

TN. DEPT. OF ENV. & CONSERVATION

FEB 20 2018

DIVISION OF WATER RESOURCES

**Chickasaw Trails WWTP  
Cayce, Mississippi**

**2017 Annual Report**

**NPDES Permit No. MS0060046**

# 2017 Annual Report

|   |  |
|---|--|
| Facility Physical Address:  | Chickasaw Trails WWTP<br>1019 Dogwood Road<br>Cayce, MS 38611<br>901.598.2806                      |
| NPDES Permit No.:   | MS0060046-001  |
| Responsible Official:   | Justin Hall<br>Executive Director<br>520 J.M. Ash Drive<br>Holly Springs, MS 38635<br>662.252.3916 |
| Facility Operator:  | Robert Richmond<br>Project Manager<br>1019 Dogwood Road<br>Cayce, MS 38611<br>901.598.2806         |
| Land Applier:   | Denali Water Solutions<br>35 Refreshment Place<br>Decatur, AL 35601<br>256-274-4233                |
| Dry Tons of Biosolids Used or Disposed:   |  |
| Land Applied:   | <u>3.56 dry tons (OR) 3.23 dry metric tons</u>   |
| Landfilled:   | <u>0</u>   |
| Metal Analysis:   | See Attached.  |
| TCLP and PCB Analysis:  | See Attached.  |
| Description of Pathogen Reduction<br>Alternative and Vector Attraction<br>Reduction Option:       | See Attached Certification Statements.   |
| Pathogen Reduction and Vector<br>Attraction Reduction Test Results<br>or Sample Operational Data: | See Attached.  |
| Field Loadings:   | See Attached.  |

# Metal Analysis



4/5/2017

Metro Desoto WWTP  
Mr. Robert Richmond  
11299 Stateline Rd  
Olive Branch, MS, 38654

Ref: Analytical Testing  
Lab Report Number: 17-083-0254  
Client Project Description: Chickasaw Trails

Dear Mr. Robert Richmond:  
Waypoint Analytical, Inc. received sample(s) on 3/24/2017 for the analyses presented in the following report.

The above referenced project has been analyzed per your instructions. The analyses were performed in accordance with the applicable analytical method.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, method validations, instrumentation maintenance and calibration for all parameters (NELAP and non-NELAP) were performed in accordance with guidelines established by the USEPA (including 40 CFR 136 Method Update Rule May 2012) and NELAC unless otherwise indicated. Any parameter for which the laboratory is not officially NELAP accredited is indicated by a '-' symbol. These are not included in the scope because NELAP accreditation is either not available or has not been applied for. Additional certifications may be held/are available for parameters, where NELAP accreditation is not required or applicable. A full list of certifications is available upon request.

Certain parameters (chlorine, pH, dissolved oxygen, sulfite...) are required to be analyzed within 15 minutes of sampling. Usually, but not always, any field parameter analyzed at the laboratory is outside of this holding time. Refer to sample analysis time for confirmation of holding time compliance.

The results are shown on the attached Report of Analysis(s). Results for solid matrices are reported on an as-received basis unless otherwise indicated. This report shall not be reproduced except in full and relates only to the samples included in this report.

Please do not hesitate to contact me or client services if you have any questions or need additional information.

Sincerely,

Randy Thomas  
Project Manager

*Laboratory's liability in any claim relating to analyses performed shall be limited to, at laboratory's option, repeating the analysis in question at laboratory's expense, or the refund of the charges paid for performance of said analysis.*

|                 |                    |                  |                        |                   |
|-----------------|--------------------|------------------|------------------------|-------------------|
| Alabama #40750  | Louisiana #04015   | VA NELAP #460181 | Texas #T104704180-11-6 | Arkansas #88-0650 |
| Mississippi     | California #2904   | NC #415          | Oklahoma #9311         | Virginia #00106   |
| Kentucky #90047 | Tennessee #TNO2027 | EPA #TNO0012     | Kentucky UST #41       |                   |





2790 Whitten Road, Memphis, TN 38133  
Main 901.213.2400 ° Fax 901.213.2440  
[www.waypointanalytical.com](http://www.waypointanalytical.com)

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Client: Metro Desoto WWTP  
Project: Chickasaw Trails  
Lab Report Number: 17-083-0254  
Date: 4/5/2017

**CASE NARRATIVE**

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All analytes are being reported on a dry weight basis and as received basis.



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02809  
 Metro Desoto WWTP  
 Mr. Robert Richmond  
 11299 Stateline Rd  
 Olive Branch, MS 38654

Project Chickasaw Trails  
 Information :

Report Date : 4/5/2017

Report Number : 17-083-0254

**REPORT OF ANALYSIS**

Received : 3/24/2017

Lab No : 96266  
 Sample ID : Digester

Matrix: Solids  
 Sampled: 3/23/2017 10:04

| Test                              | Results | Units | ML     | DF | Date / Time Analyzed | By  | Analytical Method |
|-----------------------------------|---------|-------|--------|----|----------------------|-----|-------------------|
| % Moisture                        | 96.5    | %     | 0.100  | 1  | 03/27/17 16:33       | CJR | 2540G-2011        |
| Ammonia Nitrogen                  | 89.0    | mg/Kg | 25.0   | 1  | 04/04/17 09:00       | ZBD | 4500NH3C-2011     |
| Biochemical Oxygen Demand (5-day) | 6670    | mg/Kg | 1200   | 1  | 03/24/17 11:03       | DB2 | 5210B-2011        |
| COD (Chemical Oxygen Demand)      | 20300   | mg/Kg | 3000   | 20 | 03/27/17 09:00       | SNB | 5220D-2011        |
| Nitrate (NO3-N)                   | 20.9    | mg/Kg | 1.00   | 1  | 03/31/17 18:32       | BKN | 9056              |
| HEM: Oil and Grease               | <1210   | mg/Kg | 1210   | 1  | 04/03/17 09:00       | SMS | SW-9071B          |
| pH                                | 6.7     | s.u.  |        | 1  | 03/23/17 10:04       | FLD | FIELD             |
| Total Solids                      | 3.50    | %     | 0.100  | 1  | 03/27/17 16:33       | CJR | 2540G-2011        |
| Total Kjeldahl Nitrogen           | 1140    | mg/Kg | 50.0   | 1  | 04/04/17 14:25       | CLP | 4500NORGD-2011    |
| Total Phosphorus                  | 336     | mg/Kg | 25.0   | 1  | 04/04/17 14:27       | CLP | 365.4             |
| Total Arsenic                     | <1.00   | mg/Kg | 1.00   | 1  | 04/03/17 22:08       | KKM | 6010C             |
| Total Cadmium                     | <0.100  | mg/Kg | 0.100  | 1  | 04/03/17 22:08       | KKM | 6010C             |
| Total Chromium                    | 1.73    | mg/Kg | 0.250  | 1  | 04/03/17 22:08       | KKM | 6010C             |
| Total Copper                      | 28.2    | mg/Kg | 0.250  | 1  | 04/03/17 22:08       | KKM | 6010C             |
| Total Lead                        | 0.941   | mg/Kg | 0.300  | 1  | 04/03/17 22:08       | KKM | 6010C             |
| Mercury (Total)                   | <0.0133 | mg/Kg | 0.0133 | 1  | 03/27/17 13:57       | ABC | 7471A             |
| Total Molybdenum                  | <0.250  | mg/Kg | 0.250  | 1  | 04/03/17 22:08       | KKM | 6010C             |
| Total Nickel                      | 1.19    | mg/Kg | 0.250  | 1  | 04/03/17 22:08       | KKM | 6010C             |
| Total Potassium                   | 116     | mg/Kg | 5.00   | 1  | 04/03/17 22:08       | KKM | 6010C             |
| Total Selenium                    | <1.00   | mg/Kg | 1.00   | 1  | 04/03/17 22:08       | KKM | 6010C             |
| Total Silver                      | <0.250  | mg/Kg | 0.250  | 1  | 04/03/17 22:08       | KKM | 6010C             |
| Total Zinc                        | 32.4    | mg/Kg | 0.500  | 1  | 04/03/17 22:08       | KKM | 6010C             |

**Qualifiers/  
 Definitions**

DF Dilution Factor

ML Method Quantitation Limit



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02809  
 Metro Desoto WWTP  
 Mr. Robert Richmond  
 11299 Stateline Rd  
 Olive Branch , MS 38654

Project Chickasaw Trails  
 Information :

Report Date : 4/5/2017

Report Number : **17-083-0254**

**REPORT OF ANALYSIS**

Received : 3/24/2017

Lab No : **96266**  
 Sample ID : **Digester**

Matrix: **Solids**  
 Sampled: **3/23/2017 10:04**

| Test                              | Results       | Units       | ML    | DF | Date / Time Analyzed | By  | Analytical Method |
|-----------------------------------|---------------|-------------|-------|----|----------------------|-----|-------------------|
| % Moisture                        | <b>96.5</b>   | %           | 0.100 | 1  | 03/27/17 16:33       | CJR | 2540G-2011        |
| Ammonia Nitrogen                  | <b>2540</b>   | mg/Kg - dry | 714   | 1  | 04/04/17 09:00       | ZBD | 4500NH3C-2011     |
| Biochemical Oxygen Demand (5-day) | <b>191000</b> | mg/Kg - dry | 34300 | 1  | 03/24/17 11:03       | DB2 | 5210B-2011        |
| COD (Chemical Oxygen Demand)      | <b>580000</b> | mg/Kg - dry | 85700 | 20 | 03/27/17 09:00       | SNB | 5220D-2011        |
| Nitrate (NO3-N)                   | <b>597</b>    | mg/Kg - dry | 28.6  | 1  | 03/31/17 18:32       | BKN | 9056              |
| HEM: Oil and Grease               | <34600        | mg/Kg - dry | 34600 | 1  | 04/03/17 09:00       | SMS | SW-9071B          |
| pH                                | <b>6.7</b>    | s.u.        |       | 1  | 03/23/17 10:04       | FLD | FIELD ~           |
| Total Solids                      | <b>3.50</b>   | %           | 0.100 | 1  | 03/27/17 16:33       | CJR | 2540G-2011        |
| Total Kjeldahl Nitrogen           | <b>32600</b>  | mg/Kg - dry | 1430  | 1  | 04/04/17 14:25       | CLP | 4500NORGD-2011    |
| Total Phosphorus                  | <b>9600</b>   | mg/Kg - dry | 714   | 1  | 04/04/17 14:27       | CLP | 365.4             |
| Total Arsenic                     | <28.6         | mg/Kg - dry | 28.6  | 1  | 04/03/17 22:08       | KKM | 6010C             |
| Total Cadmium                     | <2.86         | mg/Kg - dry | 2.86  | 1  | 04/03/17 22:08       | KKM | 6010C             |
| Total Chromium                    | <b>49.4</b>   | mg/Kg - dry | 7.14  | 1  | 04/03/17 22:08       | KKM | 6010C             |
| Total Copper                      | <b>806</b>    | mg/Kg - dry | 7.14  | 1  | 04/03/17 22:08       | KKM | 6010C             |
| Total Lead                        | <b>26.9</b>   | mg/Kg - dry | 8.57  | 1  | 04/03/17 22:08       | KKM | 6010C             |
| Mercury (Total)                   | <0.380        | mg/Kg - dry | 0.380 | 1  | 03/27/17 13:57       | ABC | 7471A             |
| Total Molybdenum                  | <7.14         | mg/Kg - dry | 7.14  | 1  | 04/03/17 22:08       | KKM | 6010C             |
| Total Nickel                      | <b>34.0</b>   | mg/Kg - dry | 7.14  | 1  | 04/03/17 22:08       | KKM | 6010C             |
| Total Potassium                   | <b>3310</b>   | mg/Kg - dry | 143   | 1  | 04/03/17 22:08       | KKM | 6010C             |
| Total Selenium                    | <28.6         | mg/Kg - dry | 28.6  | 1  | 04/03/17 22:08       | KKM | 6010C             |
| Total Silver                      | <7.14         | mg/Kg - dry | 7.14  | 1  | 04/03/17 22:08       | KKM | 6010C             |
| Total Zinc                        | <b>926</b>    | mg/Kg - dry | 14.3  | 1  | 04/03/17 22:08       | KKM | 6010C             |

**Qualifiers/  
 Definitions**

DF Dilution Factor

ML

Method Quantitation Limit

### Cooler Receipt Form

Customer Number: **02809**  
 Customer Name: **Metro Desoto WWTP**  
 Report Number: **17-083-0254**

#### Shipping Method

Fed Ex                      US Postal                       Lab                      Other :  
 UPS                              Client                              Courier                      Thermometer ID: #10

|   |                                      |  |   |
|---|--------------------------------------|--|---|
| Shipping container/cooler uncompromised?  | <input checked="" type="radio"/> Yes | No   |   |
| Number of coolers received  |                                      | 1  |   |
| Custody seals intact on shipping container/cooler?  | Yes                                  | No   | <input checked="" type="radio"/> Not Required |
| Custody seals intact on sample bottles?   | Yes                                  | No   | <input checked="" type="radio"/> Not Required |
| Chain of Custody (COC) present?   | <input checked="" type="radio"/> Yes | No   |   |
| COC agrees with sample label(s)?  | <input checked="" type="radio"/> Yes | No   |   |
| COC properly completed  | <input checked="" type="radio"/> Yes | No   |   |
| Samples in proper containers?   | <input checked="" type="radio"/> Yes | No   |   |
| Sample containers intact?   | <input checked="" type="radio"/> Yes | No   |   |
| Sufficient sample volume for indicated test(s)?   | <input checked="" type="radio"/> Yes | No   |   |
| All samples received within holding time?   | <input checked="" type="radio"/> Yes | No   |   |
| Cooler temperature in compliance?   | <input checked="" type="radio"/> Yes | No   |   |
| Cooler/Samples arrived at the laboratory on ice. Samples were considered acceptable as cooling process had begun. | <input checked="" type="radio"/> Yes | No   |   |
| Water - Sample containers properly preserved  | <input checked="" type="radio"/> Yes | No   | N/A   |
| Water - VOA vials free of headspace   | Yes                                  | No   | <input checked="" type="radio"/> N/A          |
| Trip Blanks received with VOAs  | Yes                                  | No   | <input checked="" type="radio"/> N/A          |
| Soil VOA method 5035 – compliance criteria met  | Yes                                  | No   | <input checked="" type="radio"/> N/A          |
| High concentration container (48 hr)  |                                      | Low concentration EnCore samplers (48 hr)  |   |
| High concentration pre-weighed (methanol -14 d)   |                                      | Low conc pre-weighed vials (Sod Bis -14 d) |   |
| Special precautions or instructions included?   | Yes                                  | <input checked="" type="radio"/> No        |   |

Comments:

Any regulatory non-compliance issues will be recorded on non-compliance report.

Signature: Rebekah Ross

Date & Time: 03/24/2017 12:57:57





CHAIN-OF-CUSTODY

|                 |              |
|-----------------|--------------|
| Kit ID:         | 0000078727   |
| Initiated By:   | Randy Thomas |
| Project Comment |              |

|  |   |   |  |
|--|---|---|--|
| Company Name<br><i>Mitchell Technical Services<br/>Metro Desoto WWTP</i> | Company Number<br>02809                   | Client Project Manager/Contact<br>Metro Desoto WWTP   | Purchase Order Number  |
| Site Name<br><i>Chickasaw Trails<br/>Sikes-Rehder Waste</i>              | Project Number                            | <input type="checkbox"/> RUSH - Additional charges apply<br><input type="checkbox"/> Special Detection Limits(s)<br>Date Results Needed | Method of Shipment<br><input type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> USPS<br><input type="checkbox"/> Courier <input type="checkbox"/> Client Drop Off<br>Other |
| LIMS Project ID  | Project Manager Phone #<br>(662) 893 0773 | Project Manager Email   | Site/Facility ID #   |

| Date    | Time | Sample ID | Matrix  | Grab/Comp | # of Cont | Container Type | Preservation          | Analyses                       |
|---------|------|-----------|---------|-----------|-----------|----------------|-----------------------|--------------------------------|
| 3/23/17 | 1004 | Digester  | Aqueous | G         | 1         | Plastic - Pint | NONE                  | pH/TSS/BOD                     |
| 3/23/17 | 1004 | Digester  | Aqueous | G         | 1         | Plastic - Pint | H2SO4 - Sulfuric Acid | COO                            |
| 3/23/17 | 1004 | Digester  | Aqueous | G         | 1         | Plastic - Pint | HNO3 - Nitric Acid    | As/Cd/Cr/Cu/Pb/Hg/Ni/Ag/?<br>n |
| 3/23/17 | 1004 | Digester  | Aqueous | G         | 1         | Glass - 4oz    | H2SO4 - Sulfuric Acid | O&G                            |

| For Laboratory Use Only           |                      |              | Sampled by (Name - Print)    |                      | Client Remarks/Comments  |                      |  |  |
|-----------------------------------|----------------------|--------------|------------------------------|----------------------|--------------------------|----------------------|--|--|
| Ice<br>Y/N                        | Custody Seals<br>Y/N | Lab Comments | <i>Ruth</i>                  |                      | <i>Sample pH is low</i>  |                      |  |  |
|                                   |                      |              | Relinquished by: (SIGNATURE) | Date Time            | Received by: (SIGNATURE) | Date Time            |  |  |
|                                   |                      |              |                              | <i>3/24/17 12:55</i> | <i>[Signature]</i>       | <i>3/24/17 12:55</i> |  |  |
|                                   |                      |              | Relinquished by: (SIGNATURE) | Date Time            | Received by: (SIGNATURE) | Date Time            |  |  |
|                                   |                      |              |                              | <i>3/24/17 12:40</i> | <i>[Signature]</i>       | <i>3/24/17 12:40</i> |  |  |
| Blank/Cooler Temp<br><i>1.0°C</i> |                      | <i>T-10</i>  | Relinquished by: (SIGNATURE) | Date Time            | Received by: (SIGNATURE) | Date Time            |  |  |
|                                   |                      |              | <i>[Signature]</i>           |                      | <i>[Signature]</i>       |                      |  |  |

# TCLP and PCB Analysis



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 www.waypointanalytical.com

02809  
 Metro Desoto WWTP  
 Mr. Robert Richmond  
 11299 Stateline Rd  
 Olive Branch , MS 38654

Project Chickasaw Trails WWTP  
 Information :

Report Date : 05/24/2017  
 Received : 5/16/2017

*Randall H. Thomas*

Report Number : 17-136-0254

**REPORT OF ANALYSIS**

Randy Thomas  
 Project Manager

Lab No : 97353  
 Sample ID : Sludge

Matrix: Sludge  
 Sampled: 5/15/2017 13:35

| Test                      | Results  | Units | ML | DF | Date / Time Analyzed | By  | Analytical Method |
|---------------------------|----------|-------|----|----|----------------------|-----|-------------------|
| TCLP Herbicide Extraction | Combined |       |    | 1  | 05/18/17 17:50       | SAJ | SW-1311           |
| TCLP Metals Extraction    | Combined |       |    | 1  | 05/18/17 17:50       | SAJ | SW-1311           |
| TCLP Pesticide Extraction | Combined |       |    | 1  | 05/18/17 17:50       | SAJ | SW-1311           |
| TCLP SVOC Extraction      | Combined |       |    | 1  | 05/18/17 17:50       | SAJ | SW-1311           |
| TCLP VOC ZHE Extraction   | Combined |       |    | 1  | 05/18/17 18:03       | SAJ | SW-1311 (ZHE)     |

Analytical Method: 6010C      Prep Batch(es): L333788    05/19/17 10:40  
 Prep Method: 3005A

| Test          | Results | Units | ML    | DF | Date / Time Analyzed | By  | Analytical Batch |
|---------------|---------|-------|-------|----|----------------------|-----|------------------|
| TCLP Arsenic  | <0.025  | mg/L  | 0.025 | 1  | 05/19/17 20:03       | KKM | L333998          |
| TCLP Barium   | 0.050   | mg/L  | 0.025 | 1  | 05/19/17 20:03       | KKM | L333998          |
| TCLP Cadmium  | <0.005  | mg/L  | 0.005 | 1  | 05/19/17 20:03       | KKM | L333998          |
| TCLP Chromium | <0.010  | mg/L  | 0.010 | 1  | 05/22/17 17:48       | KKM | L334088          |
| TCLP Lead     | <0.010  | mg/L  | 0.010 | 1  | 05/22/17 17:48       | KKM | L334088          |
| TCLP Selenium | <0.050  | mg/L  | 0.050 | 1  | 05/19/17 20:03       | KKM | L333998          |
| TCLP Silver   | <0.005  | mg/L  | 0.005 | 1  | 05/19/17 20:03       | KKM | L333998          |

**Qualifiers/  
 Definitions**

DF Dilution Factor

ML Method Quantitation Limit

02809  
Metro Desoto WWTP  
Mr. Robert Richmond  
11299 Stateline Rd  
Olive Branch , MS 38654

Project Chickasaw Trails WWTP  
Information :

Report Date : 05/24/2017  
Received : 5/16/2017

*Randell H. Thomas*

Report Number : 17-136-0254

**REPORT OF ANALYSIS**

Randy Thomas  
Project Manager

Lab No : 97353  
Sample ID : Sludge

Matrix: Sludge  
Sampled: 5/15/2017 13:35

| Analytical Method: 7470A        |           | Prep Batch(es): L333803 |                 | 05/19/17 11:25 |                      |     |                  |
|---------------------------------|-----------|-------------------------|-----------------|----------------|----------------------|-----|------------------|
| Prep Method: 7470A              |           |                         |                 |                |                      |     |                  |
| Test                            | Results   | Units                   | MQL             | DF             | Date / Time Analyzed | By  | Analytical Batch |
| TCLP Mercury                    | <0.0200   | mg/L                    | 0.0200          | 1              | 05/19/17 16:52       | ABC | L333835          |
| Analytical Method: 8081A        |           | Prep Batch(es): L334123 |                 | 05/22/17 18:00 |                      |     |                  |
| Prep Method: 3510C              |           |                         |                 |                |                      |     |                  |
| Test                            | Results   | Units                   | MQL             | DF             | Date / Time Analyzed | By  | Analytical Batch |
| TCLP Endrin                     | <0.001600 | mg/L                    | 0.001600        | 10             | 05/23/17 01:47       | VIC | L334285          |
| TCLP gamma-BHC                  | <0.001600 | mg/L                    | 0.001600        | 10             | 05/23/17 01:47       | VIC | L334285          |
| TCLP Methoxychlor               | <0.001600 | mg/L                    | 0.001600        | 10             | 05/23/17 01:47       | VIC | L334285          |
| TCLP Toxaphene                  | <0.01200  | mg/L                    | 0.01200         | 10             | 05/23/17 01:47       | VIC | L334285          |
| TCLP Chlordane                  | <0.008000 | mg/L                    | 0.008000        | 10             | 05/23/17 01:47       | VIC | L334285          |
| TCLP Heptachlor Epoxide         | <0.001600 | mg/L                    | 0.001600        | 10             | 05/23/17 01:47       | VIC | L334285          |
| TCLP Heptachlor                 | <0.001600 | mg/L                    | 0.001600        | 10             | 05/23/17 01:47       | VIC | L334285          |
| Surrogate: Decachlorobiphenyl   | 82.04     |                         | Limits: 36-116% | 10             | 05/23/17 01:47       | VIC | L334285          |
| Surrogate: Tetrachloro-m-xylene | 41.21     |                         | Limits: 25-123% | 10             | 05/23/17 01:47       | VIC | L334285          |
| Analytical Method: 8151A        |           | Prep Batch(es): L333930 |                 | 05/22/17 08:00 |                      |     |                  |
| Prep Method: 8151A              |           |                         |                 |                |                      |     |                  |
| Test                            | Results   | Units                   | MQL             | DF             | Date / Time Analyzed | By  | Analytical Batch |
| TCLP 2,4-D                      | <0.0200   | mg/L                    | 0.0200          | 1              | 05/23/17 14:11       | VIC | L334303          |

**Qualifiers/  
Definitions**

DF Dilution Factor

MQL Method Quantitation Limit



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02809  
 Metro Desoto WWTP  
 Mr. Robert Richmond  
 11299 Stateline Rd  
 Olive Branch, MS 38654

Project Chickasaw Trails WWTP  
 Information :

Report Date : 05/24/2017  
 Received : 5/16/2017

*Randell H. Thomas*

Report Number : 17-136-0254

**REPORT OF ANALYSIS**

Randy Thomas  
 Project Manager

Lab No : 97353  
 Sample ID : Sludge

Matrix: Sludge  
 Sampled: 5/15/2017 13:35

Analytical Method: 8151A      Prep Batch(es): L333930      05/22/17 08:00  
 Prep Method: 8151A

| Test                   | Results | Units | MLQ             | DF | Date / Time Analyzed | By  | Analytical Batch |
|------------------------|---------|-------|-----------------|----|----------------------|-----|------------------|
| TCLP 2,4,5-TP (Silvex) | <0.0020 | mg/L  | 0.0020          | 1  | 05/23/17 14:11       | VIC | L334303          |
| Surrogate: DCAA        | 48.00   |       | Limits: 20-120% | 1  | 05/23/17 14:11       | VIC | L334303          |

Analytical Method: 8260B      Prep Batch(es): L333973      05/20/17 12:09  
 Prep Method: 5030B

| Test                               | Results | Units | MLQ             | DF | Date / Time Analyzed | By  | Analytical Batch |
|------------------------------------|---------|-------|-----------------|----|----------------------|-----|------------------|
| TCLP Benzene                       | <0.0100 | mg/L  | 0.0100          | 1  | 05/20/17 19:21       | LAT | L334002          |
| TCLP Carbon Tetrachloride          | <0.0100 | mg/L  | 0.0100          | 1  | 05/20/17 19:21       | LAT | L334002          |
| TCLP Chlorobenzene                 | <0.0100 | mg/L  | 0.0100          | 1  | 05/20/17 19:21       | LAT | L334002          |
| TCLP Chloroform                    | <0.0100 | mg/L  | 0.0100          | 1  | 05/20/17 19:21       | LAT | L334002          |
| TCLP 1,4-Dichlorobenzene           | <0.0100 | mg/L  | 0.0100          | 1  | 05/20/17 19:21       | LAT | L334002          |
| TCLP 1,2-Dichloroethane            | <0.0100 | mg/L  | 0.0100          | 1  | 05/20/17 19:21       | LAT | L334002          |
| TCLP 1,1-Dichloroethene            | <0.0100 | mg/L  | 0.0100          | 1  | 05/20/17 19:21       | LAT | L334002          |
| TCLP Methyl Ethyl Ketone (MEK)     | <0.200  | mg/L  | 0.200           | 1  | 05/20/17 19:21       | LAT | L334002          |
| TCLP Tetrachloroethene             | <0.0100 | mg/L  | 0.0100          | 1  | 05/20/17 19:21       | LAT | L334002          |
| TCLP Trichloroethene               | <0.0100 | mg/L  | 0.0100          | 1  | 05/20/17 19:21       | LAT | L334002          |
| TCLP Vinyl Chloride                | <0.0100 | mg/L  | 0.0100          | 1  | 05/20/17 19:21       | LAT | L334002          |
| Surrogate: 4-Bromofluorobenzene    | 98.4    |       | Limits: 71-137% | 1  | 05/20/17 19:21       | LAT | L334002          |
| Surrogate: Dibromofluoromethane    | 95.4    |       | Limits: 70-128% | 1  | 05/20/17 19:21       | LAT | L334002          |
| Surrogate: 1,2-Dichloroethane - d4 | 88.8    |       | Limits: 63-136% | 1  | 05/20/17 19:21       | LAT | L334002          |
| Surrogate: Toluene-d8              | 95.4    |       | Limits: 70-130% | 1  | 05/20/17 19:21       | LAT | L334002          |

**Qualifiers/Definitions**

DF Dilution Factor      MLQ Method Quantitation Limit

02809  
Metro Desoto WWTP  
Mr. Robert Richmond  
11299 Stateline Rd  
Olive Branch , MS 38654

Project Chickasaw Trails WWTP  
Information :

Report Date : 05/24/2017  
Received : 5/16/2017

*Randell H. Thomas*

Report Number : 17-136-0254

**REPORT OF ANALYSIS**

Randy Thomas  
Project Manager

Lab No : 97353  
Sample ID : Sludge

Matrix: Sludge  
Sampled: 5/15/2017 13:35

Analytical Method: 8270C      Prep Batch(es): L334021      05/22/17 11:00  
Prep Method: 3510C

| Test                                 | Results | Units | ML              | DF | Date / Time Analyzed | By  | Analytical Batch |
|--------------------------------------|---------|-------|-----------------|----|----------------------|-----|------------------|
| TCLP 2-Methylphenol                  | <0.020  | mg/L  | 0.020           | 1  | 05/22/17 16:16       | CGC | L334103          |
| TCLP 3&4 Methylphenol                | <0.040  | mg/L  | 0.040           | 1  | 05/22/17 16:16       | CGC | L334103          |
| TCLP 2,4-Dinitrotoluene              | <0.020  | mg/L  | 0.020           | 1  | 05/22/17 16:16       | CGC | L334103          |
| TCLP Hexachlorobenzene               | <0.020  | mg/L  | 0.020           | 1  | 05/22/17 16:16       | CGC | L334103          |
| TCLP Hexachlorobutadiene             | <0.020  | mg/L  | 0.020           | 1  | 05/22/17 16:16       | CGC | L334103          |
| TCLP Hexachloroethane                | <0.020  | mg/L  | 0.020           | 1  | 05/22/17 16:16       | CGC | L334103          |
| TCLP Nitrobenzene                    | <0.020  | mg/L  | 0.020           | 1  | 05/22/17 16:16       | CGC | L334103          |
| TCLP Pentachlorophenol               | <0.040  | mg/L  | 0.040           | 1  | 05/22/17 16:16       | CGC | L334103          |
| TCLP Pyridine                        | <0.020  | mg/L  | 0.020           | 1  | 05/22/17 16:16       | CGC | L334103          |
| TCLP 2,4,5-Trichlorophenol           | <0.020  | mg/L  | 0.020           | 1  | 05/22/17 16:16       | CGC | L334103          |
| TCLP 2,4,6-Trichlorophenol           | <0.020  | mg/L  | 0.020           | 1  | 05/22/17 16:16       | CGC | L334103          |
| Surrogate: TCLP 2,4,6-Tribromophenol | 52.6    |       | Limits: 40-125% | 1  | 05/22/17 16:16       |     | L334103          |
| Surrogate: TCLP 2-Fluorobiphenyl     | 49.5    |       | Limits: 38-107% | 1  | 05/22/17 16:16       |     | L334103          |
| Surrogate: TCLP 2-Fluorophenol       | 26.9    |       | Limits: 20-110% | 1  | 05/22/17 16:16       |     | L334103          |
| Surrogate: TCLP 4-Terphenyl-d14      | 74.3    |       | Limits: 33-122% | 1  | 05/22/17 16:16       |     | L334103          |
| Surrogate: TCLP Nitrobenzene-d5      | 54.3    |       | Limits: 29-110% | 1  | 05/22/17 16:16       |     | L334103          |
| Surrogate: TCLP Phenol-d6            | 21.0    |       | Limits: 10-115% | 1  | 05/22/17 16:16       |     | L334103          |

**Qualifiers/  
Definitions**

DF Dilution Factor

ML Method Quantitation Limit

6/15/2017

Metro Desoto WWTP  
Mr. Robert Richmond  
11299 Stateline Rd  
Olive Branch, MS, 38654

Ref: Analytical Testing  
Lab Report Number: 17-160-0296  
Client Project Description: Chickasaw Trails WWTP

Dear Mr. Robert Richmond:  
Waypoint Analytical, Inc. received sample(s) on 6/9/2017 for the analyses presented in the following report.

The above referenced project has been analyzed per your instructions. The analyses were performed in accordance with the applicable analytical method.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, method validations, instrumentation maintenance and calibration for all parameters (NELAP and non-NELAP) were performed in accordance with guidelines established by the USEPA (including 40 CFR 136 Method Update Rule May 2012) and NELAC unless otherwise indicated. Any parameter for which the laboratory is not officially NELAP accredited is indicated by a '~' symbol. These are not included in the scope because NELAP accreditation is either not available or has not been applied for. Additional certifications may be held/are available for parameters, where NELAP accreditation is not required or applicable. A full list of certifications is available upon request.

Certain parameters (chlorine, pH, dissolved oxygen, sulfite...) are required to be analyzed within 15 minutes of sampling. Usually, but not always, any field parameter analyzed at the laboratory is outside of this holding time. Refer to sample analysis time for confirmation of holding time compliance.

The results are shown on the attached Report of Analysis(s). Results for solid matrices are reported on an as-received basis unless otherwise indicated. This report shall not be reproduced except in full and relates only to the samples included in this report.

Please do not hesitate to contact me or client services if you have any questions or need additional information.

Sincerely,



Randy Thomas  
Project Manager

*Laboratory's liability in any claim relating to analyses performed shall be limited to, at laboratory's option, repeating the analysis in question at laboratory's expense, or the refund of the charges paid for performance of said analysis.*

|                 |                    |                  |                        |                   |
|-----------------|--------------------|------------------|------------------------|-------------------|
| Alabama #40750  | Louisiana #04015   | VA NELAP #460181 | Texas #T104704180-11-6 | Arkansas #88-0650 |
| Mississippi     | California #2904   | NC #415          | Oklahoma #9311         | Virginia #00106   |
| Kentucky #90047 | Tennessee #TN02027 | EPA #TN00012     | Kentucky UST #41       |                   |



02809

Metro Desoto WWTP  
 Mr. Robert Richmond  
 11299 Stateline Rd  
 Olive Branch , MS 38654

Project Chickasaw Trails WWTP  
 Information :

Report Date : 6/15/2017

Report Number : **17-160-0296**

**REPORT OF ANALYSIS**

Received : 6/9/2017

Lab No : **96879**  
 Sample ID : **Digester Sludge**

Matrix: **Solids**  
 Sampled: **6/8/2017 13:03**

| Test                            | Results | Units | ML              | DF | Date / Time Analyzed | By  | Analytical Method |
|---------------------------------|---------|-------|-----------------|----|----------------------|-----|-------------------|
| Aroclor 1016                    | <0.0749 | mg/Kg | 0.0749          | 1  | 06/15/17 04:10       | VIC | 8082              |
| Aroclor 1221                    | <0.0749 | mg/Kg | 0.0749          | 1  | 06/15/17 04:10       | VIC | 8082              |
| Aroclor 1232                    | <0.0749 | mg/Kg | 0.0749          | 1  | 06/15/17 04:10       | VIC | 8082              |
| Aroclor 1242                    | <0.0749 | mg/Kg | 0.0749          | 1  | 06/15/17 04:10       | VIC | 8082              |
| Aroclor 1248                    | <0.0749 | mg/Kg | 0.0749          | 1  | 06/15/17 04:10       | VIC | 8082              |
| Aroclor 1254                    | <0.0749 | mg/Kg | 0.0749          | 1  | 06/15/17 04:10       | VIC | 8082              |
| Aroclor 1260                    | <0.0749 | mg/Kg | 0.0749          | 1  | 06/15/17 04:10       | VIC | 8082              |
| Surrogate: Decachlorobiphenyl   | 63.1    |       | Limits: 25-125% | 1  | 06/15/17 04:10       | VIC | 8082              |
| Surrogate: Tetrachloro-m-xylene | 93.8    |       | Limits: 25-125% | 1  | 06/15/17 04:10       | VIC | 8082              |

**Qualifiers/  
Definitions**

DF

Dilution Factor

ML

Method Quantitation Limit



**Cooler Receipt Form**

Customer Number: **02809**  
 Customer Name: **Metro Desoto WWTP**  
 Report Number: **17-160-0296**

**Shipping Method**

Fed Ex       US Postal       Lab       Other :   
 UPS       Client       Courier      Thermometer ID: #8

|   |                                      |   |   |
|---|--------------------------------------|---|---|
| Shipping container/cooler uncompromised?  | <input checked="" type="radio"/> Yes | <input type="radio"/> No  |   |
| Number of coolers received  | <input type="text" value="1"/>       |   |   |
| Custody seals intact on shipping container/cooler?  | <input type="radio"/> Yes            | <input type="radio"/> No  | <input checked="" type="radio"/> Not Required |
| Custody seals intact on sample bottles?   | <input type="radio"/> Yes            | <input type="radio"/> No  | <input checked="" type="radio"/> Not Required |
| Chain of Custody (COC) present?   | <input checked="" type="radio"/> Yes | <input type="radio"/> No  |   |
| COC agrees with sample label(s)?  | <input checked="" type="radio"/> Yes | <input type="radio"/> No  |   |
| COC properly completed  | <input checked="" type="radio"/> Yes | <input type="radio"/> No  |   |
| Samples in proper containers?   | <input checked="" type="radio"/> Yes | <input type="radio"/> No  |   |
| Sample containers intact?   | <input checked="" type="radio"/> Yes | <input type="radio"/> No  |   |
| Sufficient sample volume for indicated test(s)?   | <input checked="" type="radio"/> Yes | <input type="radio"/> No  |   |
| All samples received within holding time?   | <input checked="" type="radio"/> Yes | <input type="radio"/> No  |   |
| Cooler temperature in compliance?   | <input checked="" type="radio"/> Yes | <input type="radio"/> No  |   |
| Cooler/Samples arrived at the laboratory on ice. Samples were considered acceptable as cooling process had begun. | <input checked="" type="radio"/> Yes | <input type="radio"/> No  |   |
| Water - Sample containers properly preserved  | <input type="radio"/> Yes            | <input type="radio"/> No  | <input checked="" type="radio"/> N/A          |
| Water - VOA vials free of headspace   | <input type="radio"/> Yes            | <input type="radio"/> No  | <input checked="" type="radio"/> N/A          |
| Trip Blanks received with VOAs  | <input type="radio"/> Yes            | <input type="radio"/> No  | <input checked="" type="radio"/> N/A          |
| Soil VOA method 5035 – compliance criteria met  | <input type="radio"/> Yes            | <input type="radio"/> No  | <input checked="" type="radio"/> N/A          |
| <input type="checkbox"/> High concentration container (48 hr)   |                                      | <input type="checkbox"/> Low concentration EnCore samplers (48 hr)  |   |
| <input type="checkbox"/> High concentration pre-weighed (methanol -14 d)  |                                      | <input type="checkbox"/> Low conc pre-weighed vials (Sod Bis -14 d) |   |
| Special precautions or instructions included?   | <input type="radio"/> Yes            | <input checked="" type="radio"/> No                                 |   |

Comments:

Signature:

Date & Time:



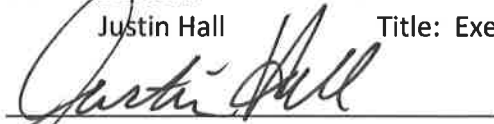
Description of Pathogen Reduction Alternative  
and Vector Attraction Reduction Option  
Certification

## Certification

"I certify, under penalty of law, that the information that will be used to determine compliance with the Class B pathogen requirements in Appendix C and the vector attraction reduction requirement in Section 3.1.3(d) was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Project(s): Chickasaw Trails WWTP  
Reporting Period: September - December 2017  
Name: Justin Hall Title: Executive Director

Signature:



Date:

2/5/2018

The Class B pathogen requirements were met through Subsection 3.1.2.2 – Class B Alternative 1. Seven representative samples of the biosolids that were applied to the land were collected and the geometric mean of the density of fecal coliform in the samples collected was less than 2,000,000 MPN or 2,000,000 CFU per gram of total solids (dry weight basis).

The vector attraction reduction requirement was met through Subsection 3.1.3(d). The specific oxygen uptake rate (SOUR) for the biosolids treated in an aerobic process was less than or equal to 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius.

# Pathogen Reduction and Vector Attraction Reduction Data



2790 Whitten Road, Memphis, TN 38133  
 Main 901.213.2400 ° Fax 901.213.2440  
 www.waypointanalytical.com

02809  
 Metro Desoto WWTP  
 Mr. Robert Richmond  
 11299 Stateline Rd  
 Olive Branch , MS 38654

Project Chickasaw Trails WWTP  
 Information : Digester Sludge

Report Date : 5/30/2017

Report Number : 17-143-0275

**REPORT OF ANALYSIS**

Received : 5/23/2017

Lab No : 93502  
 Sample ID : Grab 1

Matrix: Solids  
 Sampled: 5/23/2017 8:06

| Test                 | Results | Units       | MQL   | DF | Date / Time Analyzed | By  | Analytical Method |
|----------------------|---------|-------------|-------|----|----------------------|-----|-------------------|
| Fecal Coliform MPN/g | 333000  | MPN/g - dry | 90900 | 1  | 05/23/17 14:40       | SBA | 9221E-2011        |
| % Moisture           | 96.7    | %           | 0.100 | 1  | 05/24/17 15:02       | CJR | 2540G-2011        |

Lab No : 93503  
 Sample ID : Grab 2

Matrix: Solids  
 Sampled: 5/23/2017 8:06

| Test                 | Results | Units       | MQL   | DF | Date / Time Analyzed | By  | Analytical Method |
|----------------------|---------|-------------|-------|----|----------------------|-----|-------------------|
| Fecal Coliform MPN/g | <83300  | MPN/g - dry | 83300 | 1  | 05/23/17 14:40       | SBA | 9221E-2011        |
| % Moisture           | 96.4    | %           | 0.100 | 1  | 05/24/17 15:02       | CJR | 2540G-2011        |

Lab No : 93504  
 Sample ID : Grab 3

Matrix: Solids  
 Sampled: 5/23/2017 8:06

| Test                 | Results | Units       | MQL   | DF | Date / Time Analyzed | By  | Analytical Method |
|----------------------|---------|-------------|-------|----|----------------------|-----|-------------------|
| Fecal Coliform MPN/g | 164000  | MPN/g - dry | 53600 | 1  | 05/23/17 14:40       | SBA | 9221E-2011        |
| % Moisture           | 94.4    | %           | 0.100 | 1  | 05/24/17 15:02       | CJR | 2540G-2011        |

Lab No : 93505  
 Sample ID : Grab 4

Matrix: Solids  
 Sampled: 5/23/2017 8:06

| Test                 | Results | Units       | MQL   | DF | Date / Time Analyzed | By  | Analytical Method |
|----------------------|---------|-------------|-------|----|----------------------|-----|-------------------|
| Fecal Coliform MPN/g | <81100  | MPN/g - dry | 81100 | 1  | 05/23/17 14:40       | SBA | 9221E-2011        |
| % Moisture           | 96.3    | %           | 0.100 | 1  | 05/24/17 15:02       | CJR | 2540G-2011        |

**Qualifiers/  
 Definitions**

DF

Dilution Factor

MQL

Method Quantitation Limit



2790 Whitten Road, Memphis, TN 38133  
 Main 901.213.2400 ° Fax 901.213.2440  
 www.waypointanalytical.com

02809  
 Metro Desoto WWTP  
 Mr. Robert Richmond  
 11299 Stateline Rd  
 Olive Branch , MS 38654

Project Chickasaw Trails WWTP  
 Information : Digester Sludge

Report Date : 5/30/2017

Report Number : 17-143-0275

**REPORT OF ANALYSIS**

Received : 5/23/2017

Lab No : 93506  
 Sample ID : Grab 5

Matrix: Solids  
 Sampled: 5/23/2017 8:06

| Test                 | Results | Units       | MQL   | DF | Date / Time Analyzed | By  | Analytical Method |
|----------------------|---------|-------------|-------|----|----------------------|-----|-------------------|
| Fecal Coliform MPN/g | 796000  | MPN/g - dry | 55600 | 1  | 05/23/17 14:40       | SBA | 9221E-2011        |
| % Moisture           | 94.6    | %           | 0.100 | 1  | 05/24/17 15:02       | CJR | 2540G-2011        |

Lab No : 93507  
 Sample ID : Grab 6

Matrix: Solids  
 Sampled: 5/23/2017 8:06

| Test                 | Results | Units       | MQL   | DF | Date / Time Analyzed | By  | Analytical Method |
|----------------------|---------|-------------|-------|----|----------------------|-----|-------------------|
| Fecal Coliform MPN/g | 65500   | MPN/g - dry | 54500 | 1  | 05/23/17 14:40       | SBA | 9221E-2011        |
| % Moisture           | 94.5    | %           | 0.100 | 1  | 05/24/17 15:02       | CJR | 2540G-2011        |

Lab No : 93508  
 Sample ID : Grab 7

Matrix: Solids  
 Sampled: 5/23/2017 8:06

| Test                 | Results | Units       | MQL   | DF | Date / Time Analyzed | By  | Analytical Method |
|----------------------|---------|-------------|-------|----|----------------------|-----|-------------------|
| Fecal Coliform MPN/g | <88200  | MPN/g - dry | 88200 | 1  | 05/23/17 14:40       | SBA | 9221E-2011        |
| % Moisture           | 96.6    | %           | 0.100 | 1  | 05/24/17 15:02       | CJR | 2540G-2011        |

**Qualifiers/  
 Definitions**

DF

Dilution Factor

MQL

Method Quantitation Limit

**Geometric Mean Calculation**

Date: 5/30/2017

Analyst: C. Cook

Report Number: 17-143-0275

| # | Sample Number | Measured Values |                 |            | Conversion to Dry Weight |                  |
|---|---------------|-----------------|-----------------|------------|--------------------------|------------------|
|   |               | MPN Index Value | Highest ml used | % moisture | % solids                 | Dry Weight MPN/g |
| 1 | L 93502       | 11,000.0        | 0.001           | 96.7       | 0.03                     | 333,333          |
| 2 | L 93503       | 2,999.0         | 0.001           | 96.4       | 0.04                     | 83,306           |
| 3 | L 93504       | 9,200.0         | 0.001           | 94.4       | 0.06                     | 164,286          |
| 4 | L 93505       | 2,999.0         | 0.001           | 96.3       | 0.04                     | 81,054           |
| 5 | L 93506       | 43,000.0        | 0.001           | 94.6       | 0.05                     | 796,296          |
| 6 | L 93507       | 3,600.0         | 0.001           | 94.5       | 0.06                     | 65,455           |
| 7 | L 93508       | 2,999.0         | 0.001           | 96.6       | 0.03                     | 88,206           |

Geometric Mean (using above values)

149,891.5





August 10, 2017

Jeff Retzke  
Denali Water Solutions  
35 Refreshment Place  
Decatur, AL 35601

We appreciate the opportunity to provide our services to you on this project. Please find attached the data for the sample(s) listed below:

| <u>LabNumber</u> | <u>Sample Description</u>   | <u>Date/Time Collected</u> | <u>Date Submitted</u> |
|------------------|-----------------------------|----------------------------|-----------------------|
| 1710800-01       | Outflow Sludge Holding Tank | 8/3/17 11:35               | 8/3/17                |

ENERSOLV is accredited to ISO/IEC 17025:2005 by Laboratory Accreditation Bureau and to the TNI 2003 Standard by the Florida Department of Health. Our quality system also meets relevant quality system requirements of ISO 9001:2008. Not all tests performed by ENERSOLV are covered by these accreditations. Tests within our scope of accreditation are indicated by an asterisk (\*) in the Test Result section of this report. Tests not included in the accreditations are performed in accordance with ENERSOLV Standard Operating Procedures and the quality control program using, where applicable, USEPA methodology.

This cover page and the attached chain-of-custody record(s) are integral parts of your report. ENERSOLV considers this report your official record. This information shall remain in ENERSOLV's active database for a period of one (1) calendar year before archiving. Any replacement of this information after archiving may result in an administrative fee to cover the cost of retrieval.

If you have any questions or would like more information regarding these analyses, please call us at (256) 350-0846.

Karen Sutton  
Vice President Client Services



**SAMPLE RESULTS REPORT**

Report Date/Time: 08/10/2017 11:33

| REPORT TO  |
|--|
| Jeff Retzke<br>Denali Water Solutions<br>35 Refreshment Place<br>Decatur, AL 35601 |



NELAP  
 Accredited  
 Florida DOH  
 #E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

ENERSOLV also maintains ISO/IEC 17025 accreditation through Laboratory Accreditation Bureau for the specific tests listed in L-A-B Certificate #L2239 scope of accreditation.

Tests within the scope of accreditation are indicated by an asterisk (\*).

*This report may contain information that is confidential and/or proprietary. This information is intended for the addressee only and may not be copied or disseminated except in full without the written consent of ENERSOLV Corporation.*



Cert# L2239 Testing

ADEM  
 Drinking Water  
 Certification  
 No. 40160

| Analyte Name | Result | Units | Qual | Regulatory Limit |
|--------------|--------|-------|------|------------------|
|--------------|--------|-------|------|------------------|

Sample Point: Outflow Sludge Holding Tank

Sample ID: 1710800-01

Collected: 08/03/2017

Submitted: 08/03/2017

***Inorganics***

|                                  |       |               |  |  |
|----------------------------------|-------|---------------|--|--|
| Specific Oxygen Consumption Rate | 0.899 | (mg/g)/h (dw) |  |  |
|----------------------------------|-------|---------------|--|--|



**SAMPLE RESULTS REPORT**

Report Date/Time: 08/10/2017 11:33

| REPORT TO  |
|--|
| Jeff Retzke<br>Denali Water Solutions<br>35 Refreshment Place<br>Decatur, AL 35601 |



NELAP  
Accredited  
Florida DOH  
#E871078

ENERSOLV maintains National Environmental Laboratory Accreditation Program (NELAP) accreditation through Florida Department of Health (#E871078). Some tests included in this report may not be covered by this accreditation.

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Cert# L2239 Testing

ADEM  
Drinking Water  
Certification  
No. 40160

All calculations are performed prior to rounding per EPA and *Standard Methods* requirements.

**Data Qualifiers:**

< Less than reporting limit

**Analysis Information**

| Lab Number | Analysis                    | SpecificMethod | Analyst | Analysis Start Date/Time | Analysis End Date/Time |
|------------|-----------------------------|----------------|---------|--------------------------|------------------------|
| 1710800-01 | Specific Oxygen Uptake Rate | SM 2710B       | SH      | 08/03/2017 15:25         |                        |

The results contained in this report are only representative of the sample(s) received.



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

www.enersolv.com

| COMPANY/CLIENT NAME         |                             | CLIENT P. O. NUMBER                   |                           | ENERSOLV PROJECT NUMBER           |      |
|-----------------------------|-----------------------------|---------------------------------------|---------------------------|-----------------------------------|------|
| Denali Water                |                             | 1619                                  |                           |                                   |      |
| CLIENT POINT OF CONTACT     |                             | CLIENT PHYSICAL ADDRESS               |                           | CITY/STATE/ZIP                    |      |
| Jeff Retzke                 |                             | 35 Refreshment Place                  |                           | Decatur, AL 35601                 |      |
| CLIENT EMAIL                |                             | OTHER INFORMATION                     |                           |                                   |      |
| jeff_retzke@denaliwater.com |                             | 2565034300                            |                           | Chickasaw Trails WWTP, Caycee, MS |      |
| SAMPLE COLLECTED BY         |                             | EXPEDITED REPORT DELIVERY (SURCHARGE) |                           |                                   |      |
| Jeff Retzke                 |                             | DATE DUE (REQUIRED)                   |                           |                                   |      |
| ENERSOLV LAB NUMBER         | SAMPLE DESCRIPTION          | SAMPLE TRANSFER/GRAB DATE             | SAMPLE TRANSFER/GRAB TIME | GRAB COMP                         | SOUR |
| 1710800-01                  | Outflow Sludge Holding Tank | 8/3/2017                              | 11:35                     | x                                 | x    |

**REQUESTED ANALYSES**

|  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |
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**Comments:**

Collector to complete shaded areas, as applicable

SAMPLE TEMPERATURE RECEIVED @ \_\_\_\_\_

| SAMPLER INFORMATION                        |                              |                              |                              | FIELD INFORMATION   |      |           |      |
|--|------------------------------|------------------------------|------------------------------|---|------|-----------|------|
| Start Date                                 | TRC mg/l                     | DO mg/l                      | Temp deg C                   | Qty   | Type | Parameter |      |
| Start Date                                 | Date                         | Date                         | Date                         |   |      |           |      |
| Stop Date                                  | Date                         | Date                         | Date                         |   |      |           |      |
| Start Time                                 | Time                         | Time                         | Time                         |   |      |           |      |
| Stop Time                                  | Time                         | Time                         | Time                         |   |      |           |      |
| Analyst                                    | Analyst                      | Analyst                      | Analyst                      |   |      |           |      |
| SM 4500H+B                                 | SM 4500-CI D                 | SM 4500-O G                  | SM 2550B                     |   |      |           |      |
| RELINQUISHED BY: (SIGNATURE)               | RELINQUISHED BY: (SIGNATURE) | RELINQUISHED BY: (SIGNATURE) | RELINQUISHED BY: (SIGNATURE) | DATE  | DATE | DATE      | DATE |
| 8/3/17                                     | 8/3/17                       | 14:04                        |                              |   |      |           |      |
| RECEIVED BY: (SIGNATURE)                   | RECEIVED BY: (SIGNATURE)     | RECEIVED BY: (SIGNATURE)     | RECEIVED BY: (SIGNATURE)     | TIME  | TIME | TIME      | TIME |
|  |                              |                              |                              |   |      |           |      |
| RECEIVED FOR LABORATORY USE BY (SIGNATURE) | DATE                         | TIME                         | DATE                         | SAMPLE STATUS   |      |           |      |
| Shub                                       | 8-3-17                       | 1404                         |                              | <input checked="" type="checkbox"/> Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted with Exception |      |           |      |

# Field Loadings

Reporting Period  
1-1-17 to 12-31-17

Field Name: TN-FA-1 County: Shelby  
 Latitude/Longitude: 35.136145 / -89.553261  
 Physical Address: Nuckolls Road, Rossville, TN 38066  
 Owner Name: J.E. Nuckolls Trust  
 Operator Name: Gary Jamerson  
 Crop (1st/2nd): 1st - Bermuda Hay / 2nd - N/A  
 Application Rate: 6,857 Gallons/Acre  
 Allowed PAN Rate: 200 lbs PAN/Acre  
 Total Acres: 108.4  
 Utilized Acres: 3.5  
 Residual Nitrogen: 0 lbs PAN/Acre

Application Dates: 9-27-17 to 9-28-17  
 Total Gallon Applied: 24,000  
 Total Dry Ton Applied: 3.56  
 Total DTI/Ac Applied: 1.02

| Customer              | Product   | Volume         | Total Dry Tons | Total Dry Tons | N     | P2O5  | K2O  | As    | Cd    | Cr    | Cu    | Pb    | Hg    | Mn    | Mo    | Ni    | Se    | Zn    |
|-----------------------|-----------|----------------|----------------|----------------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Chickasaw Trails WWTP | Biosolids | 24,000 Gallons | 3.56           | 3.56           | 25.21 | 44.46 | 8.24 | 0.058 | 0.006 | 0.101 | 1.644 | 0.055 | 0.001 | 0.015 | 0.069 | 0.069 | 0.058 | 1.889 |

| Cumulative Loading Rates (lbs/ac) |       |       |       |       |       |       |       |       |       |       |  |  |  |  |  |  |  |  |
|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|--|--|--|--|--|--|--|
| As                                | Cd    | Cr    | Cu    | Pb    | Hg    | Mn    | Mo    | Ni    | Se    | Zn    |  |  |  |  |  |  |  |  |
| 0.058                             | 0.006 | 0.101 | 1.644 | 0.055 | 0.001 | 0.015 | 0.069 | 0.069 | 0.058 | 1.889 |  |  |  |  |  |  |  |  |

**Denali Water Solutions  
2017 Land Applier  
Certification Statements**

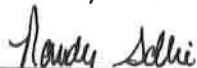
## Certification

"I certify, under penalty of law, that the information that will be used to determine compliance with the management practices in Section 3.2 was prepared for each site on which bulk sewage sludge was applied under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

"I certify, under penalty of law, that the information that will be used to determine compliance with the site restrictions in Subsection 3.1.2.3 for each site on which Class B biosolids were applied was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

Project(s): Chickasaw Trails WWTP  
Reporting Period: September - December 2017  
Name: Randy Sollie

Denali Water

Signature: 

Date: 1-17-18

The following management practices were observed and/or followed:

- (a) Water-Quality Setbacks
- (b) Agronomic Rate for Nitrogen
- (c) Weather-Related Restrictions
- (d) Soils Restrictive Site Conditions
- (e) Threatened and Endangered Species
- (f) Contaminant Loading Rates
- (g) Notification to Land Owners

The following site restrictions were observed and/or followed:

- (a) Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after application.
- (b) Food crops with harvested parts below the land surface shall not be harvested for 20 months after application if the biosolids remain on the land surface for four months or more prior to incorporation into the soil.
- (c) Food crops with harvested parts below the land surface shall not be harvested for 38 months after application if the biosolids remain on the land surface for less than four months prior to incorporation into the soil.
- (d) Other food crops and feed crops shall not be harvested from the land for 30 days after application.
- (e) Animals shall not be allowed to graze on the land for 30 days after application.
- (f) Turf grown on land where biosolids are applied shall not be harvested for one year after application if the harvested turf is placed on either land with a high potential for public exposure or a lawn.
- (g) Public access to land with a high potential for public exposure shall be restricted for one year after application.
- (h) Public access to land with a low potential for public exposure shall be restricted for 30 days after application.