION LOADING RATES

Metals	Pollutant Concentration Limits for PC Biosolids (Table 3) (mg/kg)	Average Analysis Results (mg/kg)	Total Amount of pollutant (kg/ha)
Arsenic	41	21.9	0.18
Cadmium	39	29.7	0.25
Chromium	1200	40.3	0.33
Copper	1500	268.0	2.21
Lead	300	28.3	0.23
Mercury	17	3.9	0.03
Molybdenum	N/A	12.6	0.10
Nickel	420	19.8	0.16
Selenium	36	26.9	0.22
Zinc	2800	612.3	5.06
Phosphorus	N/A	26,965.8	222.74
Parameter	mg/kg (avg)		lbs/ton
T-Nitrogen	39,369.0	$0.5 \cdot (\text{NH}_3 \cdot 0.002) + (\text{NO}_2/\text{NO}_3 \cdot 0.002)$	1.9
Nitrate-Nitrite	317.0	$(\text{TKN} \cdot 0.002) - (\text{NH}_3 \cdot 0.002)$	78.7
Ammonia	1,231.3	(Nitrate-Nitrite * 0.2)	15.7
TKN	40,600.3	PAN lbs/ton	17.6
% Solids	17.1		
Wet Tons Applied	1,309	Dry Tons	224
Property	Acres	Hectares	Dry Tons Applied
Umbach UM-D	50	20.2	224
Tons/Acre	Metric Tons Applied	Metric Tons Per Hectare	Nitrogen Applied lbs/ac
4.5	203.0	10.0	79
Nitrogen Applied, kg/ha		Grow Periods per Year	PAN lbs/ac
27		3	26

SAMPLE FORMAT FOR PROVIDING NOTICE AND NECESSARY INFORMATION

This form is to assist compliance with the bulk sewage sludge notification requirements (503.12(f)). If the sewage sludge meets the Exceptional Quality requirements, however, then the notification requirements do not apply.

Part I - To Be Completed by PREPARERS of Sewage Sludge

A. Please provide pollutant concentrations

Pollutant	Concentration (mg/kg) Measured Dry Weight (indicate monthly average or instantaneous value)	Pollutant Concentrations (mg/kg) (Table 3 40 CFR 503.13) (monthly average)	Ceiling Concentrations* (Table 1 in 40 CFR 503.13) (instantaneous maximum)
Arsenic	21.9	41	75
Cadmium	29.7	39	85
Chromium	40.3	1,200	3,000
Copper	268.0	1,500	4,300
Lead	28.3	300	840
Mercury	3.9	17	57
Molybdenum	12.6	N/A	75
Nickel	19.8	420	420
Selenium	26.9	36	100
Zinc	612.3	2,800	7,500
TKN	40,600.3	N/A	N/A
NH ₄ ⁺ -N	1,231.3	N/A	N/A
NO ₃ ⁻ -N	317.0	N/A	N/A

*Sewage sludge may not be land applied if any pollutant concentrations in any sample exceed these values.

B. Pathogen Reduction (40 CFR 503.32)-Please indicate the level achieved

Class A Class B

C. Vector Attraction Reduction (40 CFR 503.33)-Please indicate the option performed

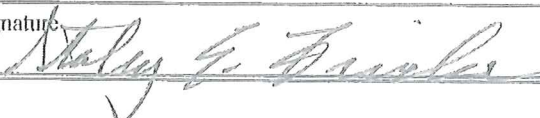
Option 1 Option 2 Option 3 Option 4

Option 5 Option 6 Option 7 Option 8

No vector attraction reduction options were performed

D. 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 the 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.

A. Name and Official Title (type or print) Staley E. Fincher	B. Area Code and Telephone Number 334-826-7340
C. Signature 	D. Date Signed 2-16-15

Part II - To Be Completed by LAND APPLICERS of Sewage Sludge

Land applicers using non-EQ sludge should provide the following information, when applicable to the landowner/leaseholder.

A. If the pollutant levels in the sewage sludge do not meet the pollutant concentration limits in Table 3 of 40 CFR Part 503, then the land applicer should provide the landowner with the following information:

1. Location of land application site UMBACH, Union Camp Rd., Notasulga, AL 36866 UM-D
2. Number of hectares where the bulk sewage sludge was applied 20.2
3. Date and time bulk sewage sludge was applied January 1, 2014 - December 31, 2014
4. Amount of bulk sewage sludge applied in metric tons, dry weight 167.1
5. Record the amount of each metal and nitrogen applied and appropriate units (i.e., kilograms per hectare, pounds per acre):

	Delta	Arzende	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc	Available Nitrogen
kg/ha	0.18	0.25	0.33	2.21	0.23	0.03	0.16	0.22	5.06	27	

B. If a Class B pathogen reduction alternative was used (see Part I), then the following site restrictions must be met. Please check the boxes for the site restrictions met if any.

- A. Food crops that may touch the sewage sludge/soil mixture cannot be harvested before the end of the following waiting period:
 1. If harvested parts are totally above the land wait to harvest for 14 months after the application of sewage sludge.
 2. If harvested parts are below the land surface and the sewage sludge remains on top of the soil for 4 months or longer before the field was plowed, wait to harvest for 20 months after the initial application of sewage sludge.
 3. If harvested parts are below the land surface, and the sewage sludge was incorporated into the soil within 4 months of being applied, wait to harvest for 38 months after the initial application.
- B. Food crops that do not touch the sewage sludge/soil mixture, feed crops, and fiber crops cannot be harvested for 30 days after sewage sludge application.
- C. Animals cannot be grazed on the land for 30 days after application of the sewage sludge.
- D. If harvested turf is used for a lawn or other purpose where there is a high potential for public exposure, then the turf cannot be harvested for 1 year after the application of the sewage sludge to the land.
- E. Public access to land with a high potential for public exposure (e.g., parks, playgrounds, golf courses) will be restricted for 1 year after the application of the sewage sludge.
- F. Public access to land with a low potential for public exposure (e.g., private property, remote or restricted public lands) will be restricted for 30 days after the application of the sewage sludge.

C. If the preparer did not perform any of the vector attraction reduction Options 1-8 (see Part I), then either Option 9 or 10 must be performed by the land applicer. Please indicate if Option 9 or 10 was performed. Check appropriate box.

- Option 9-Subsurface Injection Option 10-Incorporated (plowed) Into the Soil N/A

D. 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 the 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.

A. Name and Official Title (type or print) Staley E. Fincher	B. Area Code and Telephone Number 334-826-7340
C. Signature <i>Staley E. Fincher</i>	D. Date Signed <i>2-16-15</i>

Umbach UM-E

2014 LAND APPLICATION LOADING RATES

Metals	Pollutant Concentration Limits for PC Biosolids (Table 3) (mg/kg)	Average Analysis Results (mg/kg)	Total Amount of pollutant (kg/ha)
Arsenic	41	21.9	0.55
Cadmium	39	29.7	0.75
Chromium	1200	40.3	1.02
Copper	1500	268.0	6.76
Lead	300	28.3	0.72
Mercury	17	3.9	0.10
Molybdenum	N/A	12.6	0.32
Nickel	420	19.8	0.50
Selenium	36	26.9	0.68
Zinc	2800	612.3	15.45
Phosphorus	N/A	26,965.8	680.58
Parameter	mg/kg (avg)		lbs/ton
T-Nitrogen	39,369.0	$0.5 * (\text{NH}_3 * 0.002) + (\text{NO}_2 / \text{NO}_3 * 0.002)$	1.9
Nitrate-Nitrite	317.0	$(\text{TKN} * 0.002) - (\text{NH}_3 * 0.002)$	78.7
Ammonia	1,231.3	$(\text{Nitrate-Nitrite} * 0.2)$	15.7
TKN	40,600.3	PAN lbs/ton	17.6
% Solids	17.1		
Wet Tons Applied	2,886	Dry Tons	493.5
Property	Acres	Hectares	Dry Tons Applied
Umbach UM-E	40	16.2	493.5
Tons/Acre	Metric Tons Applied	Metric Tons Per Hectare	Nitrogen Applied lbs/ac
12.3	448.0	27.6	217
Nitrogen Applied, kg/ha		Grow Periods per Year	PAN lbs/ac
82		3	72

SAMPLE FORMAT FOR PROVIDING NOTICE AND NECESSARY INFORMATION

This form is to assist compliance with the bulk sewage sludge notification requirements (503.12(f)). If the sewage sludge meets the Exceptional Quality requirements, however, then the notification requirements do not apply.

Part I - To Be Completed by PREPARERS of Sewage Sludge

A. Please provide pollutant concentrations

Pollutant	Concentration (mg/kg) Measured Dry Weight (Indicate monthly average or instantaneous value)	Pollutant Concentrations (mg/kg) (Table 3 40 CFR 503.13) (monthly average)	Ceiling Concentrations* (Table 1 in 40 CFR 503.13) (instantaneous maximum)
Arsenic	21.9	41	75
Cadmium	29.7	39	85
Chromium	40.3	1,200	3,000
Copper	268.0	1,500	4,300
Lead	28.3	300	840
Mercury	3.9	17	57
Molybdenum	12.6	N/A	75
Nickel	19.8	420	420
Selenium	26.9	36	100
Zinc	612.3	2,800	7,500
TKN	40,600.3	N/A	N/A
NH ₄ ⁺ -N	1,231.3	N/A	N/A
NO ₃ -N	317.0	N/A	N/A

*Sewage sludge may not be land applied if any pollutant concentrations in any sample exceed these values.

B. Pathogen Reduction (40 CFR 503.32)-Please indicate the level achieved

Class A Class B

C. Vector Attraction Reduction (40 CFR 503.33)-Please indicate the option performed


Option 1 Option 2 Option 3 Option 4

Option 5 Option 6 Option 7 Option 8

No vector attraction reduction options were performed

D. 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 the 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.

A. Name and Official Title (<i>type or print</i>) Staley E. Fincher	B. Area Code and Telephone Number 334-826-7340
C. Signature 	D. Date Signed 2-10-13

Part II - To Be Completed by LAND APPLICERS of Sewage Sludge

Land applicers using non-EQ sludge should provide the following information, when applicable to the landowner/leaseholder.

A. If the pollutant levels in the sewage sludge do not meet the pollutant concentration limits in Table 3 of 40 CFR Part 503, then the land applicer should provide the landowner with the following information:

1. Location of land application site UMBACH, Union Camp Rd., Notasulga, AL 36866 UM-E
2. Number of hectares where the bulk sewage sludge was applied 16.2
3. Date and time bulk sewage sludge was applied January 1, 2014 - December 31, 2014
4. Amount of bulk sewage sludge applied in metric tons, dry weight 408.5
5. Record the amount of each metal and nitrogen applied and appropriate units (i.e., kilograms per hectare, pounds per acre):

Units	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc	Available Nitrogen
kg/ha	0.55	0.75	1.02	6.76	0.72	0.10	0.50	0.68	15.45	82

B. If a Class B pathogen reduction alternative was used (see Part I), then the following site restrictions must be met. Please check the boxes for the site restrictions met if any.


- A. Food crops that may touch the sewage sludge/soil mixture cannot be harvested before the end of the following waiting period:
 1. If harvested parts are totally above the land wait to harvest for 14 months after the application of sewage sludge.
 2. If harvested parts are below the land surface and the sewage sludge remains on top of the soil for 4 months or longer before the field was plowed, wait to harvest for 20 months after the initial application of sewage sludge.
 3. If harvested parts are below the land surface, and the sewage sludge was incorporated into the soil within 4 months of being applied, wait to harvest for 38 months after the initial application.
- B. Food crops that do not touch the sewage sludge/soil mixture, feed crops, and fiber crops cannot be harvested for 30 days after sewage sludge application.
- C. Animals cannot be grazed on the land for 30 days after application of the sewage sludge.
- D. If harvested turf is used for a lawn or other purpose where there is a high potential for public exposure, then the turf cannot be harvested for 1 year after the application of the sewage sludge to the land.
- E. Public access to land with a high potential for public exposure (e.g., parks, playgrounds, golf courses) will be restricted for 1 year after the application of the sewage sludge.
- F. Public access to land with a low potential for public exposure (e.g., private property, remote or restricted public lands) will be restricted for 30 days after the application of the sewage sludge.

C. If the preparer did not perform any of the vector attraction reduction Options 1-8 (see Part I), then either Option 9 or 10 must be performed by the land applicer. Please indicate if Option 9 or 10 was performed. Check appropriate box.

- Option 9-Subsurface Injection Option 10-Incorporated (plowed) Into the Soil N/A

D. 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 the 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.

A. Name and Official Title (type or print) Staley E. Fincher	B. Area Code and Telephone Number 334-826-7340
C. Signature 	D. Date Signed 2-16-15

Prather-A 2014 LAND APPLICATION LOADING RATES

Metals	Pollutant Concentration Limits for PC Biosolids (Table 3) (mg/kg)	Average Analysis Results (mg/kg)	Total Amount of pollutant (kg/ha)
Arsenic	41	21.9	0.01
Cadmium	39	29.7	0.02
Chromium	1200	40.3	0.03
Copper	1500	268.0	0.18
Lead	300	28.3	0.02
Mercury	17	3.9	0.00
Molybdenum	N/A	12.6	0.01
Nickel	420	19.8	0.01
Selenium	36	26.9	0.02
Zinc	2800	612.3	0.40
Phosphorus	N/A	26,965.8	17.73
Parameter	mg/kg (avg)		lbs/ton
T-Nitrogen	39,369.0	$0.5 \cdot (\text{NH}_3 \cdot 0.002) + (\text{NO}_2/\text{NO}_3 \cdot 0.002)$	1.9
Nitrate-Nitrite	317.0	$(\text{TKN} \cdot 0.002) - (\text{NH}_3 \cdot 0.002)$	78.7
Ammonia	1,231.3	(Nitrate-Nitrite * 0.2)	15.7
TKN	40,600.3	PAN lbs/ton	17.6
% Solids	17.1		
Wet Tons Applied	463	Dry Tons	79.2
Property	Acres	Hectares	Dry Tons Applied
Prather-A	30	12.1	79.2
Tons/Acre	Metric Tons Applied	Metric Tons Per Hectare	Nitrogen Applied lbs/ac
2.6	71.8	5.9	46.5
Nitrogen Applied, kg/ha		Grow Periods per Year	PAN lbs/ac
1		3	15.5

SAMPLE FORMAT FOR PROVIDING NOTICE AND NECESSARY INFORMATION

This form is to assist compliance with the bulk sewage sludge notification requirements (503.12(f)). If the sewage sludge meets the Exceptional Quality requirements, however, then the notification requirements do not apply.

Part I - To Be Completed by PREPARERS of Sewage Sludge

A. Please provide pollutant concentrations

Pollutant	Concentration (mg/kg) Measured Dry Weight (Indicate monthly average or instantaneous value)	Pollutant Concentrations (mg/kg) (Table 3 40 CFR 503.13) (monthly average)	Ceiling Concentrations* (Table 1 in 40 CFR 503.13) (instantaneous maximum)
Arsenic	21.9	41	75
Cadmium	29.7	39	85
Chromium	40.3	1,200	3,000
Copper	268.0	1,500	4,300
Lead	28.3	300	840
Mercury	3.9	17	57
Molybdenum	12.6	N/A	75
Nickel	19.8	420	420
Selenium	26.9	36	100
Zinc	612.3	2,800	7,500
TKN	40,600.3	N/A	N/A
NH ₄ ⁺ -N	1,231.3	N/A	N/A
NO ₃ -N	317.0	N/A	N/A

*Sewage sludge may not be land applied if any pollutant concentrations in any sample exceed these values.

B. Pathogen Reduction (40 CFR 503.32)-Please indicate the level achieved

Class A Class B

C. Vector Attraction Reduction (40 CFR 503.33)-Please indicate the option performed

Option 1 Option 2 Option 3 Option 4
 Option 5 Option 6 Option 7 Option 8

No vector attraction reduction options were performed

D. 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 the 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.

A. Name and Official Title (type or print) Staley E. Fincher	B. Area Code and Telephone Number 334-826-7340
C. Signature <i>Staley E. Fincher</i>	D. Date Signed <i>2-16-15</i>

Part II - To Be Completed by LAND APPLICERS of Sewage Sludge

Land applicers using non-EQ sludge should provide the following information, when applicable to the landowner/leaseholder.

A. If the pollutant levels in the sewage sludge do not meet the pollutant concentration limits in Table 3 of 40 CFR Part 503, then the land applicer should provide the landowner with the following information:

1. Location of land application site Prather Property, 7235 County Road 388, Cusseta, AL. 36852 PR-A
2. Number of hectares where the bulk sewage sludge was applied 12.1
3. Date and time bulk sewage sludge was applied December 1, 2014 - December 31, 2014
4. Amount of bulk sewage sludge applied in metric tons, dry weight 8.0
5. Record the amount of each metal and nitrogen applied and appropriate units (i.e., kilograms per hectare, pounds per acre):

Delta	Ammonia	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc	Available Nitrogen
kg/ha	0.01	0.02	0.03	0.18	0.02	0.00	0.01	0.02	0.40	1

B. If a Class B pathogen reduction alternative was used (see Part I), then the following site restrictions must be met. Please check the boxes for the site restrictions met if any.

- A. Food crops that may touch the sewage sludge/soil mixture cannot be harvested before the end of the following waiting period:
 1. If harvested parts are totally above the land wait to harvest for 14 months after the application of sewage sludge.
 2. If harvested parts are below the land surface and the sewage sludge remains on top of the soil for 4 months or longer before the field was plowed, wait to harvest for 20 months after the initial application of sewage sludge.
 3. If harvested parts are below the land surface, and the sewage sludge was incorporated into the soil within 4 months of being applied, wait to harvest for 38 months after the initial application.
- B. Food crops that do not touch the sewage sludge/soil mixture, feed crops, and fiber crops cannot be harvested for 30 days after sewage sludge application.
- C. Animals cannot be grazed on the land for 30 days after application of the sewage sludge.
- D. If harvested turf is used for a lawn or other purpose where there is a high potential for public exposure, then the turf cannot be harvested for 1 year after the application of the sewage sludge to the land.
- E. Public access to land with a high potential for public exposure (e.g., parks, playgrounds, golf courses) will be restricted for 1 year after the application of the sewage sludge.
- F. Public access to land with a low potential for public exposure (e.g., private property, remote or restricted public lands) will be restricted for 30 days after the application of the sewage sludge.

C. If the preparer did not perform any of the vector attraction reduction Options 1-8 (see Part I), then either Option 9 or 10 must be performed by the land applicer. Please indicate if Option 9 or 10 was performed. Check appropriate box.

- Option 9-Subsurface Injection Option 10-Incorporated (plowed) Into the Soil N/A

D. 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 the 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.

A. Name and Official Title (type or print) Staley E. Fincher	B. Area Code and Telephone Number 334-826-7340
C. Signature <i>Staley E. Fincher</i>	D. Date Signed <i>2-10-15</i>



Section 5: Soil Samples





Report on Soil Test

Auburn University Soil Testing Laboratory



Auburn University, AL 36849-5411

Veolia Water/ Terrell Milner
616 Sandhill Rd
Auburn, AL 36832

County: Macon
District: 2
Test Date: 11/11/14

SOIL TEST RESULTS										RECOMMENDATIONS		
L A B No.	S a m p l e Designation	C r o p	S o i l Group*	pH**	Phosphorus	Potassium	Magnesium	Calcium	LIME-STONE	N	P ₂ O ₅	K ₂ O
					P***	K***	Mg***	Ca***				
								Pounds/Acre	Tons/Acre	Pounds/Acre		
02432	A See Comment 1	B e r m u d a Pasture	3	7.2	VH 98	L 79	H 313	H 9521	0.0	60	0	60
02433	B See Comment 1	B e r m u d a Pasture	3	7.0	EH 259	M 107	H 289	H 7447	0.0	60	0	40
02434	C See Comment 1	B e r m u d a Pasture	3	7.8	VH 100	VL 35	H 236	H 9436	0.0	60	0	80
02435	D See Comment 1	B e r m u d a Pasture	3	7.4	EH 257	L 50	H 138	H 4868	0.0	60	0	60
02436	E See Comment 1	B e r m u d a Pasture	2	6.4	VH 134	H 139	H 293	H 1678	0.0	60	0	0

Comment No.1: On summer grass pastures apply P and K as recommended and 60 pounds of N before growth starts. Repeat the N application up to September 1 when more growth is desired. If less than 40 pounds of N is applied annually, then no P or K is needed.

The number of samples processed in this report is: 5

For further information call your county agent: (334) 727-0340

* 1. Sandy soil (CEC < 4.6 cmol_ckg⁻¹)

* 2. Loams and Light clays (CEC = 4.6-9.0 cmol_ckg⁻¹)

** 7.4 or higher - Alkaline ----- 6.6-7.3 - Neutral ----- 6.5 or lower - Acid ----- -5.5 or lower - Strong Acid

* 3. Clays and soils high in organic matter (CEC > 9.0 cmol_ckg⁻¹)

* 4. Clays of the Blackbelt (CEC > 9.0 cmol_ckg⁻¹)



Report on Soil Test

Auburn University Soil Testing Laboratory



Auburn University, AL 36849-5411

Veolia Water/ Terrell Milner

County: Macon

616 Sandhill Rd

District: 2

Auburn, AL 36832

Test Date: 12/15/14

SOIL TEST RESULTS									RECOMMENDATIONS			
L A B No.	S a m p l e Designation	Crop	S o i l Group ^a	pH ^{**}	Phosphorus	Potassium	Magnesium	Calcium	LIME-STONE	N	P ₂ O ₅	K ₂ O
					P ^{***}	K ^{***}	Mg ^{***}	Ca ^{***}				
					Pounds/Acre				Tons/Acre	Pounds/Acre		
04118	A See Comment 1	Bermuda/Bahia Pasture	1	7.2	M 44	L 28	H 33	H 1035	0.0	60	40	60
04119	B See Comment 1	Bermuda/Bahia Pasture	2	6.7	VH 113	M 88	H 98	H 1620	0.0	60	0	40
04120	C See Comment 1	Bermuda/Bahia Pasture	1	7.1	VH 112	M 43	H 43	H 1327	0.0	60	0	40
04121	D See Comment 1	Bermuda/Bahia Pasture	3	7.2	VH 94	L 59	H 129	H 4725	0.0	60	0	60
04122	E See Comment 1 See Comment 2	Bermuda/Bahia Pasture	1	5.3	VL 8	L 37	H 64	H 400	1.0	60	80	60

Comment No.1: On summer grass pastures apply P and K as recommended and 60 pounds of N before growth starts. Repeat the N application up to September 1 when more growth is desired. If less than 40 pounds of N is applied annually, then no P or K is needed.

Comment No.2: Soil acidity (low pH) can be corrected with either dolomitic or calcitic lime.

The number of samples processed in this report is: 5

For further information call your county agent: (334) 727-0340

* 1. Sandy soil (CEC < 4.6 cmol_ckg⁻¹)

* 3. Clays and soils high in organic matter (CEC > 9.0 cmol_ckg⁻¹)

** 2. Loams and Light clays (CEC = 4.6-9.0 cmol_ckg⁻¹)

* 4. Clays of the Blackbelt (CEC > 9.0 cmol_ckg⁻¹)

** 7.4 or higher - Alkaline ----- 6.6-7.3 - Neutral ----- 6.5 or lower - Acid ----- 5.5 or lower - Strong Acid

*** Extractable nutrients in pounds per acre

If soil group = 1, 2 or 3, Method of Analysis = Mehlich-1. If soil group = 4, Method of Analysis = Miss/Lancaster.



Report on Soil Test

Auburn University Soil Testing Laboratory



Auburn University, AL 36849-5411

Veolia Water/ David Jones

616 Sandhill Rd

Auburn, AL 36832

County:Chambers

District:2

Test Date:01/05/15

L A B No.	S a m p l e Designation	Crop	S o i l Group ¹	pH ^{2,3}	SOIL TEST RESULTS				RECOMMENDATIONS			
					Phosphorus P ^{4,5}	Potassium K ^{4,5}	Magnesium Mg ^{4,5}	Calcium Ca ^{4,5}	LIME-STONE	N	P ₂ O ₅	K ₂ O
					Pounds/Acre				Tons/Acre	Pounds/Acre		
04577	Fld A See Comment 1 See Comment 2	Bermuda/Bahia Pasture	2	5.1	VL 10	H 178	H 255	H 884	1.5	60	80	0
04578	Fld B See Comment 1 See Comment 2	Bermuda/Bahia Pasture	2	5.5	L 20	H 155	H 321	H 1160	1.0	60	60	0
04579	Fld C See Comment 1 See Comment 2	Bermuda/Bahia Pasture	1	5.2	H 59	H 108	H 123	H 396	1.0	60	0	0
04580	Fld D See Comment 1 See Comment 2	Bermuda/Bahia Pasture	2	5.1	VL 2	M 91	H 185	H 589	1.5	60	80	40
04581	Fld E See Comment 1 See Comment 2	Bermuda/Bahia Pasture	1	5.4	VL 10	H 120	H 111	H 484	1.0	60	80	0
04582	Fld F See Comment 1 See Comment 2	Bermuda/Bahia Pasture	1	5.4	VL 1	H 83	H 133	H 515	1.0	60	80	0
04583	Fld I See Comment 2	Bermuda/Bahia Pasture	2	6.1	H 63	H 200	H 351	H 1302	0.0	60	0	0

* 1. Sandy soil (CEC < 4.6 cmol_ckg⁻¹)

* 3. Clays and soils high in organic matter (CEC > 9.0 cmol_ckg⁻¹)

* 2. Loams and Light clays (CEC = 4.6-9.0 cmol_ckg⁻¹)

* 4. Clays of the Blackbelt (CEC > 9.0 cmol_ckg⁻¹)

** 7.4 or higher - Alkaline ----- 6.6-7.3 - Neutral ----- 6.5 or lower - Acid ----- 5.5 or lower - Strong Acid

*** Extractable nutrients in pounds per acre

If soil group = 1, 2 or 3, Method of Analysis = Mehlich-1. If soil group = 4, Method of Analysis = Miss/Lancaster.

Approved by: *Green Hulube*



Report on Soil Test

Auburn University Soil Testing Laboratory



Auburn University, AL 36849-5411

Veolia Water/ David Jones
616 Sandhill Rd
Auburn, AL 36832

County: Chambers
District: 2
Test Date: 01/05/15

				SOIL TEST RESULTS					RECOMMENDATIONS			
L A B No.	S a m p l e Designation	Crop	S o i l Group ²	pH ^{1*}	Phosphorus	Potassium	Magnesium	Calcium	LIME-STONE	N	P ₂ O ₅	K ₂ O
					P ^{***}	K ^{***}	Mg ^{***}	Ca ^{***}				
				Pounds/Acre					Tons/Acre	Pounds/Acre		
04584	Fld H See Comment 2	Bermuda/Bahia Pasture	2	6.3	M 40	VH 274	H 331	H 1278	0.0	60	40	0

Comment No.1: Soil acidity (low pH) can be corrected with either dolomitic or calcitic lime.

Comment No.2: On summer grass pastures apply P and K as recommended and 60 pounds of N before growth starts. Repeat the N application up to September 1 when more growth is desired. If less than 40 pounds of N is applied annually, then no P or K is needed.

The number of samples processed in this report is: 8

For further information call your county agent: (334) 864-9373

* 1. Sandy soil (CEC < 4.6 cmol.kg⁻¹)

* 3. Clays and soils high in organic matter (CEC > 9.0 cmol.kg⁻¹)

* 2. Loams and Light clays (CEC = 4.6-9.0 cmol.kg⁻¹)

* 4. Clays of the Blackbelt (CEC > 9.0 cmol.kg⁻¹)

** 7.4 or higher - Alkaline ----- 6.6-7.3 - Neutral ----- 6.5 or lower - Acid ----- 5.5 or lower - Strong Acid

*** Extractable nutrients in pounds per acre

If soil group = 1, 2 or 3, Method of Analysis = Mehlich-1. If soil group = 4, Method of Analysis = Miss/Lancaster.

Approved by:



Report on Soil Test

Auburn University Soil Testing Laboratory



Auburn University, AL 36849-5411

Veolia Water/ David Jones

616 Sandhill Rd

Auburn, AL 36832

County:Chambers

District:2

Test Date:01/23/15

SOIL TEST RESULTS									RECOMMENDATIONS			
LAB No.	Sample Designation	Crop	Soil Group*	pH**	Phosphorus	Potassium	Magnesium	Calcium	LIME-STONE	N	P ₂ O ₅	K ₂ O
					P***	K***	Mg***	Ca***				
Pounds/Acre									Tons/Acre	Pounds/Acre		
05921	Pecan See Final Remark See Comment 1	Pecans	2	6.0	VL 5	VH 264	H 419	H 1704	0.0	-	60	0
05922	Fld G See Comment 2 See Comment 3	Soybeans	1	5.3	VL 4	H 110	H 182	H 551	1.0	0	100	0

Comment No.1: Apply P and K fertilizer as recommended above. For trees 20 years old or more, apply 6 to 8 pounds N (20 to 25 pounds 34-0-0 or equivalent) per tree or broadcast 100 pounds N per acre in August. For younger trees apply 0.34 pounds N (1.0 pounds 34-0-0 or equivalent) per tree per year of age. For trees 4 years old and older showing zinc deficiency, apply 10 pounds of zinc (Zn) (28 pounds 36 Percent zinc sulfate) per acre. In addition, apply 2 to 4 foliar sprays of 36 percent zinc sulfate at the rate of 2 pounds per 100 gallons of water during April and early May the first year after soil application. Thereafter, monitor Zn leaf levels by leaf analysis. For younger trees apply 0.10 pounds of Zn sulfate per tree per year of age. In irrigated orchards, banding the zinc in a narrow 4" wide band on top of emitter or microsprinkler wetted zones improves uptake. Full benefit from fertilization will not be obtained unless trees are irrigated and a good spray program for disease and insect control is followed.

Comment No.2: Soil acidity (low pH) can be corrected with either dolomitic or calcitic lime.

Comment No.3: For soybeans on all soils of northern Alabama and on fine textured, acid soils in other areas of Alabama, apply the equivalent of 1 ounce per acre of sodium molybdate or ammonium molybdate to the seed at planting.

The number of samples processed in this report is: 2

For further information call your county agent: (334) 864-9373

* 1. Sandy soil (CEC < 4.6 cmol_ckg⁻¹)

* 2. Loams and Light clays (CEC = 4.6-9.0 cmol_ckg⁻¹)

** 7.4 or higher - Alkaline ----- 6.6-7.3 - Neutral ----- 6.5 or lower - Acid -----5.5 or lower - Strong Acid

*** Extractable nutrients in pounds per acre

If soil group = 1, 2 or 3, Method of Analysis = Mehlich-1. If soil group = 4, Method of Analysis = Miss/Lancaster.

* 3. Clays and soils high in organic matter (CEC > 9.0 cmol_ckg⁻¹)

* 4. Clays of the Blackbelt (CEC > 9.0 cmol_ckg⁻¹)

Approved by: 

Print Date: January 23, 2015

Page 1 of 1



Section 6: SOUR Test Option 4



Sour Test Option 4

5250 Option #4 - SOUR 20

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1														
2														
3														
4														
5														
6														
	Date	Jan 2014	Feb 2014	Mar 2014	Apr 2014	May 2014	Jun 2014	Jul 2014	Aug 2014	Sep 2014	Oct 2014	Nov 2014	Dec 2014	
8	1						0.49							
9	2													
10	3		0.38										0.32	
11	4													0.60
12	5													
13	6			0.81		0.70								
14	7													
15	8						0.34							
16	9		0.66											
17	10					1.40								
18	11													
19	12													
20	13							1.22						
21	14													
22	15						1.07							
23	16		0.22											
24	17							0.88						
25	18													0.99
26	19													
27	20					0.59								
28	21							1.07						
29	22													
30	23			0.74										
31	24								1.10					
32	25													
33	26													
34	27			0.40		0.51								
35	28													
36	29						0.26							
37	30		0.96											
38	31													0.81
40	Minimum	0.22	0.40	0.51	0.48	0.26	0.09	0.10	0.20	0.13	0.32	0.37	0.60	
41	Maximum	0.96	0.81	1.22	1.40	1.07	0.16	0.22	0.24	0.26	0.49	0.76	1.19	
42	Total	2.96	1.80	3.50	3.86	2.60	0.50	0.82	0.88	0.82	1.55	2.27	4.19	
43	Average	0.59	0.60	0.88	0.97	0.52	0.13	0.16	0.22	0.21	0.39	0.57	0.84	



ENVIRONMENTAL RESOURCE ANALYSTS, INC.

Auburn Technology Park • 2975 Brown Court • Auburn, AL 36830
Tel. (334) 502-3444 • Fax (334) 502-8888

ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Scott Millner

SOUR Test (Method 1683)

Date of Collection: 01/03/2014
Temp at time of Collection: 7.1°C
% Solids = 1.64%

$$\text{SOUR} = \frac{0.61\text{mg/L}}{14.0 \text{ min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{16401\text{mg/L}}$$
$$= 0.159$$

$$\text{SOUR}_{20} = 0.159 \times 1.07^{(20-7.1)}$$
$$= 0.159 \times 1.07^{(12.9)}$$
$$= 0.159 \times 2.39$$
$$= 0.381$$

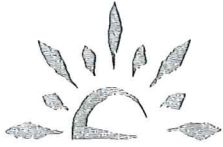
Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
Staci Hickman, QA/QC Manager

1/7/14
Date

State of Florida, NELAC Lab Certification # E87542



ENVIRONMENTAL RESOURCE ANALYSTS, INC.

Auburn Technology Park • 2975 Brown Court • Auburn, AL 36830
Tel. (334) 502-3444 • Fax (334) 502-8888

ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Scott Millner

SOUR Test (Method 1683)

Date of Collection: 01/09/2014
Temp at time of Collection: 9.2°C
% Solids = 1.33%

$$\text{SOUR} = \frac{1.06\text{mg/L}}{15.0 \text{ min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{13282\text{mg/L}}$$
$$= 0.319$$

$$\begin{aligned}\text{SOUR}_{20} &= 0.319 \times 1.07^{(20-9.2)} \\ &= 0.319 \times 1.07^{(10.8)} \\ &= 0.319 \times 2.08 \\ &= 0.662\end{aligned}$$

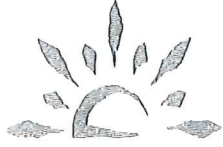
Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
Staci Hickman, QA/QC Manager

1/13/14
Date

State of Florida, NELAC Lab Certification # E87542



ENVIRONMENTAL RESOURCE ANALYSTS, INC.

Auburn Technology Park • 2975 Brown Court • Auburn, AL 36830
Tel. (334) 502-3444 • Fax (334) 502-8888

ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Scott Millner

SOUR Test (Method 1683)

Date of Collection: 01/16/2014
Temp at time of Collection: 11.8°C
% Solids = 1.67%

$$\text{SOUR} = \frac{0.53\text{mg/L}}{15.0 \text{ min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{16737\text{mg/L}}$$
$$= 0.127$$

$$\text{SOUR}_{20} = 0.127 \times 1.07^{(20-11.8)}$$
$$= 0.127 \times 1.07^{(8.2)}$$
$$= 0.127 \times 1.74$$
$$= 0.221$$

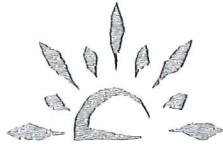
Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
Staci Hickman, QA/QC Manager

1/21/14
Date

State of Florida, NELAC Lab Certification # E87542



ENVIRONMENTAL RESOURCE ANALYSTS, INC.

Auburn Technology Park • 2975 Brown Court • Auburn, AL 36830
Tel. (334) 502-3444 • Fax (334) 502-8888

ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Scott Millner

SOUR Test (Method 1683)

Date of Collection: 01/23/2014
Temp at time of Collection: 11.0°C
% Solids = 1.71%

$$\begin{aligned} \text{SOUR} &= \frac{1.66\text{mg/L}}{14.5 \text{ min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{17087\text{mg/L}} \\ &= 0.402 \end{aligned}$$

$$\begin{aligned} \text{SOUR}_{20} &= 0.402 \times 1.07^{(20-11.0)} \\ &= 0.402 \times 1.07^{(9.0)} \\ &= 0.402 \times 1.84 \\ &= 0.739 \end{aligned}$$

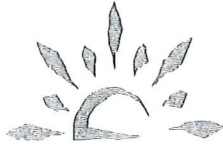
Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
Staci Hickman, QA/QC Manager

1/27/14
Date

State of Florida, NELAC Lab Certification # E87542



ENVIRONMENTAL RESOURCE ANALYSTS, INC.

Auburn Technology Park • 2975 Brown Court • Auburn, AL 36830
Tel. (334) 502-3444 • Fax (334) 502-8888

ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Scott Millner

SOUR Test (Method 1683)

Date of Collection: 01/30/2014
Temp at time of Collection: 10.9°C
% Solids = 1.63%

$$\text{SOUR} = \frac{2.01\text{mg/L}}{14.25 \text{ min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{16308\text{mg/L}}$$
$$= 0.519$$

$$\text{SOUR}_{20} = 0.519 \times 1.07^{(20-10.9)}$$
$$= 0.519 \times 1.07^{(9.1)}$$
$$= 0.519 \times 1.85$$
$$= 0.961$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
Staci Hickman, QA/QC Manager

1/31/14
Date

State of Florida, NELAC Lab Certification # E87542



ENVIRONMENTAL RESOURCE ANALYSTS, INC.

Auburn Technology Park • 2975 Brown Court • Auburn, AL 36830
Tel. (334) 502-3444 • Fax (334) 502-8888

ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Scott Millner

SOUR Test (Method 1683)

Date of Collection: 02/06/2014
Temp at time of Collection: 12.7°C
% Solids = 1.60%

$$\begin{aligned} \text{SOUR} &= \frac{1.92\text{mg/L}}{14.5 \text{ min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{15970\text{mg/L}} \\ &= 0.497 \end{aligned}$$

$$\begin{aligned} \text{SOUR}_{20} &= 0.497 \times 1.07^{(20-12.7)} \\ &= 0.497 \times 1.07^{(7.3)} \\ &= 0.497 \times 1.64 \\ &= 0.814 \end{aligned}$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
Staci Hickman, QA/QC Manager

2/10/14
Date

State of Florida, NELAC Lab Certification # E87542



ENVIRONMENTAL RESOURCE ANALYSTS, INC.

Auburn Technology Park • 2975 Brown Court • Auburn, AL 36830
Tel. (334) 502-3444 • Fax (334) 502-8888

ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Scott Millner

SOUR Test (Method 1683)

Date of Collection: 02/20/2014
Temp at time of Collection: 19.6°C
% Solids = 1.69%

$$\text{SOUR} = \frac{2.36\text{mg/L}}{14.5 \text{ min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{16933\text{mg/L}}$$
$$= 0.577$$

$$\text{SOUR}_{20} = 0.577 \times 1.07^{(20-19.6)}$$
$$= 0.577 \times 1.07^{(0.4)}$$
$$= 0.577 \times 1.03$$
$$= 0.593$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
Staci Hickman, QA/QC Manager

2/24/14
Date

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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Scott Millner

SOUR Test (Method 1683)

Date of Collection: 02/27/2014
Temp at time of Collection: 12.3°C
% Solids = 2.03%

$$\begin{aligned} \text{SOUR} &= \frac{1.20\text{mg/L}}{15.0 \text{ min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{20282\text{mg/L}} \\ &= 0.237 \end{aligned}$$

$$\begin{aligned} \text{SOUR}_{20} &= 0.237 \times 1.07^{(20-12.3)} \\ &= 0.237 \times 1.07^{(7.7)} \\ &= 0.237 \times 1.68 \\ &= 0.399 \end{aligned}$$

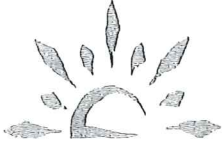
Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Scott Millner

SOUR Test (Method 1683)

Date of Collection: 03/06/2014

Temp at time of Collection: 16.8°C

% Solids = 1.97%

$$\text{SOUR} = \frac{2.69\text{mg/L}}{14.5 \text{ min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{19744\text{mg/L}}$$

$$= 0.564$$

$$\begin{aligned}\text{SOUR}_{20} &= 0.564 \times 1.07^{(20-16.8)} \\ &= 0.564 \times 1.07^{(3.2)} \\ &= 0.564 \times 1.24 \\ &= 0.700\end{aligned}$$

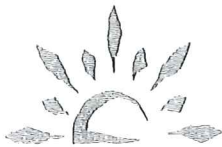
Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP

Contact Person: Scott Millner

SOUR Test (Method 1683)

Date of Collection: 03/13/2014

Temp at time of Collection: 18.5°C

% Solids = 2.09%

$$\text{SOUR} = \frac{5.77\text{mg/L}}{15.0 \text{ min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{20915\text{mg/L}}$$

$$= 1.10$$

$$\begin{aligned}\text{SOUR}_{20} &= 1.10 \times 1.07^{(20-18.5)} \\ &= 1.10 \times 1.07^{(1.5)} \\ &= 1.10 \times 1.11 \\ &= 1.22\end{aligned}$$

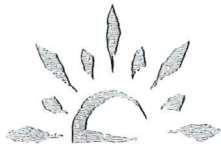
Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Scott Millner

SOUR Test (Method 1683)

Date of Collection: 03/20/2014
Temp at time of Collection: 19.7°C
% Solids = 2.02%

$$\text{SOUR} = \frac{5.29\text{mg/L}}{15.0 \text{ min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{20219\text{mg/L}}$$
$$= 1.05$$

$$\text{SOUR}_{20} = 1.05 \times 1.07^{(20-19.7)}$$
$$= 1.05 \times 1.07^{(0.3)}$$
$$= 1.05 \times 1.02$$
$$= 1.07$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Scott Millner

SOUR Test (Method 1683)

Date of Collection: 03/27/2014
Temp at time of Collection: 16.3°C
% Solids = 1.86%

$$\text{SOUR} = \frac{1.76\text{mg/L}}{14.25 \text{ min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{18594\text{mg/L}}$$
$$= 0.399$$

$$\text{SOUR}_{20} = 0.399 \times 1.07^{(20-16.3)}$$
$$= 0.399 \times 1.07^{(3.7)}$$
$$= 0.399 \times 1.28$$
$$= 0.512$$

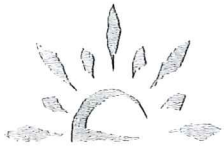
Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP

Contact Person: Scott Millner

SOUR Test (Method 1683)

Date of Collection: 04/03/2014

Temp at time of Collection: 16.6°C

% Solids = 1.80%

$$\text{SOUR} = \frac{1.66\text{mg/L}}{14.50 \text{ min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{17998\text{mg/L}}$$

$$= 0.382$$

$$\text{SOUR}_{20} = 0.382 \times 1.07^{(20-16.6)}$$

$$= 0.382 \times 1.07^{(3.4)}$$

$$= 0.382 \times 1.26$$

$$= 0.481$$

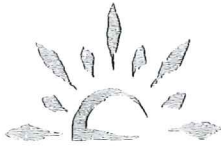
Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Scott Millner

SOUR Test (Method 1683)

Date of Collection: 04/10/2014
Temp at time of Collection: 16.7°C
% Solids = 1.95%

$$\begin{aligned} \text{SOUR} &= \frac{5.46\text{mg/L}}{15.0 \text{ min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{19527\text{mg/L}} \\ &= 1.12 \end{aligned}$$

$$\begin{aligned} \text{SOUR}_{20} &= 1.12 \times 1.07^{(20-16.7)} \\ &= 1.12 \times 1.07^{(3.3)} \\ &= 1.12 \times 1.25 \\ &= 1.40 \end{aligned}$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Scott Millner

SOUR Test (Method 1683)

Date of Collection: 04/17/2014
Temp at time of Collection: 19.0°C
% Solids = 1.60%

$$\text{SOUR} = \frac{3.16\text{mg/L}}{14.5 \text{ min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{15986\text{mg/L}}$$
$$= 0.818$$

$$\text{SOUR}_{20} = 0.818 \times 1.07^{(20-19.0)}$$
$$= 0.818 \times 1.07^{(1.0)}$$
$$= 0.818 \times 1.07$$
$$= 0.875$$

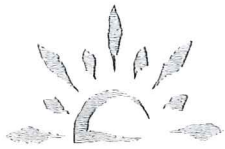
Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Scott Millner

SOUR Test (Method 1683)

Date of Collection: 04/24/2014
Temp at time of Collection: 17.6°C
% Solids = 1.64%

$$\text{SOUR} = \frac{3.69\text{mg/L}}{14.5 \text{ min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{16371\text{mg/L}}$$
$$= 0.933$$

$$\text{SOUR}_{20} = 0.933 \times 1.07^{(20-17.6)}$$
$$= 0.933 \times 1.07^{(2.4)}$$
$$= 0.933 \times 1.18$$
$$= 1.10$$

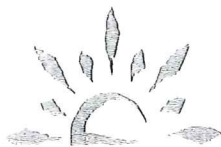
Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Scott Millner

SOUR Test (Method 1683)

Date of Collection: 05/01/2014
Temp at time of Collection: 21.3°C
% Solids = 1.69%

$$\text{SOUR} = \frac{1.92\text{mg/L}}{14.5 \text{ min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{16901\text{mg/L}}$$
$$= 0.470$$

$$\text{SOUR}_{20} = 0.470 \times 1.05^{(20-21.3)}$$
$$= 0.470 \times 1.05^{(-1.3)}$$
$$= 0.470 \times 1.04$$
$$= 0.488$$

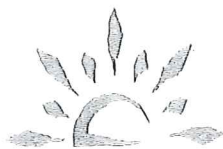
Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Scott Millner

SOUR Test (Method 1683)

Date of Collection: 05/08/2014
Temp at time of Collection: 18.4°C
% Solids = 2.00%

$$\begin{aligned} \text{SOUR} &= \frac{1.40\text{mg/L}}{14.0 \text{ min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{19960\text{mg/L}} \\ &= 0.301 \end{aligned}$$

$$\begin{aligned} \text{SOUR}_{20} &= 0.301 \times 1.07^{(20-18.4)} \\ &= 0.301 \times 1.07^{(1.6)} \\ &= 0.301 \times 1.11 \\ &= 0.335 \end{aligned}$$

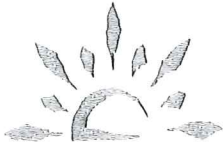
Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

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5/13/14
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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Scott Millner

SOUR Test (Method 1683)

Date of Collection: 05/15/2014
Temp at time of Collection: 19.1°C
% Solids = 2.02%

$$\text{SOUR} = \frac{4.95\text{mg/L}}{14.5\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{20189\text{mg/L}}$$

$$= 1.01$$

$$\begin{aligned}\text{SOUR}_{20} &= 1.01 \times 1.07^{(20-19.1)} \\ &= 1.01 \times 1.07^{(0.9)} \\ &= 1.01 \times 1.06 \\ &= 1.07\end{aligned}$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

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5/19/14
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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Scott Millner

SOUR Test (Method 1683)

Date of Collection: 05/22/2014

Temp at time of Collection: 19.8°C

% Solids = 1.88%

$$\text{SOUR} = \frac{1.94\text{mg/L}}{14.25\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{18777\text{mg/L}}$$

$$= 0.435$$

$$\begin{aligned}\text{SOUR}_{20} &= 0.435 \times 1.07^{(20-19.8)} \\ &= 0.435 \times 1.07^{(0.2)} \\ &= 0.435 \times 1.01 \\ &= 0.441\end{aligned}$$

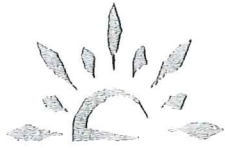
Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Scott Millner

SOUR Test (Method 1683)

Date of Collection: 05/29/2014
Temp at time of Collection: 21.3°C
% Solids = 1.95%

$$\text{SOUR} = \frac{1.15\text{mg/L}}{14.00\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{19535\text{mg/L}}$$
$$= 0.252$$

$$\text{SOUR}_{20} = 0.252 \times 1.05^{(20-21.3)}$$
$$= 0.252 \times 1.05^{(-1.3)}$$
$$= 0.252 \times 1.04$$
$$= 0.262$$

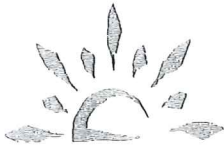
Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

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6/2/14
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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 06/05/2014
Temp at time of Collection: 19.6°C
% Solids = 1.91%

$$\text{SOUR} = \frac{0.67\text{mg/L}}{14.25\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{19061\text{mg/L}}$$
$$= 0.148$$

$$\text{SOUR}_{20} = 0.148 \times 1.07^{(20-19.6)}$$
$$= 0.148 \times 1.07^{(0.4)}$$
$$= 0.148 \times 1.03$$
$$= 0.152$$

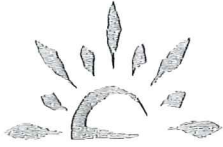
Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

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6/9/14
Date

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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 06/12/2014
Temp at time of Collection: 19.9°C
% Solids = 1.86%

$$\text{SOUR} = \frac{0.71\text{mg/L}}{14.25\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{18584\text{mg/L}}$$
$$= 0.161$$

$$\text{SOUR}_{20} = 0.161 \times 1.07^{(20-19.9)}$$
$$= 0.161 \times 1.07^{(0.1)}$$
$$= 0.161 \times 1.01$$
$$= 0.162$$

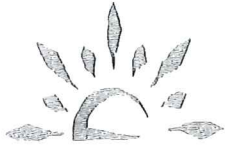
Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 06/19/2014
Temp at time of Collection: 21.6°C
% Solids = 1.81%

$$\begin{aligned} \text{SOUR} &= \frac{0.38\text{mg/L}}{15.0\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{18097\text{mg/L}} \\ &= 0.084 \end{aligned}$$

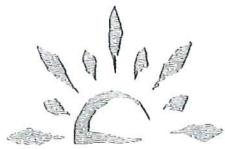
$$\begin{aligned} \text{SOUR}_{20} &= 0.084 \times 1.05^{(20-21.6)} \\ &= 0.084 \times 1.05^{(-1.6)} \\ &= 0.084 \times 1.03 \\ &= 0.087 \end{aligned}$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 06/26/2014
Temp at time of Collection: 18.6°C
% Solids = 1.88%

$$\begin{aligned} \text{SOUR} &= \frac{0.40\text{mg/L}}{14.5\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{18778\text{mg/L}} \\ &= 0.088 \end{aligned}$$

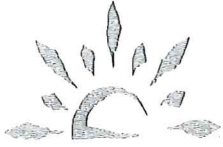
$$\begin{aligned} \text{SOUR}_{20} &= 0.088 \times 1.07^{(20-18.6)} \\ &= 0.088 \times 1.07^{(1.4)} \\ &= 0.088 \times 1.10 \\ &= 0.097 \end{aligned}$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

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6/30/14
Date



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 07/03/2014
Temp at time of Collection: 21.8°C
% Solids = 1.84%

$$\begin{aligned} \text{SOUR} &= \frac{0.47\text{mg/L}}{14.0\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{18355\text{mg/L}} \\ &= 0.110 \end{aligned}$$

$$\begin{aligned} \text{SOUR}_{20} &= 0.110 \times 1.05^{(20-21.8)} \\ &= 0.110 \times 1.05^{(-1.8)} \\ &= 0.110 \times 1.03 \\ &= 0.113 \end{aligned}$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

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7/14/14
Date



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 07/10/2014
Temp at time of Collection: 20.9°C
% Solids = 1.74%

$$\begin{aligned} \text{SOUR} &= \frac{0.39\text{mg/L}}{14.5\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{17415\text{mg/L}} \\ &= 0.093 \end{aligned}$$

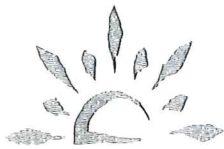
$$\begin{aligned} \text{SOUR}_{20} &= 0.093 \times 1.05^{(20-20.9)} \\ &= 0.093 \times 1.05^{(-0.9)} \\ &= 0.093 \times 1.06 \\ &= 0.098 \end{aligned}$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
Staci Hickman, QA/QC Manager

7/14/14
Date



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 07/17/2014
Temp at time of Collection: 22.0°C
% Solids = 1.73%

$$\text{SOUR} = \frac{0.82\text{mg/L}}{14.5\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{17324\text{mg/L}}$$

$$= 0.196$$

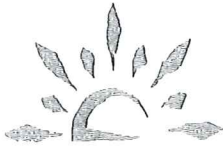
$$\begin{aligned}\text{SOUR}_{20} &= 0.196 \times 1.05^{(20-22.0)} \\ &= 0.196 \times 1.05^{(-2.0)} \\ &= 0.196 \times 1.02 \\ &= 0.201\end{aligned}$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
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7/21/14
Date



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP

Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 07/24/2014

Temp at time of Collection: 21.5°C

% Solids = 1.55%

$$\text{SOUR} = \frac{0.70\text{mg/L}}{14.5\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{15457\text{mg/L}}$$

$$= 0.187$$

$$\begin{aligned}\text{SOUR}_{20} &= 0.187 \times 1.05^{(20-21.5)} \\ &= 0.187 \times 1.05^{(-1.5)} \\ &= 0.187 \times 1.03 \\ &= 0.193\end{aligned}$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
Staci Hickman, QA/QC Manager

7/28/14
Date



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 07/31/2014

Temp at time of Collection: 21.5°C

% Solids = 1.70%

$$\text{SOUR} = \frac{0.88\text{mg/L}}{14.5\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{16988\text{mg/L}}$$

$$= 0.214$$

$$\begin{aligned}\text{SOUR}_{20} &= 0.214 \times 1.05^{(20-21.5)} \\ &= 0.214 \times 1.05^{(-1.5)} \\ &= 0.214 \times 1.03 \\ &= 0.221\end{aligned}$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
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8/5/14
Date



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP

Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 08/07/2014

Temp at time of Collection: 22.2°C

% Solids = 1.65%

$$\text{SOUR} = \frac{0.78\text{mg/L}}{14.5\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{16457\text{mg/L}}$$

$$= 0.196$$

$$\text{SOUR}_{20} = 0.196 \times 1.05^{(20-22.2)}$$

$$= 0.196 \times 1.05^{(-2.2)}$$

$$= 0.196 \times 1.02$$

$$= 0.200$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
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8/11/14
Date



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP

Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 08/14/2014

Temp at time of Collection: 20.7°C

% Solids = 1.57%

$$\text{SOUR} = \frac{0.74\text{mg/L}}{14.5\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{15722\text{mg/L}}$$

$$= 0.195$$

$$\text{SOUR}_{20} = 0.195 \times 1.05^{(20-20.7)}$$

$$= 0.195 \times 1.05^{(-0.7)}$$

$$= 0.195 \times 1.07$$

$$= 0.209$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
Staci Hickman, QA/QC Manager

8/18/14
Date



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 08/21/2014

Temp at time of Collection: 21.1°C

% Solids = 1.54%

$$\text{SOUR} = \frac{0.76\text{mg/L}}{13.75\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{15359\text{mg/L}}$$

$$= 0.216$$

$$\text{SOUR}_{20} = 0.216 \times 1.05^{(20-21.1)}$$

$$= 0.216 \times 1.05^{(-1.1)}$$

$$= 0.216 \times 1.05$$

$$= 0.226$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
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8/25/14
Date



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 08/28/2014
Temp at time of Collection: 21.1°C
% Solids = 1.51%

$$\begin{aligned} \text{SOUR} &= \frac{0.87\text{mg/L}}{15.0\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{15089\text{mg/L}} \\ &= 0.231 \end{aligned}$$

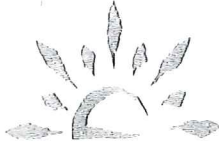
$$\begin{aligned} \text{SOUR}_{20} &= 0.231 \times 1.05^{(20-21.1)} \\ &= 0.231 \times 1.05^{(-1.1)} \\ &= 0.231 \times 1.05 \\ &= 0.242 \end{aligned}$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
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9/2/14
Date



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 09/05/2014

Temp at time of Collection: 21.1°C

% Solids = 1.47%

$$\text{SOUR} = \frac{0.70\text{mg/L}}{15.0\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{14742\text{mg/L}}$$

$$= 0.190$$

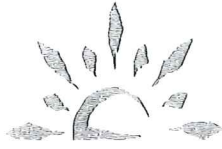
$$\begin{aligned}\text{SOUR}_{20} &= 0.190 \times 1.05^{(20-21.1)} \\ &= 0.190 \times 1.05^{(-1.1)} \\ &= 0.190 \times 1.05 \\ &= 0.199\end{aligned}$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

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9/9/14
Date



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 09/11/2014
Temp at time of Collection: 21.1°C
% Solids = 1.43%

$$\text{SOUR} = \frac{0.87\text{mg/L}}{14.5\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{14288\text{mg/L}}$$
$$= 0.252$$

$$\text{SOUR}_{20} = 0.252 \times 1.05^{(20-23.2)}$$
$$= 0.252 \times 1.05^{(-3.2)}$$
$$= 0.252 \times 1.02$$
$$= 0.256$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

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9/15/14
Date



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 09/18/2014

Temp at time of Collection: 19.9°C

% Solids = 1.45%

$$\text{SOUR} = \frac{0.44\text{mg/L}}{14.5\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{14459\text{mg/L}}$$

$$= 0.126$$

$$\begin{aligned}\text{SOUR}_{20} &= 0.126 \times 1.07^{(20-19.9)} \\ &= 0.126 \times 1.07^{(0.1)} \\ &= 0.126 \times 1.01 \\ &= 0.127\end{aligned}$$

Method Sources:

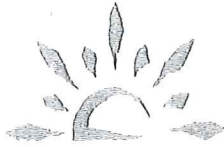
Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman

Staci Hickman, QA/QC Manager

9/22/14

Date



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 09/25/2014

Temp at time of Collection: 19.1°C

% Solids = 1.49%

$$\text{SOUR} = \frac{0.77\text{mg/L}}{14.5\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{14852\text{mg/L}}$$

$$= 0.215$$

$$\begin{aligned}\text{SOUR}_{20} &= 0.215 \times 1.07^{(20-19.1)} \\ &= 0.215 \times 1.07^{(0.9)} \\ &= 0.215 \times 1.06 \\ &= 0.228\end{aligned}$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
Staci Hickman, QA/QC Manager

9/29/14
Date



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 10/02/2014

Temp at time of Collection: 21.5°C

% Solids = 1.44%

$$\text{SOUR} = \frac{1.10\text{mg/L}}{15.0\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{14434\text{mg/L}}$$

$$= 0.305$$

$$\text{SOUR}_{20} = 0.305 \times 1.05^{(20-21.5)}$$

$$= 0.305 \times 1.05^{(-1.5)}$$

$$= 0.305 \times 1.03$$

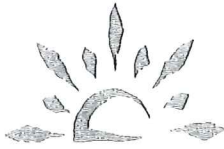
$$= 0.315$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
Staci Hickman, QA/QC Manager

10/6/14
Date



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 10/09/2014
Temp at time of Collection: 20.6°C
% Solids = 1.11%

$$\begin{aligned} \text{SOUR} &= \frac{1.04\text{mg/L}}{14.5\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{11117\text{mg/L}} \\ &= 0.387 \end{aligned}$$

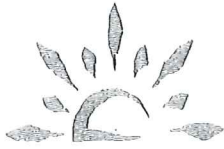
$$\begin{aligned} \text{SOUR}_{20} &= 0.387 \times 1.05^{(20-20.6)} \\ &= 0.387 \times 1.05^{(-0.6)} \\ &= 0.387 \times 1.08 \\ &= 0.420 \end{aligned}$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
Staci Hickman, QA/QC Manager

10/14/14
Date



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 10/23/2014
Temp at time of Collection: 17.5°C
% Solids = 1.43%

$$\text{SOUR} = \frac{0.98\text{mg/L}}{15.0\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{14333\text{mg/L}}$$
$$= 0.273$$

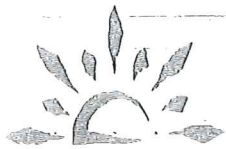
$$\text{SOUR}_{20} = 0.273 \times 1.07^{(20-17.5)}$$
$$= 0.273 \times 1.07^{(2.5)}$$
$$= 0.273 \times 1.18$$
$$= 0.323$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
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10/28/14
Date



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP

Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 10/30/2014

Temp at time of Collection: 17.6°C

% Solids = 1.29%

$$\text{SOUR} = \frac{1.30\text{mg/L}}{14.5\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{12853\text{mg/L}}$$

$$= 0.419$$

$$\text{SOUR}_{20} = 0.419 \times 1.07^{(20-17.6)}$$

$$= 0.419 \times 1.07^{(2.4)}$$

$$= 0.419 \times 1.18$$

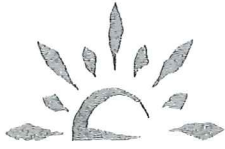
$$= 0.493$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

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11/3/14
Date



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP

Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 11/06/2014

Temp at time of Collection: 17.5°C

% Solids = 1.25%

$$\text{SOUR} = \frac{2.01\text{mg/L}}{15.0\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{12547\text{mg/L}}$$

$$= 0.641$$

$$\text{SOUR}_{20} = 0.641 \times 1.07^{(20-17.5)}$$

$$= 0.641 \times 1.07^{(2.5)}$$

$$= 0.641 \times 1.18$$

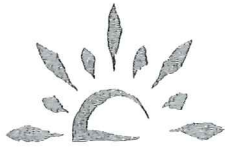
$$= 0.759$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
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11/7/14
Date



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 11/13/2014
Temp at time of Collection: 16.6°C
% Solids = 1.13%

$$\begin{aligned} \text{SOUR} &= \frac{1.30\text{mg/L}}{14.5\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{11306\text{mg/L}} \\ &= 0.476 \end{aligned}$$

$$\begin{aligned} \text{SOUR}_{20} &= 0.476 \times 1.07^{(20-16.6)} \\ &= 0.476 \times 1.07^{(3.4)} \\ &= 0.476 \times 1.26 \\ &= 0.599 \end{aligned}$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
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11/17/14
Date



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 11/20/2014
Temp at time of Collection: 12.5°C
% Solids = 1.60%

$$\begin{aligned} \text{SOUR} &= \frac{1.21\text{mg/L}}{14.0\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{16000\text{mg/L}} \\ &= 0.324 \end{aligned}$$

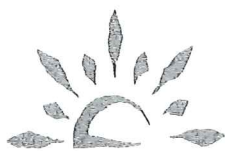
$$\begin{aligned} \text{SOUR}_{20} &= 0.324 \times 1.07^{(20-12.5)} \\ &= 0.324 \times 1.07^{(7.5)} \\ &= 0.324 \times 1.66 \\ &= 0.538 \end{aligned}$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
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12/2/14
Date



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP

Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 11/27/2014

Temp at time of Collection: 11.2°C

% Solids = 1.73%

$$\text{SOUR} = \frac{0.88\text{mg/L}}{15.0\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{17300\text{mg/L}}$$

$$= 0.203$$

$$\text{SOUR}_{20} = 0.203 \times 1.07^{(20-11.2)}$$

$$= 0.203 \times 1.07^{(8.8)}$$

$$= 0.203 \times 1.81$$

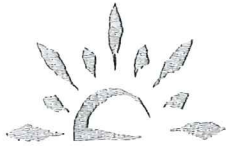
$$= 0.368$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 12/04/2014
Temp at time of Collection: 17.9°C
% Solids = 1.23%

$$\text{SOUR} = \frac{1.61\text{mg/L}}{15.0\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{12281\text{mg/L}}$$
$$= 0.524$$

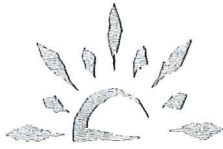
$$\text{SOUR}_{20} = 0.524 \times 1.07^{(20-17.9)}$$
$$= 0.524 \times 1.07^{(2.1)}$$
$$= 0.524 \times 1.15$$
$$= 0.604$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

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12/8/14
Date



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 12/11/2014
Temp at time of Collection: 16.1°C
% Solids = 1.06%

$$\text{SOUR} = \frac{1.18\text{mg/L}}{14.5\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{10592\text{mg/L}}$$
$$= 0.461$$

$$\text{SOUR}_{20} = 0.461 \times 1.07^{(20-16.1)}$$
$$= 0.461 \times 1.07^{(3.9)}$$
$$= 0.461 \times 1.30$$
$$= 0.600$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
Staci Hickman, QA/QC Manager

12/16/14
Date



ENVIRONMENTAL RESOURCE ANALYSTS, INC.

Auburn Technology Park • 2975 Brown Court • Auburn, AL 36830

Tel. (334) 502-3444 • Fax (334) 502-8888

ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP

Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 12/18/2014

Temp at time of Collection: 19.3°C

% Solids = 1.00%

$$\text{SOUR} = \frac{2.38\text{mg/L}}{15.0\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{10037\text{mg/L}}$$

$$= 0.948$$

$$\text{SOUR}_{20} = 0.948 \times 1.07^{(20-19.3)}$$

$$= 0.948 \times 1.07^{(0.7)}$$

$$= 0.948 \times 1.05$$

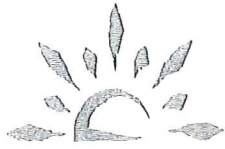
$$= 0.994$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
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12/23/14
Date



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 12/24/2014
Temp at time of Collection: 17.7°C
% Solids = 0.84%

$$\text{SOUR} = \frac{2.08\text{mg/L}}{14.5\text{min}} \times \frac{60\text{min}}{\text{hr.}} \times \frac{1000\text{mg/g}}{8426\text{mg/L}}$$

$$= 1.02$$

$$\begin{aligned}\text{SOUR}_{20} &= 1.02 \times 1.07^{(20-17.7)} \\ &= 1.02 \times 1.07^{(2.3)} \\ &= 1.02 \times 1.17 \\ &= 1.19\end{aligned}$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
Staci Hickman, QA/QC Manager

12/30/14
Date



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Brad Davis

SOUR Test (Method 1683)

Date of Collection: 12/31/2014
Temp at time of Collection: 19.1°C
% Solids = 0.87%

$$\text{SOUR} = \frac{1.65\text{mg/L} \times 60\text{min}}{15.0\text{min}} \times \frac{1000\text{mg/g}}{8694\text{mg/L}} \times \text{hr.}$$

$$= 0.759$$

$$\begin{aligned}\text{SOUR}_{20} &= 0.759 \times 1.07^{(20-19.1)} \\ &= 0.759 \times 1.07^{(0.9)} \\ &= 0.759 \times 1.06 \\ &= 0.807\end{aligned}$$

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

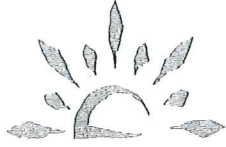
Staci Hickman
Staci Hickman, QA/QC Manager

1/4/15
Date



Section 7: Pathogen Reduction





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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Scott Milner

All values are on a dry weight basis

FECAL COLIFORM (SM9222D)

<u>Sample</u>	<u>Col. Date/Time</u>	<u>Analysis Date/Time</u>	Colonies/g dry	
			<u>Concentration</u>	<u>Analyst</u>
Sludge	01/20/14 07:36	01/20/14 15:00	34,985	HW
Sludge	01/20/14 07:36	01/20/14 15:00	25,705	HW
Sludge	01/22/14 07:35	01/22/14 15:00	38,005	CW
Sludge	01/24/14 07:40	01/24/14 15:20	125,286	CW
Sludge	01/27/14 07:35	01/27/14 15:30	20,525	MEO
Sludge	01/29/14 10:55	01/29/14 13:15	62,669	HW
Sludge	01/31/14 07:35	01/31/14 15:00	304,818	CW

geometric mean of 7 samples = 55,682 Colonies/g dry

TOTAL SOLIDS (APHA STANDARD METHOD 2540G)

<u>Sample</u>	<u>Col. Date</u>	<u>Analysis Date</u>	<u>Conc. (%)</u>	<u>Analyst</u>
Sludge	01/20/14	01/20/14	15.6	HW
Sludge	01/20/14	01/20/14	15.3	HW
Sludge	01/22/14	01/22/14	14.8	CW
Sludge	01/24/14	01/24/14	16.7	CW
Sludge	01/27/14	01/27/14	15.2	MEO
Sludge	01/29/14	01/29/14	15.6	HW
Sludge	01/31/14	01/31/14	15.1	CW

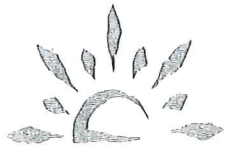
Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
Staci Hickman, QA/QC Manager

2/4/14
Date

State of Florida, NELAC Lab Certification # E87542



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Scott Milner

All values are on a dry weight basis

FECAL COLIFORM (SM9222D)

<u>Sample</u>	<u>Col. Date/Time</u>	<u>Analysis Date/Time</u>	Colonies/g dry	
			<u>Concentration</u>	<u>Analyst</u>
Sludge	03/10/14 07:37	03/10/14 14:00	5,029	MEO
Sludge	03/10/14 07:37	03/10/14 14:00	3,694	MEO
Sludge	03/12/14 07:34	03/12/14 12:30	4,072	CW
Sludge	03/14/14 07:30	03/14/14 13:00	9,411	MEO
Sludge	03/17/14 07:40	03/17/14 14:00	7,957	MEO
Sludge	03/19/14 07:40	03/19/14 15:00	4,826	CW
Sludge	03/21/14 07:40	03/21/14 08:15	6,514	CW

geometric mean of 7 samples = 5,605 Colonies/g dry

TOTAL SOLIDS (APHA STANDARD METHOD 2540G)

<u>Sample</u>	<u>Col. Date</u>	<u>Analysis Date</u>	<u>Conc. (%)</u>	<u>Analyst</u>
Sludge	03/10/14	03/10/14	16.4	MEO
Sludge	03/10/14	03/10/14	16.5	MEO
Sludge	03/12/14	03/12/14	17.5	CW
Sludge	03/14/14	03/14/14	15.9	MEO
Sludge	03/17/14	03/17/14	16.6	MEO
Sludge	03/19/14	03/19/14	16.3	CW
Sludge	03/21/14	03/21/14	15.8	CW

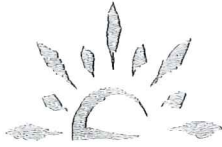
Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
Staci Hickman, QA/QC Manager

4/1/14
Date

State of Florida, NELAC Lab Certification # E87542



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Scott Milner

All values are on a dry weight basis

FECAL COLIFORM (SM9222D)

<u>Sample</u>	<u>Col. Date/Time</u>	<u>Analysis Date/Time</u>	Colonies/g dry	
			<u>Concentration</u>	<u>Analyst</u>
Sludge	05/05/14 07:41	05/05/14 14:50	12,755	HW
Sludge	05/05/14 07:41	05/05/14 14:50	28,999	HW
Sludge	05/07/14	05/07/14 17:00	35,669	MEO
Sludge	05/09/14 07:35	05/09/14 17:00	63,813	MEO
Sludge	05/12/14 07:35	05/12/14 15:00	68,770	HW
Sludge	05/14/14 07:35	05/14/14 17:00	11,585	MEO
Sludge	05/16/14 07:35	05/16/14 13:30	47,098	HW

geometric mean of 7 samples = 31,519 Colonies/g dry

TOTAL SOLIDS (APHA STANDARD METHOD 2540G)

<u>Sample</u>	<u>Col. Date</u>	<u>Analysis Date</u>	<u>Conc. (%)</u>	<u>Analyst</u>
Sludge	05/05/14	05/05/14	20.0	HW
Sludge	05/05/14	05/05/14	19.0	HW
Sludge	05/07/14	05/07/14	18.0	MEO
Sludge	05/09/14	05/09/14	18.3	MEO
Sludge	05/12/14	05/12/14	19.5	HW
Sludge	05/14/14	05/14/14	18.6	MEO
Sludge	05/16/14	05/16/14	19.2	HW

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
Staci Hickman, QA/QC Manager

5/19/14
Date

State of Florida, NELAC Lab Certification # E87542



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Scott Milner

All values are on a dry weight basis

FECAL COLIFORM (SM9222D)

<u>Sample</u>	<u>Col. Date/Time</u>	<u>Analysis Date/Time</u>	<u>Colonies/g dry Concentration</u>	<u>Analyst</u>
Sludge	07/18/14 07:00	07/19/14 11:00	<168	EJC
Sludge	07/21/14 07:20	07/21/14 14:30	415	SH
Sludge	07/22/14 07:25	07/23/14 08:00	8,394	HW
Sludge	07/23/14 07:10	07/23/14 14:00	7,752	HW
Sludge	07/24/14 07:30	07/24/14 13:00	12,316	HW
Sludge	07/24/14 07:30	07/24/14 13:00	8,817	HW
Sludge	07/25/14 07:07	07/25/14 15:00	10,409	HW

geometric mean of 7 samples = 3,388 Colonies/g dry

TOTAL SOLIDS (APHA STANDARD METHOD 2540G)

<u>Sample</u>	<u>Col. Date</u>	<u>Analysis Date</u>	<u>Conc. (%)</u>	<u>Analyst</u>
Sludge	07/18/14	07/19/14	22.7	EJC
Sludge	07/21/14	07/21/14	19.6	SH
Sludge	07/22/14	07/23/14	19.2	HW
Sludge	07/23/14	07/23/14	19.4	HW
Sludge	07/24/14	07/24/14	18.0	HW
Sludge	07/24/14	07/24/14	18.0	HW
Sludge	07/25/14	07/25/14	18.2	HW

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
Staci Hickman, QA/QC Manager

7/29/14
Date

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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP

Contact Person: Scott Milner

All values are on a dry weight basis

FECAL COLIFORM (SM9222D)

<u>Sample</u>	<u>Col. Date/Time</u>	<u>Analysis Date/Time</u>	<u>Colonies/g dry Concentration</u>	<u>Analyst</u>
Sludge	09/03/14 07:26	09/03/14 15:50	16,002	AF
Sludge	09/03/14 07:26	09/03/14 15:50	3,712	AF
Sludge	09/04/14 07:22	09/04/14 11:30	5,391	AF
Sludge	09/04/14 07:22	09/04/14 11:30	11,784	AF
Sludge	09/08/14 07:26	09/08/14 12:15	4,101	HW
Sludge	09/10/14 07:34	09/10/14 17:00	8,513	AF
Sludge	09/12/14 07:02	09/12/14 19:00	27,303	AF

geometric mean of 7 samples = 8,624 Colonies/g dry

TOTAL SOLIDS (STANDARD METHOD 2540B-1997)

<u>Sample</u>	<u>Col. Date</u>	<u>Analysis Date</u>	<u>Conc. (%)</u>	<u>Analyst</u>
Sludge	09/03/14	09/03/14	17.4	AF
Sludge	09/03/14	09/03/14	17.3	AF
Sludge	09/04/14	09/04/14	15.9	AF
Sludge	09/04/14	09/04/14	15.9	AF
Sludge	09/08/14	09/08/14	18.1	HW
Sludge	09/10/14	09/10/14	16.4	AF
Sludge	09/12/14	09/12/14	18.2	AF

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

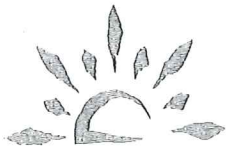
Staci Hickman

Staci Hickman, QA/QC Manager

9/29/14

Date

State of Florida, NELAC Lab Certification # E87542



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ANALYSIS OF A WWTP SLUDGE SAMPLE

Location: Veolia Southside WWTP
Contact Person: Scott Milner

All values are on a dry weight basis

FECAL COLIFORM (SM9222D)

<u>Sample</u>	<u>Col. Date/Time</u>	<u>Analysis Date/Time</u>	<u>Colonies/g dry</u>	
			<u>Concentration</u>	<u>Analyst</u>
Sludge	11/10/14 07:17	11/10/14 16:00	113,994	HW
Sludge	11/10/14 07:17	11/10/14 16:00	62,899	HW
Sludge	11/11/14 07:20	11/11/14 13:50	39,411	AF
Sludge	11/11/14 07:20	11/11/14 13:50	43,360	AF
Sludge	11/12/14 07:15	11/12/14 19:05	38,999	AF
Sludge	11/13/14 07:29	11/13/14 17:30	11,596	AF
Sludge	11/14/14 07:28	11/14/14 17:20	25,310	AF

geometric mean of 7 samples = 39,161 Colonies/g dry

TOTAL SOLIDS (STANDARD METHOD 2540B-1997)

<u>Sample</u>	<u>Col. Date</u>	<u>Analysis Date</u>	<u>Conc. (%)</u>	<u>Analyst</u>
Sludge	11/10/14	11/10/14	16.4	HW
Sludge	11/10/14	11/10/14	16.1	HW
Sludge	11/11/14	11/11/14	17.1	AF
Sludge	11/11/14	11/11/14	17.0	AF
Sludge	11/12/14	11/12/14	14.4	AF
Sludge	11/13/14	11/13/14	16.4	AF
Sludge	11/14/14	11/14/14	16.4	AF

Method Sources:

Std. Methods for the Exam. of Water and Wastewater, 20th Ed.

Staci Hickman
Staci Hickman, QA/QC Manager

11/18/14
Date

State of Florida, NELAC Lab Certification # E87542

PLANT AND COLLECTION SYSTEM PERSONNEL INVENTORY

FACILITY NAME: H. C. Morgan WPCF

PLANT GRADE: IV

PERMIT NUMBER: AL0050237

PLANT SUPERINTENDENT: Staley E. Fincher

TEL. # (334) 826-7340

SYSTEM MANAGER: Mikel Thompson

TEL. # (334) 501-3060

PLANT OPERATORS:

NAME	GRADE OR TRAINEE STATUS	OPERATOR NO.	EXP. DATE
1. <u>Segrist Harrison, Jr.</u>	III	C000142	08/31/17
2. <u>Staley E. Fincher</u>	IV	C000223	08/31/17
3. <u>Claude Travis</u>	III	C005542	11/30/16
4. <u>Eric S. Stokes</u>	IV	C005493	10/31/16
5. <u>Chet Musgrove</u>	IV	C007428	06/30/17
6. <u>David Jones</u>	IV	C006274	05/31/15
7. <u>Willis Scott</u>	II	C007810	09/30/17
8. <u>Shane Campbell</u>	TRAINEE		
9. _____			
10. _____			

COLLECTION SYSTEM OPERATORS:

1. <u>Mikel Thompson</u>	1C	C005950	09/30/16
2. <u>Lorenza Pendleton</u>	1C	C003495	02/28/16
3. <u>John Knight</u>	1C	C003302	02/28/16
4. <u>James Segrest</u>	1C	C004169	06/30/17
5. <u>Tommy May</u>	1C	C007680	12/31/16
6. <u>Jeff Smith</u>	1C	C006321	10/31/17
7. <u>Francis West</u>	1C	C007471	05/31/16

MANAGEMENT/SUPERVISOR	30/20**	2
OPERATOR(S):		
GRADE I-C	80	7
GRADE I		
GRADE II	40	1
GRADE III	84	2
GRADE IV	84	3
DESIGNATED TRAINEE(S)	0	2
LABORATORY	0	0
MAINTENANCE	40	1
OTHER PLANT WORKERS	0	0

AVERAGE NUMBER OF EMPLOYEES PER SHIFT:

1ST	5	Start Time	0700
2ND	1	Start Time	1900
	7	Collection Start Time	0600

* Grade III - 2 operators, Operators alternate working 12 hr/day, 7 day/wk shifts.

OPERATOR SHIFTS NORMALLY WORKED EACH DAY:

** Collection System Supervisor hours split between NS and HCM (20 hrs/ea)

	SUN	MON	TUES	WED	THURS	FRI	SAT	
1ST	0600-1800	0600-1800	0600-1800	0600-1800	0600-1800	0600-1800	0600-1800	* Collection system operators work 0600 - 1430 M - F
2ND	1800-0600	1800-0600	1800-0600	1800-0600	1800-0600	1800-0600	1800-0600	
3RD	2/12 hr Shfts	2/12 hr Shfts	2/12 hr Shfts	2/12 hr Shfts	2/12 hr Shfts	2/12 hr Shfts	2/12 hr Shfts	

ADEM USE ONLY

1. DOES PLANT OPERATOR STAFFING COMPLY WITH DIVISION 10 OF ADEM ADMINISTRATIVE CODE?

YES	NO
X	
X	

2. DOES COLLECTION SYSTEM OPERATOR STAFFING COMPLY WITH DIVISION 10 OF ADEM ADMINISTRATIVE CODE?