## Municipal Water Pollution Prevention (MWPP) Annual Report Calendar Year 2013

For the

### Jefferson County Wastewater Treatment Plants

as required by the Alabama Department of Environmental Management NPDES Program



Prepared by Jefferson County Commission Environmental Services Department

May 31, 2014

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For the

#### **Cahaba River WWTP**

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May 31, 2014

#### JEFFERSON COUNTY COMMISSION



DAVID CARRINGTON - PRESIDENT GEORGE F. BOWMAN SANDRA LITTLE BROWN - PRESIDENT PRO TEMPORE T. JOE KNIGHT JAMES A."JIMMIE" STEPHENS

May 31, 2014

Mr. Nic Caraway, Water Division Alabama Department of Environmental Management Water Division – Municipal Branch P.O. Box 301463 Montgomery, AL 36130-1463

RE: Municipal Water Pollution Prevention (MWPP)

Annual Report Calendar Year 2013

Mr. Caraway:

The Jefferson County Environmental Services Department submits the above referenced report for the Cahaba River Wastewater Treatment Facility, NPDES Permit No. AL0023027. Included is information as required in ADEM Form 41701/06ml, bypass/overflow event reports, MWPP Sewage Sludge Survey, and the Plant & Collection System Personnel Inventory.

If you have any questions regarding this information, please contact me at 205.325.5979 or Celeste Brown at Jefferson County Barton Laboratory at 205.238.3859.

Sincerely,

David Denard, Director Environmental Services Department

DAVID CARRINGTON - COMMISSIONER

TONY PETELOS, COUNTY MANAGER

Office of

**ENVIRONMENTAL SERVICES** 

Director of Environmental Services

716 Richard Arrington, Jr. Blvd. N. Birmingham, Alabama 35203 Telephone (205) 325-5496

DAVID DENARD

Fax (205) 325-5981

Suite A-300

pc: Celeste Brown, JCESD Barton Laboratory
Daniel White, JCESD Deputy Director
Gary Nelson, Cahaba River WWTP

# MUNICIPAL WATER POLLUTION PREVENTION (MWPP) ANNUAL REPORT

#### SUBMITTED BY:

TREATMENT FAC	NPDES #:_AL0023027	
MUNICIPALITY:_	Jefferson County Environmental Services Dept.	COUNTY:Jefferson
CONTACT PERSO	N: David Denard	
	Municipal Official	
	Director of Environmental Services	
	Title	
	Telephone #: 205-325-5979	Fax #: 205-325-5239
	Email Address: denardd@jccal.org	
CHIEF OPERATO	R: Gary Nelson	
	Name	
	Telephone #:_205-987-0648	Fax #:_ <sup>205-402-7427</sup>
	Email Address: nelsong@jccal.org	
	Date: May 14, 2014	
REVIEWED BY:	Daniel White P.E., ESD Engineer	
	Consulting Engineer	
	Telephone #: 205 214 8610	Fax #: 205 325 5688
	Date: May 14, 2014	

#### MWPP Annual Report Information Source List

The following information will be needed to complete the compliance maintenance report that covers the calendar year of 2013 (due May 31, 2014 ).

- Part 1 A. The average plant influent flow for each month (million gallons per day/MGD) during the year.
  - B. The average plant influent BOD (CBOD) for each month (mg/l and lb/day) in the year.
  - C. The 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 the year
  - B. The monthly average effluent limits and DMR loading for BOD, TSS, NH3-N, and/or TKN in lbs/day for the year
- Part 3 The age of the 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 minus the year the new construction was brought on-line.
- Part 4 Bypass and overflow information. This is the number of bypass or overflow events of untreated wastewater due to heavy rain or equipment failure whether intentional or inadvertent from all collection systems tributary to the treatment facility.
- Part 5 A. Describe the characteristics and quantity of sludge generated.
  - B. If sludge is landspread, how many months of sludge storage does the plant have? This should include on-site and off-site storage from the treatment plant. The digestor capacity may be used in the calculation.
- Part 6 A. Sludge Disposal Method
  - B. The number of approved land disposal sites for sludge available, and how many months or years these disposal sites will these be available for use.
- Part 7 The number of sewer extensions installed in the community last year--the design population, design flow, and design BOD for each sewer extension.
- Part 8 Operator Certification
- Part 9 Financial Status
- Part 10 Subjective Evaluation
- Part 11 Summary Sheet

State of Alabama MWPP Annual Report Department of Environmental Management

#### 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 the actions necessary to prevent effluent violations. Enter the point totals from Parts 1 through 8 on Part 11: Summary Sheet.
- 3. Add the point totals on Part 11: Summary Sheet.
- 4. Submit the MWPP Report to the governing body and the consulting engineer and owner for review and approval.
- 5. The governing body should pass a resolution which contains the following points:
  - a. The resolution should acknowledge the governing body or owner has reviewed the MWPP Report.
  - b. The resolution should indicate what actions will be taken to prevent effluent violations.
  - c. The resolution should provide any other information the governing body or owner deems appropriate.
- 6. The MWPP Report and the resolution must be submitted by May 31<sup>st</sup> to Municipal Section, Water Division, ADEM, P.O. Box 301463, Montgomery, AL 36130-1463.

Facility Name:	Cahaba River WWTP	

#### Part 1: Influent Loading/Flows

A. List the average monthly volumetric flows and BOD<sub>5</sub> (CBOD<sub>5</sub>) loadings received at your facility during the last calendar year.

<u>Month</u>	Column 1 Average Monthly Flowrate (MGD)	Column 2 Average Monthly BOD <sub>5</sub> (CBOD <sub>5</sub> ) Concentration (mg/l)	Column 3 Average Loading BOD <sub>5</sub> (CBOD <sub>5</sub> ) (lbs/day**)
January	11.8	108	9612
February	12.3	85	8670
March	10.6	120	9761
April	9.5	117	9204
May	8.5	156	10600
June	8.9	140	10392
July	9.3	142	10922
August	10.0	107	8460
September	8.3	150	10398
October	5.5	169	7811
November	6.3	164	8357
December	10.0	110	8722
Annual Avg.	9.2	131	9409

<sup>\*\*</sup>As reported on NPDES Discharge Monitoring Reports (DMRs) and as required by EPA's NPDES Self-Monitoring System, User Guide, March 1985.

B. List the average design flow and average design BOD<sub>5</sub> loading for the facility below. If you are not aware of these design quantities, contact your consulting engineer or the Alabama Department of Environmental Management.

	Average Design Flow	Average Design BOD <sub>5</sub> Loading (lbs/day)
Design Criteria	12.0	19912
90% of the Design Criteria	10.8	17921

C. How many times did the monthly flow (Column 1) to the WWTP exceed 90% of design flow?

(Check the appropriate point total)

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

D. How many times did the monthly flow (Column 1) to the WWTP exceed the design flow?

(Check the appropriate point total)

$$0 = 0 \text{ points} \quad 1 - 2 = 5 \text{ points} \quad 3 - 4 = 10 \text{ points} \quad 5 \text{ or more} = 15 \text{ points}$$

E. How many times did the monthly BOD<sub>5</sub> (or CBOD<sub>5</sub>)\* loading (lbs/day) (Column 3) to the WWTP exceed 90% of the design loading? \_\_\_\_ (Check the appropriate point total)

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

F. How many times did the monthly BOD<sub>5</sub> (or CBOD<sub>5</sub>)\* loading (lbs/day) (Column 3) to the WWTP exceed the design loading? \_\_\_\_ (Check the appropriate point total)

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

G. Enter each point value marked for Cthrough F and enter the sum in the appropriate blank below.

C points 
$$=$$
 0

D points = 
$$\frac{5}{}$$

E points = 
$$0$$

F points = 
$$0$$

TOTAL POINTS VALUE OR PART 1 5

Enter this value on Part 11: Summary Sheet.

\*To obtain equivalent BOD<sub>5</sub> loading for comparison with design loading for those permittees using influent CBOD<sub>5</sub>, divide annual average CBOD<sub>5</sub>, 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 BOD<sub>5</sub>, (CBOD<sub>5</sub>) TSS, NH<sub>3</sub>-N and/or TKN concentration produced by the facility during the last calendar year.

#### (1) NPDES Permit Concentration

		BOD₅ (CBOD₅)	TSS	NH <sub>3</sub> -N	TKN
Permit	<u>Months</u>	(mg/l)	(mg/l)	(mg/l)	(mg/l)
Limit	Dec-April	10.0	30.0	2.0	4.0
	May-Nov	4.0	30.0	1.0	2.0

#### (2) DMR Concentration

<u>Qtr</u>	<u>Month</u>	BOD <sub>5</sub> (CBOD <sub>5</sub> ) (mg/l)	TSS (mg/l)	NH <sub>3</sub> -N (mg/l)	TKN (mg/l)
1	January	0.74	0.69	.003	0.27
	February	0.73	0.65	0.0	0.19
	March	0.80	1.35	0.0	0.25
2	April	0.57	0.72	.002	0.22
	May	0.55	1.77	0.0	0.25
	June	0.60	1.42	0.0	0.29
3	July	0.78	0.88	0.0	0.23
	August	0.78	0.82	0.0	0.22
	September	0.73	1.36	0.0	0.33
4	October	0.70	1.21	0.0	0.37
	November	0.72	0.33	0.0	0.35
	December	0.82	0.56	0.062	0.30
	Annual Avg.	0.71	0.98	0.01	0.27

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

ROD.

#### (1) NPDES Permit Loading

<b>.</b>	<u>Months</u>	$BOD_5$ (CBOD <sub>5</sub> ) (lbs/day)	TSS (lbs/day)	NH <sub>3</sub> -N (lbs/day)	TKN (lbs/day)
Permit Limit	May-Nov	400	3002	100	200
	Dec-April	1000	3002	200	400
(2) DM	R Loading				
<u>Qtr</u>	<u>Month</u>	BOD <sub>5</sub> (CBOD <sub>5</sub> ) (lbs/day)	TSS (lbs/day)	NH <sub>3</sub> -N (lbs/day)	TKN (lbs/day)
1	January	65	74	0.33	27
	February	75	65	0	19
	March	65	126	0	22
2	April	44	59	0.22	18
	May	38	125	0	17
	June	44	108	0	22
3	July	60	76	0	17
	August	66	65	0	18
	September	51	95	0	23
4	October	32	54	0	17
	November	38	21	0	18
	December	69	52	5.59	25
	Annual Avg.	54	77	0.51	20
4	November December	38 69	<u>21</u> <u>52</u>	5.59	1 - :

C. During the past year did the BOD<sub>5</sub> 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? (Check the appropriate point total.)

No = 
$$0$$
 points  $Yes = 121$  points

D.		ar did the BOD <sub>5</sub> concentration (mg/l) and/or loading (lbs/day), exermit limit during four months of any two consecutive quarters? at total.)	
	$N_0 = 0$ points	Yes = 121 points	

No = 
$$0$$
 points  $\frac{|\nabla|}{|\nabla|}$  Yes =  $121$  points

No = 
$$0$$
 points Yes =  $121$  points

No = 0 points 
$$Yes = 121$$
 points

No = 0 points 
$$Yes = 121 points$$

Faci	ility Name: Cahaba River WWTP	
Part	3: Age of the Wastewater Treatment Facility	
A.	What year was the wastewater treatment plant cons	
	Subtract the above answer from the report year to c	letermine age:
	Age = (Last Calendar year) - (Answer to A)	
	Age $\frac{8}{}$ = $(\underline{2013})$ - $(\underline{2005})$	_)
	Enter Age in Part C below.	
B.	Check the type of treatment facility employed.	
		Factor
	X Mechanical Treatment Plant	2.0
	Aerated Lagoon	1.5
	Stabilization Pond	1.0
	Other (Specify:)	1.0
C.	Multiply the factor listed next to the type of the fa	cility your community employs by the ago

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

$$\frac{2.0}{\text{(Factor)}}$$
 x  $\frac{8}{\text{(Age)}}$  =  $\frac{16}{\text{(Age)}}$  TOTAL POINT VALUE FOR PART 3

Enter the above value on Part 11: Summary Sheet. If the total point value exceeds 40, enter 40 on Part 11: Summary Sheet.

Faci	lity Name: Cahaba River WWTP
Part	4: Bypassing and Overflows
A.	How many bypass or overflow events of untreated wastewater occurred in the last year at the WWTP 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 WWTP due to heavy rain? 0
C.	How many of the bypass or overflow events listed in Parts A and B have been corrected such that future bypass or overflow events at the same location due to heavy rain are not anticipated?   Output
D.	Add together Answers A and B and subtract Answer C from that total.  A + B - C =(Check the appropriate point total.)  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 WWTP due to equipment failure? (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 WWTP? (This includes clogged/broken lines or manholes.) 16
G.	How many of the bypass or overflow events listed in Parts E and F have been corrected such that future bypass or overflow events at the same location due to the same equipment failure are not anticipated? 16
Н.	Add together Answers E and F and subtract Answer G from that total.  E + F - G = (Check the appropriate point total.)  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 point values circled in D and H and enter the total in the blank below.

TOTAL POINT VALUE FOR PART 4 DEnter this value on Part 11: Summary Sheet.

All bypass or overflow events that have occurred in the last year (for any reason) must be individually reported with this MWPP report.

Part :	5: Sludge Quantity and	Storage	
A.	<del>-</del>	nation concerning sludge quantity, chear as requested on the MWPP Sewage	
<b>B.</b>	available, either on-si	f sludge storage capacity does the variety te or off-site? (i.e., How many months osing of sludge?) 4 months	
	(Check the appropriate	<del>-</del>	
	Greater than or equal		$= 0 \text{ points } \boxed{\checkmark}$
		but greater than or equal to 3 months	= 10 points
		but greater than or equal to 2 months	= 20 points
	•	but greater than or equal to 1 month	= 30 points
	Less than one month		= 50 points
Part	6: Sludge Disposal Prac	etices and Sites	
A.		ludge disposal practices and site info	
B.		or years does the facility have access ride proper land disposal? (Check the	~ ~
	36 or more months	= 0 points	
	24 - 35 months	= 10 points	
	12 - 23 months	= 20 points 🔽	
	6 - 11 months	= 30 points	
	Less than 6 months	= 50 points	
тот	AL DODIT VALUE EC	ND DADT 6 20	
	AL POINT VALUE FOR this value on Part 11:	<del></del>	

Facility Name: Cahaba River WWTP	-			
Part 7: New Development				<del></del> -
Are there any major new calendar year or anticipated the sewage system could sign	l in the next 2-3 years	such that eith	er flow or BODs	loadings to
Design Population: Equivalent (PE)	Design Flow:	MGD	Design BOD <sub>5</sub> :	lbs/day
List industrial and/or resid	ential developments.			
No major new development planned	i.			
<del></del>				
Will the additional loading  No = 0 points $    $ Enter the point total in the b	Yes = 121 points	Theck the appro	opriate point total	.)
FOTAL POINT VALUE FOR PA Enter this value on Part 11: Summ		point total = 1	21)	
Part 8: Operator Certification				
Complete the Plant and Collection	n System Personnel Inv	entory, ADEN	1 Form 441.	
Do both the plant operator a Code; Division 10, Operator				
Yes = 0 points	No = $\frac{121}{120}$ points			
ΓΟΤΑL POINT VALUE FOR PA Enter this value on Part 11: Summ	ART 8 <u>0</u> (high	est point total	= 121)	

Faci	acility Name: Cahaba River WWTP							
Part	art 9: Financial Status		<del></del> .					
<b>A.</b> .	Are User-Charge Revenues sufficient to co how are O&M costs being financed? <i>Includ</i>	<del>-</del>	ntenance expenses? If no,					
	Revenues are sufficient. The below values are based on a	5/8" meter and 6,000 gallons wa	ater use. Jefferson					
	County has a three tier block rate structure for residential	users for 0-3, 4-6, and 7+ ccf wat	ter use.					
	Residential Minimum 15.00	Plus rate 6.02; 9.36; 10.69	/1,000 gal.					
	Industrial Minimum 15.00	_Plus rate	/1,000 gal.					
	Monthly residential rate based on 6,000 gal	llons usage \$_56.04 (include	es 15% credit for residential)					
	Please complete the above information based or ay attach a sample water and sewer bill for clar		s for the report year. You					
В.	. What financial resources are available to reconstruction needs?	o pay for the wastewa	ater improvements and/or					
	In 2013, Jefferson County issued Series 2013 Sewer Warr	In 2013, Jefferson County issued Series 2013 Sewer Warrants that fund capital improvements						
	through 2023 at an annual average rate of \$71.9 million over the 10-year period.							
<u>Part</u>	art 10: Subjective Evaluation							
A.	. Describe briefly the physical and structural of	conditions of the wastew	vater treatment facility.					
	Most of the WWTP was upgraded or newly constructed in	2005 and is in good condition. S	Some					
	equipment and processes were constructed in the 1970s,	80s, and 90s and are in fair to a	verage condition.					
	Maintenance and refurbishments are planned for assets no	eeding improvements.						
B.	. Describe the general condition of the sewer	system (sewer lines, ma	nholes, lift stations).					
	The Cahaba sewer system includes roughly 1,950,000' of	pipe and 23 pump stations. The	system's					
	performance is acceptable but showed a higher incidence	of SSOs than desired. SSES in	vestigations have					
	been completed, and repairs, replacements, and improver	been completed, and repairs, replacements, and improvements are planned for summer 2014.						

C.	What sewage system improvements does the community have planned for construction in the next 5 years?
	Cahaba River WWTP to Valley Creek WWTP Sludge Force Main; Repairs, replacements, and
	collection system rehabilitation bidding summer 2014; (4) Hoover area pump station improvements;
	Cahaba River WWTP Phase I (under construction) and Phase II TMDL Improvements.
D.	What is the theoretical design life of the plant, and what is the estimated remaining useful life of the wastewater treatment facility?
	The useful design life of structures is 50 years and associated mechanical and electrical equipment
	is between 15-25 years. Most of the WWTP was upgraded or newly constructed in 2005.
	The estimated remaining useful life is 42 years.
E.	What problems, if any, over the last year have threatened treatment or conveyance within the system?
	The SSOs in Cahaba in 2013 were primarily caused by blockages from grease.
	The County is committed to reducing preventable SSOs through improved maintenance practices
	and system renewal.
F.	Is the community presently involved in formal planning for treatment facility upgrading?
	No.
G.	How many days in the last year were there residential backups at any point in the collection system for any reason other than clogging of the lateral connection? 19
H.	Does the plant have a written plan for preventive maintenance on major equipment items? It yes, describe.
	Yes. O & M Manuals are used for all equipment maintenance schedules. Preventive maintenance schedules are input into
	the INFOR maintenance system and PM work orders are automatically generated. All equipment PM
	schedules and records are maintained in the INFOR system.

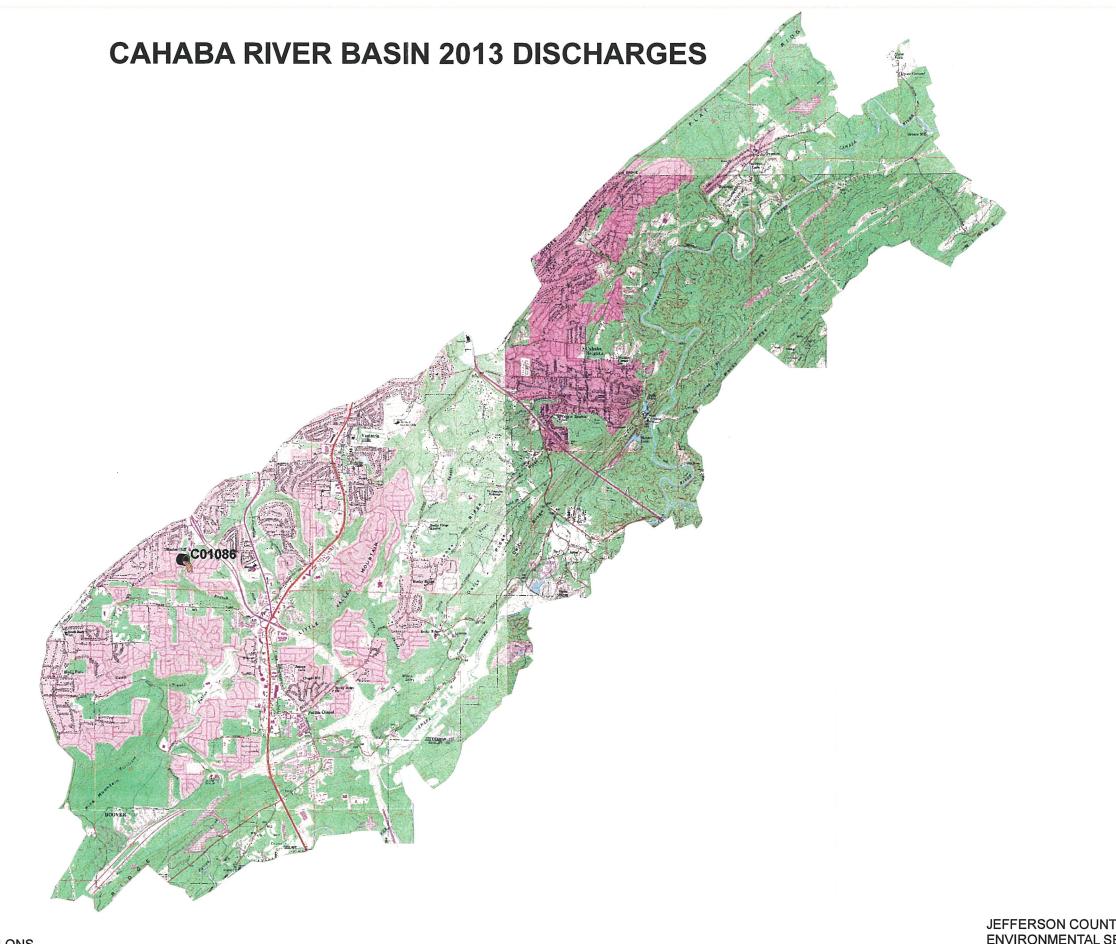
Does this preventive maintenance program depict frequency of intervals, types of lubrication, and other preventive maintenance tasks necessary for each piece of equipment? (Check the appropriate response.) Yes No
Are these preventive maintenance tasks, as well as equipment problems, being recorded and filed so future maintenance problems can be assessed properly? (Check the appropriate response.)  Yes  No
Describe any major repairs or mechanical equipment replacement made in the last year and include the approximate cost for those repairs. Do not include major treatment plant construction or upgrading programs.
UV Rebuild (2 Banks) \$133,128; UVT Analyzer \$17,000; Cerlic TSS Meter \$3,400;
Dewatering Press Gearboxes \$7,299; Al Seier Expansion Joint Replace \$9,000; A/C Blower Building \$6,000;
Dewatering Press Solids Meter \$2,400; BNR 25 HP Gear Box \$25,535
,
List any additional comments. (Attach additional sheets if necessary.)
None .

Facilit	y Name: Cahaba River WWTP	
Part 1	1: Summary Sheet	
1.		1 through 8 in the left column below. Add the numbers in the IWPP Report point total the wastewater system generated for
	Actual Values	Maximum Possible
	Part 1 5 points	80 points
	Part 2 o points	121 points
	Part 3 16 points	40 points
	Part 4 o points	200 points
	Part 5 <u>o</u> points	50 points
	Part 6 20 points	50 points
	Part 7 opoints	121 points
	Part 8 o points	121 points
	Total 41 points	783 points
2.	Check the facility type that best	describes the plant's treatment and disposal of wastewater.
<b>✓</b>	Mechanical plant with surface	water discharge
	Aerated Lagoon or stabilization	n pond with surface water discharge
	Mechanical plant using land di	sposal of liquid wastes
	Aerated Lagoon or stabilization	n pond using land disposal of liquid wastes
	0 - 70 pts. Actions	ne action needed to address problems identified in the report. as Appropriate*
<u> </u>		ental Recommendation Range* ality Action Range*
*Othe		NPDES outside the scope of this report.
4.	Complete the Municipal Water I	Pollution Prevention Resolution Form, ADEM Form 418.

In Question 1, do any of the actual point values in the left column equal the maxim possible points in the right column? (Check the appropriate response)  Yes  No
If yes, provide a written explanation for this situation in the space below.

# Cahaba River Wastewater Treatment Plant <u>ATTACHMENT 2</u> – Raw Sewage Bypass and <u>SUMMARY</u>







# Summary of Unpermitted Discharges - Cahaba River

January 01, 2013 through December 31, 2013

NOTE: Quantities shown in the column "Est. Volume" are ESTIMATED ONLY. These estimates are the County's best determination of the discharge volume, based upon site-determinable information and accepted estimating methods. However, such estimates are subject to a high number of variables which are completely beyond the County's control and which can have a significant effect upon the calculated amount. Therefore, these estimates are to be used for relative comparison only, not as actual discharge volumes.

Event No.	Date Reported	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
C01050	1/30/13 Notes:	1/30/13 2650 Gresham Drive	Cahaba	Ground Absorbed	312	Manhole	Grease/ Rags	Moderate Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
C01076	4/26/13 Notes:	C01076 4/26/13 220 Summitt Blvd Notes:	Cababa	Storm Drain	4,698	Manhole	Grease	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
C01077		4/30/13 2650 Gresham Dr	Cahaba	Little Shades Creek	172	Manhole	Grease/ Rags/ Rocks	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
C01086	8/9/13	8/9/13 2250 Sumpter SV 2317 Dartmouth Cahaba Ground Absorbed/ 36,052 Manhole Cons Dr Storm Drain/ Daning Huckleberry Ranch Branch Notes: Construction crews working at Shades Mountain Elementary knocked the ring and iid off of the manhole causing sewer lines to be filled with gravel.	Cahaba lementary knocked the ring (	Ground Absorbed/ Storm Drain/ Huckleberry Branch and lid off of the manhole	36,052	Manhole ines to be filled wi	Construction Damage/ Roots/ Rocks	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
C01103	12/29/13	12/29/13 3701 Chestnut Ridge Place otes:	Cahaba	Ground Absorbed	1,080	Manhole	Grease/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04325	1/14/13 otes: #2 pum	1/14/13 105 Summit BIvd (Summit PS) Cahaba Ground Absorbed 340 Pump Station P.S. Equipment Failure Failure Notes: #2 pump caught in the pump causing the main breaker to trip disabling both pumps. The breaker was reset which restored station and stopped overflow.	Cahaba main breaker 10 trip disabli	Ground Absorbed ing both pumps. The brea	340 ker was reset wi	Pump Station iich restored static	P.S. Equipment Failure m and stopped overflo	Moderate Rain w.	Pump Station Repaired	Brian Champion	Sewer Maintenance Supervisor

Page 2 of 3

NOTE: Quantities shown in the column "Est. Volume" are ESTIMATED ONLY. These estimates are the County's best determination of the discharge volume, based upon site-determinable information and accepted estimating methods. However, such estimates are subject to a high number of variables which are completely beyond the County's control and which can have a significant effect upon the calculated amount. Therefore, these estimates are to be used for relative comparison only, not as actual discharge volumes.

Modeling   174413   2240 Rocky Ridge Rd   Calabba   Ground Absorbed   1,948   Manhole   Rocky Rage   No Rain   Blochage   Blochage   Blochage   Storm Drain   Storm Drai	Date Reporte	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
Cahaba     Drainage Ditch     112     Manhole     Grease     Moderate       Cahaba     Hurricane Creek     756     Manhole     Debris/ Rags     Light       Cahaba     Storm Drain     678     Cleanout     Roots     No Rain       Cahaba     Ground Absorbed     120     Manhole     Grease/ Roots/     No Rain       Cahaba     Ground Absorbed     Cleanout     Plug in the Line     No Rain       Shades Greek     A,550     Cleanout     Debris     Rain       Cahaba     Storm Drain     50     Manhole     Grease/ Rags     No Rain	1/24,		Cahaba	Ground Absorbed	1,048	Manhole	Roots/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
Cahaba Storm Drain 678 Cleanout Roots No Rain  Cahaba Ground Absorbed 120 Manhole Grease/Roots/ No Rain  Cahaba Ground Absorbed Cleanout Plug in the Line No Rain  Cahaba Drainage Dict/ 4,550 Cleanout Debris Rags  Storm Drain 50 Manhole Grease/Rags No Rain	3/11, fotes:	13 2844 Regal Circle	Cahaba	Drainage Ditch/ Storm Drain	112	Manhole	Grease	Moderate Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
Cahaba Ground Absorbed 120 Manhole Grease/Roots/ No Rain Cahaba Ground Absorbed Cleanout Plug in the Line No Rain Shades Creek 4,550 Cleanout Debris Heavy Shades Creek Storm Drain 50 Manhole Grease/Rags No Rain	70,		Cahaba	Hurricane Creek	756	Manhole	Debris/ Rags	Light Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
Cahaba Ground Absorbed 120 Manhole Grease/ Roots/ No Rain  Cahaba Ground Absorbed Cleanout Plug in the Line No Rain  Cahaba Drainage Ditch/ 4,550 Cleanout Debris Heavy Shades Creek Satom Drain 50 Manhole Grease/ Rags No Rain	.00		Cahaba	Storm Drain	819	Cleanout	Roots	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
Cahaba Ground Absorbed Cleanout Plug in the Line No Rain  Cahaba Drainage Ditch/ 4,550 Cleanout Debris Heavy Rain  Cahaba Storm Drain 50 Manhole Grease/ Rags No Rain	9/5/ Votes:	i	Cahaba	Ground Absorbed	120	Manhole	Grease/ Roots/ Rags	No Rain	Blockage Repaired	Brian Champion	Sewer Maintenance Supervisor
11/26/13 3416 Water Oak Drive Cahaba Drainage Ditch/ 4,550 Cleanout Debris Heavy Shades Creek Shades Creek Rain Rain Rain Storm Drain 50 Manhole Grease/ Rags No Rain	10/16	<ol> <li>3224 Mockingbird Ln</li> <li>lume was not determinable.</li> </ol>	Cahaba	Ground Absorbed		Cleanout	Plug in the Line	No Rain	By-pass Pump Started	Brian Champion	Sewer Maintenance Supervisor
2000 Montreat Pkwy Cahaba Storm Drain 50 Manhole Grease/ Rags No Rain	11/26 lotes:	13 3416 Water Oak Drive	Cahaba	Drainage Ditch/ Shades Creek	4,550	Cleanout	Debris	Heavy Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
Notes:	11/29		Cahaba	Storm Drain	20	Manhole	Grease/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor

NOTE: Quantities shown in the column "Est. Volume" are ESTIMATED ONLY. These estimates are the County's best determination of the discharge volume, based upon site-determinable information and accepted estimating methods. However, such estimates are subject to a high number of variables which are completely beyond the County's control and which can have a significant effect upon the calculated amount. Therefore, these estimates are to be used for relative comparison only, not as actual discharge volumes.

Event No.	Event Date No. Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
M04481	wall Dr	Cahaba S		3,625	Manhole	Grease/ Rags No Rain	No Rain	orm Drain 3,625 Manhole Grease/ Rags No Rain Blockage Removed Brian Sewer Champion Maintenance Supervisor	Brian Champion	Sewer Maintenance Supervisor
M04499	<b>9</b>	Cahaba	Storm Drain	250	Manhole	Grease/ Roots	Moderate Rain	orm Drain 250 Manhole Grease/ Roots Moderate Blockage Removed Brian Sewer Rain Champion Maintenance Supervisor	Brian Champion	Sewer Maintenance Supervisor

# Cahaba River Wastewater Treatment Plant <u>ATTACHMENT 3</u> – MWPP Sewage Sludge <u>SURVEY</u>



#### **2013 MWPP SEWAGE SLUDGE SURVEY**

Facility Background Information:			4	
1. Facility Information		Permit N	Number:	AL0023027
Name:	Cahaba River Was	stewater Treatr	nent Plant	
Street Address:	3900 Veona Danie	els Road		
County:	Jefferson			
2. Facility Contact				
Name:	Gary Nelson			
Title:	Plant Manager			
Telephone:	(205) 987-0648	-		
Permittee Name:	Jefferson County (			
Mailing Address:	Suite A-300, 716 F		on, Jr. Blvd. N	•
	Birmingham, AL 3	5203		
Facility Flow Information				
Facility Wastewater Treatment 0	Canacity			
Avg. Daily Flow for 20		9.2	MGD	
Facility Design Capac		12.0	MGD	
, , ,				
2. Estimated Septage Quantity Har	ndled (Residuals Remov	ved from Seption	c Tank System	ns)
Average Domestic Se	ptage:	N/A	gallons pe	r month
Average Commercial	Septage:	N/A	gallons pe	r month
3. Method of Septage Processing  Mixed with Influer  Mixed with Sewa	•	tment //A		
4. Estimated Percentage Contribut	ing Wastewater Flow			
Residential: 90	=			
Industrial:	%			
Other: 10		cribe: Comme	ercial	
	^	<u> </u>	1010.1	<del> </del>
5. List type of wastewater treatmer		¥		
Screening, Grit Remo	oval, 5-Stage BNR Proce	ess, Clarificatio	n, Sand Filtrat	tion,
UV Disinfection				
6. Estimated sewage sludge wastir	ng rate at this facility:			lb/day dry weight
o. Loumatou oomago daago waatii	ng rate at the lacinty.	or 1	105,816	gallons per day
		or1	100,010	_ galloris per udy
7. Estimated untreated sludge rece	eived from off site:		N/A	lb/day dry weight
_		or		gallons per day
		•		_
8. Estimated percent solids of com	ibined sewage sludge p	rior to treatmer	nt:	1.0 %

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		(untre	Sludge Quantity eated pounds per day)
Thickening			<del>-</del>
Aerobic Digestio			
Mechanical Dewatering (Beli	t Filter Press)		-
10. Estimate the total volume of sludge	generated:	(dry	1,207 / U.S. tons per year)
Sludge Disposal Methods			
1. Which of the following describes the	current method of sewag Current F Approved by ADEM	Practices	Proposed Practices
	Yes No	Quantity (dry U.S. tons/year)	Approved by ADEM <u>Yes</u> <u>No</u>
a. 🗷 Land Application, Bulk Shipped	<u></u>	1,207	<u>100</u> 110
Agriculture Forest Public Contact Lawn/Home Garden	х		_
b. Land Application, Bagged/Other Container Agriculture Forest Public Contact Lawn/Home Garden			_
c. Incineration			_
d. Subtitle D Landfill (Disposal Only) e. Lined Treatment Lagoon or Stabilization Pond f. Unlined Lagoon or Stabilization Pond g. Other (Please Describe)			- - -
2. If "f" was selected above and sludge	is stored for 2 or more ye	- - ears, enter the distanc	e between the

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#### Pollutant Concentrations:

1A. Enter the total concentrations of the following analytes using existing data. Do not enter TCLP results.

Flat Top/Bessie	Minoo	Land	Paglamation Ci	1.
rial i ob/dessie	MILLES	Lanu	Recialitation S	ιe

	Concentration	Sample	Sample	Detection Level of
Analyte	(mg/kg or ppm)	Type	Date	Analysis (PQL), mg/kg
Arsenic	<pql< td=""><td>GRAB</td><td>*</td><td>11.0</td></pql<>	GRAB	*	11.0
Cadmium	<pql< td=""><td>GRAB</td><td>*</td><td>5.0</td></pql<>	GRAB	*	5.0
Chromium	19.3	GRAB	*	6.0
Copper	426.7	GRAB	*	5.0
Lead	<pql< td=""><td>GRAB</td><td>*</td><td>12.0</td></pql<>	GRAB	*	12.0
Mercury	1.2	GRAB	*	0.03
Molybdenum	8.1	GRAB	*	6.0
Nickel	20.0	GRAB	*	6.0
Selenium	<pql< td=""><td>GRAB</td><td>*</td><td>12.0</td></pql<>	GRAB	*	12.0
Zinc	781.7	GRAB	*	8.0
Ammonium- Nitrogen	N/A	N/A	*	N/A (.05)
Nitrate-				•
Nitrogen	N/A	N/A	*	N/A (.05)
Total Kjeldahl Nitrogen	49,333	GRAB	*	0.09

2. Enter the estimated or determined percent solids of the sewage sludge when sampled for the	above
analysis: 12 %	
Treatment Provided for Sewage Sludge at the Facility	
1. Which class of pathogen reduction does the sewage sludge meet at the facility? (As defined in	n
40 CFR Part 503)	
☐Class A	
Alternative A1 - Time and Temperature	
Alternative A2 - Alkaline Treatment	
Alternative A3 - Analysis and Operation	
Alternative A4 - Analysis Only	
Alternative A5 - Processes to Further Reduce Pathogens (PFRP)	
	reatment
_	Ray Irradiation
Composting	tay irradiation
Alternative A6 - PFRP Equivalent	
	····-
x Class B	
<del></del>	
x Alternative B1 - Fecal Coliform Count x Alternative B2 - Process to Significantly Reduce Pathogens (PSRP)	
	ahia Diazatian
	obic Digestion
Composting Lime Stabilization	
Alternative B3 - PSRP Equivalent	<del></del>
Пат ж	
Neither or Unknown	

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Vector Attraction Control  Option 1 - Minimum 38% Reduction in Volatile Solids Option 2 - Anaerobic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction Option 3 - Aerobic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction Option 4 - Specific Oxygen Uptake Rate (SOUR) for Aerobically Digested Sludge Option 5 - Aerobic Processes plus Elevated Temperature Option 6 - Raised pH to 12 and Retained at 11.5 Option 7 - 75% Solids with no Unstabilized Solids Option 8 - 90% Solids with Unstabilized Solids Option 9 - Injection Below Land Surface  x Option 10 - Incorporation into Soil within 6 or 8 Hours Option 11 Covering Active Sewage Sludge Unit Daily None of the Above
Groundwater Monitoring
1. If disposal practice is surface disposal or land application, is groundwater monitoring required or performed at the site?  Yes  (If yes, please submit a copy of the groundwater monitoring reports along with this survey. Also please provide the approximate depth to groundwater and the groundwater monitoring procedures used to obtain the data.)
Land Application of Sewage Sludge
Answer the following questions if sewage sludge is applied to land.  1. If sewage sludge is land applied in bulk form, what type of crop or other vegetation is grown on this site?  Tifton Bermuda Grass, Ryegrass
<ol> <li>If sewage sludge is land applied in bulk form, what is the nitrogen requirement for this crop or vegetation?</li> <li>600 lb/acre/year (Reclamation Site)</li> </ol>
3. If sewage sludge is land applied in bulk form, briefly describe the nature of any complaints filed from neighbors?

**Note:** Permittees that submitted the "Annual Report Review Form" for sludge to the EPA may submit a copy with the MWPP in lieu of this Attachment.

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# Cahaba River Wastewater Treatment Plant <u>ATTACHMENT 4</u> – Plant and Collection System Personnel Inventory



FACILITY	NAME:	Cahaba I	River WW	TP			PLANT G	RADE:	1	V
PERMIT !	NUMBER:	AL00230	27				<u> </u>			
PLANT S	UPERINTEN	DENT:	Gary Nels	son				TEL.#	(205) 987	7-0648
SYSTEM	MANAGER:		David De	nard				TEL.#	(205) 325	5-5979
PLANT O	PERATORS	:								
· 	N	AME			DE OR E STATUS	0	PERATOR NO.	EXP	. DATE	
1. Gary Ne	elson				IV		C003933	2/28	3/2016	_
2. Jeremy	Creel				IV		C001691	11/3	0/2015	_
3. Derrick	Brooks				IV		C001433	8/3	1/2016	_
4. Tommy	Carney				IV		C004047	9/30	0/2016	-
5. Zada N	ygren				IV		C003372	6/30	0/2015	-
6. Bill Mori	row				IV		C003750		1/2014	-
7. Andrew	Hudson				IV		C000779	11/3	0/2015	-
8. Joe Will					IV	<del></del>	C002615		0/2015	-
9. Tommie					IV		C001269		1/2015	-
10 Jonatha		•			IV		C007020		1/2015	<del>-</del>
		M OPERATO	PRS:					1 0,0		-
				l	ĺ			1		
								<del>-  </del>		-
				<del></del>	-			<u> </u>	·	-
3										-
4		-							<del></del>	_
			MAN H	RS./WK	NUMBER					
	MENT/SUPE	RVISOR	8	0	2					
OPERATO	OR(S):	GRADE I-C								
		GRADE I					AVERAGE NUMBER	OF EMPLOY	ÆES PER SI	HIFT:
		GRADE II	<del></del>							
		GRADE III					1ST 9		START TIME	700
		GRADE IV	3:	20	8		2ND 4			1500
DESIGNA	TED TRAINI	EE(S)					3RD 4			2300
LABORAT	TORY				<u> </u>					
MAINTEN	IANCE		<del></del>	0	2					
OTHER P	LANT WORI	KERS	2	00	5					
OPERATO	OR SHIFTS I	NORMALLY V	NORKED E	ACH DAY:						
	SUN	MON	TUES	WED	THURS	FRI	SAT			
1ST	Х	х	х	Х	Х	Х	X			
2ND	х	х	х	х	х	х	х			
3RD	X	х	х	X	х	Х	х			
ADELLIA	SKILV									
ADEM USE C	JNLT								YES	NO

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

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

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PLANT AND COLLECTION SYSTEM PERSONNEL INVENTORY

FACILITY NAME:	Cahaba Riv	er WWTP				. PLANT	GRADE:	IV	
PERMIT NUMBER:	AL0023027								*
PLANT SUPERINTEN	IDENT:	Gary Nelso	n				TEL.#	(205) 987-064	48
SYSTEM MANAGER:		David Dena						(205) 325-597	79
PLANT OPERATORS	:		CD A						
	IAME		_	DE OR E STATUS	Ol	PERATOR NO.	EXF	P. DATE	
Eddie Crumley									
Rodney Franklin									
Richard Hall									
Willie McClain									
Ernest Minniefield									
			•						
						<del></del>			
								··-	
COLLECTION SYSTE	M OPERATO	RS:							
COLLECTION SYSTE	M OPERATO	RS:							
COLLECTION SYSTE	ERVISOR  GRADE I-C  GRADE II  GRADE III	RS:		NUMBER		AVERAGE NUMBE		YEES PER SHII	FT:
MANAGEMENT/SUPE	ERVISOR  GRADE I-C  GRADE II  GRADE III  GRADE IV	RS:		NUMBER		1ST 2ND		_	FT:
COLLECTION SYSTE	ERVISOR  GRADE I-C  GRADE II  GRADE III  GRADE IV	RS:		NUMBER		1ST		_	FT:
MANAGEMENT/SUPEOPERATOR(S):  DESIGNATED TRAIN LABORATORY MAINTENANCE	ERVISOR  GRADE I-C  GRADE II  GRADE III  GRADE IV  EE(S)	MAN H	RS./WK			1ST 2ND		_	FT:
MANAGEMENT/SUPE OPERATOR(S):  DESIGNATED TRAIN LABORATORY	ERVISOR  GRADE I-C  GRADE II  GRADE III  GRADE IV  EE(S)	RS:	RS./WK	NUMBER		1ST 2ND		_	FT:
MANAGEMENT/SUPEOPERATOR(S):  DESIGNATED TRAIN LABORATORY MAINTENANCE	ERVISOR  GRADE I-C  GRADE II  GRADE III  GRADE IV  EE(S)	MAN H	RS./WK			1ST 2ND		_	FT:
MANAGEMENT/SUPE OPERATOR(S):  DESIGNATED TRAIN LABORATORY MAINTENANCE OTHER PLANT WOR OPERATOR SHIFTS SUN	ERVISOR  GRADE I-C  GRADE II  GRADE III  GRADE IV  EE(S)	MAN H	RS./WK		FRI	1ST 2ND		_	FT:
MANAGEMENT/SUPE OPERATOR(S):  DESIGNATED TRAIN LABORATORY MAINTENANCE OTHER PLANT WOR OPERATOR SHIFTS	ERVISOR  GRADE I-C GRADE II GRADE III GRADE IV EE(S)  KERS	MAN H	RS./WK	5	FRI	1ST 2ND 3RD		_	FT:

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

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

ADEM FORM 441 8/02

PERMIT NUMBER: PLANT SUPERINTENDENT:			-			PLA	ANT GRADE:	<u>IV</u>
1 Mari 00: Elmin =:			-				TC1 #	(005) E40 :
SYSTEM MANAGER:		David Denard	d				TEL. # TEL. #	(205) 540-7 (205) 325-5
	-	<del></del>					• •	1200) 222
PLANT OPERATORS:			_					
NAAA			1	ADE OR			ı	1
NAM Brian Champion	<u>IE</u>	<del></del>		E STATUS		RATOR NO.	EXP. D.	
Don Goodwin			I(c)		C002094 C005423			6/30/2015
Lavon Evans			1(c)		C005423 C004631			3/30/2015
Brian Rohling			I(c)		C004631			2/31/2014 3/30/2015
			11(-,		00001.0	**	<del>                                     </del>	/30/2013
					1		<del> </del>	
			<u> </u>					
					T		<b>-</b>	
					Γ			
		*****						
	_	MAN H	RS./WK	NUMBER				
#ANAGEMENT/SUPERVISOR	>				1 .			
	۲				]			
OPERATOR(S):	R GRADE I-C				]			
OPERATOR(S):	2				AV	ERAGE NUMBE	ER OF EMPLOYE	ES PER SHI
OPERATOR(S):	GRADE I-C GRADE I GRADE II				AV	ERAGE NUMBE	R OF EMPLOYE	ES PER SHI
OPERATOR(S):	GRADE I-C GRADE I GRADE II GRADE III				AV	1ST		EES PER SHI
OPERATOR(S):	GRADE I-C GRADE I GRADE II				AV	1ST 2ND		<u></u>
OPERATOR(S):  C  DESIGNATED TRAINEE(S)	GRADE I-C GRADE I GRADE II GRADE III				AV	1ST		<u></u>
DPERATOR(S):  DESIGNATED TRAINEE(S) ABORATORY	GRADE I-C GRADE I GRADE II GRADE III				AV	1ST 2ND		<u></u>
DPERATOR(S):  DESIGNATED TRAINEE(S) ABORATORY MAINTENANCE	GRADE I-C GRADE I GRADE II GRADE III				AV	1ST 2ND		<u></u>
DPERATOR(S):  DESIGNATED TRAINEE(S) ABORATORY MAINTENANCE	GRADE I-C GRADE I GRADE II GRADE III				AV	1ST 2ND		<u></u>
DPERATOR(S):  DESIGNATED TRAINEE(S) ABORATORY MAINTENANCE DTHER PLANT WORKERS  DPERATOR SHIFTS NORMAL	GRADE I-C GRADE I GRADE II GRADE IV	) EACH DAY			AV	1ST 2ND		<u></u>
DPERATOR(S):  DESIGNATED TRAINEE(S) ABORATORY MAINTENANCE DTHER PLANT WORKERS  DPERATOR SHIFTS NORMAL SUN	GRADE I-C GRADE I GRADE II GRADE IV	D EACH DAY TUES	r: WED	THURS	AVI	1ST 2ND		<u></u>
DESIGNATED TRAINEE(S) ABORATORY MAINTENANCE DTHER PLANT WORKERS DPERATOR SHIFTS NORMAL SUN	GRADE I-C GRADE II GRADE III GRADE IV			THURS		1ST		<u></u>
DESIGNATED TRAINEE(S) LABORATORY MAINTENANCE DTHER PLANT WORKERS  DPERATOR SHIFTS NORMAL	GRADE I-C GRADE II GRADE III GRADE IV			THURS		1ST		<u></u>

## Municipal Water Pollution Prevention (MWPP) Annual Report Calendar Year 2013

For the

#### **Five Mile Creek WWTP**

as required by the Alabama Department of Environmental Management NPDES Program



Prepared by Jefferson County Commission Environmental Services Department

May 31, 2014

#### **JEFFERSON COUNTY COMMISSION**



DAVID CARRINGTON - PRESIDENT GEORGE F. BOWMAN SANDRA LITTLE BROWN - PRESIDENT PRO TEMPORE T. JOE KNIGHT JAMES A."JIMMIE" STEPHENS

JAMES A."JIMMIE" STEPHE May 31, 2014

Mr. Nic Caraway, Water Division Alabama Department of Environmental Management Water Division – Municipal Branch P.O. Box 301463 Montgomery, AL 36130-1463

RE: Municipal Water Pollution Prevention (MWPP) Annual Report Calendar Year 2013

Mr. Caraway:

The Jefferson County Environmental Services Department submits the above referenced report for the Five Mile Creek Wastewater Treatment Facility, NPDES Permit No. AL0026913. Included is information as required in ADEM Form 41701/06ml, bypass/overflow event reports, MWPP Sewage Sludge Survey, and the Plant & Collection System Personnel Inventory.

If you have any questions regarding this information, please contact me at 205.325.5979 or Celeste Brown at Jefferson County Barton Laboratory at 205.238.3859.

Sincerely,

David Denard, Director

Environmental Services Department

**DAVID CARRINGTON - COMMISSIONER** 

TONY PETELOS, COUNTY MANAGER

Office of

ENVIRONMENTAL SERVICES

Director of Environmental Services Suite A-300 716 Richard Arrington, Jr. Blvd. N. Birmingham, Alabama 35203 Telephone (205) 325-5496

DAVID DENARD

Fax (205) 325-5981

pc: Celeste Brown, JCESD Barton Laboratory
Daniel White, JCESD Deputy Director
Lynn Jones, Five Mile Creek WWTP

# MUNICIPAL WATER POLLUTION PREVENTION (MWPP) ANNUAL REPORT

# SUBMITTED BY:

TREATMENT FACI	LITY:Fiv	ve Mile Creek WWTP	NPDES #: AL0026913
MUNICIPALITY:	Jeffers	on County Commission	COUNTY:Jefferson
CONTACT PERSON	•	vid Denard	
	Municipal (	Official	
	Director of	Environmental Services	
	Title		
	Telephone #	#: <u>205 - 325 - 5979</u>	Fax #: 205 - 325 - 5239
	Email Addr	ress: denardd@jccal.org	
CHIEF OPERATOR:	Lynn D. Jones,	, Plant Manager	
	Name		
	Telephone #	#: <u>205 - 841 - 5939</u>	Fax #: 205 - 841 - 7698
	Email Addr	ess: jonesly@jccal.org	· · · · · · · · · · · · · · · · · · ·
	Date: May 14	, 2014	
REVIEWED BY:	Daniel White P.E.,	, ESD Engineer	
-	Consulting E	ngineer	
7	Felephone #:	205 - 214 - 8610	Fax #: 205 - 325 - 5981
]	Date: May 14	, 2014	

## MWPP Annual Report Information Source List

The following information will be needed to complete the compliance maintenance report that covers the calendar year of 2013 (due May 31, 2014 ).

- Part 1 A. The average plant influent flow for each month (million gallons per day/MGD) during the year.
  - B. The average plant influent BOD (CBOD) for each month (mg/l and lb/day) in the year.
  - C. The 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 the year
  - B. The monthly average effluent limits and DMR loading for BOD, TSS, NH3-N, and/or TKN in lbs/day for the year
- Part 3 The age of the 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 minus the year the new construction was brought on-line.
- Part 4 Bypass and overflow information. This is the number of bypass or overflow events of untreated wastewater due to heavy rain or equipment failure whether intentional or inadvertent from all collection systems tributary to the treatment facility.
- Part 5 A. Describe the characteristics and quantity of sludge generated.
  - B. If sludge is landspread, how many months of sludge storage does the plant have? This should include on-site and off-site storage from the treatment plant. The digestor capacity may be used in the calculation.
- Part 6 A. Sludge Disposal Method
  - B. The number of approved land disposal sites for sludge available, and how many months or years these disposal sites will these be available for use.
- Part 7 The number of sewer extensions installed in the community last year--the design population, design flow, and design BOD for each sewer extension.
- Part 8 Operator Certification
- Part 9 Financial Status
- Part 10 Subjective Evaluation
- Part 11 Summary Sheet

State of Alabama MWPP Annual Report Department of Environmental Management

### 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 the actions necessary to prevent effluent violations. Enter the point totals from Parts 1 through 8 on Part 11: Summary Sheet.
- 3. Add the point totals on Part 11: Summary Sheet.
- 4. Submit the MWPP Report to the governing body and the consulting engineer and owner for review and approval.
- 5. The governing body should pass a resolution which contains the following points:
  - a. The resolution should acknowledge the governing body or owner has reviewed the MWPP Report.
  - b. The resolution should indicate what actions will be taken to prevent effluent violations.
  - c. The resolution should provide any other information the governing body or owner deems appropriate.
- 6. The MWPP Report and the resolution must be submitted by May 31<sup>st</sup> to Municipal Section, Water Division, ADEM, P.O. Box 301463, Montgomery, AL 36130-1463.

Facility Name:	Five Mile Creek WWTP	
<b>₹</b>		

# Part 1: Influent Loading/Flows

A. List the average monthly volumetric flows and BOD<sub>5</sub> (CBOD<sub>5</sub>) loadings received at your facility during the last calendar year.

<u>Month</u>	Column 1 Average Monthly Flowrate (MGD)	Column 2 Average Monthly BOD <sub>5</sub> (CBOD <sub>5</sub> ) Concentration (mg/l)	Column 3 Average Loading BOD <sub>5</sub> (CBOD <sub>5</sub> ) (lbs/day**)
January	23	54	9274
February	23	60	10298
March	18	59	7885
April	17	60	8385
May	19	58	7760
June	14	95	11581
July	14	70	6823
August	14	65	7404
September	8.9	78	5597
October	7.3	84	5180
November	9.6	94	7184
December	17	60	8052
Annual Avg.	15	70	7952

<sup>\*\*</sup>As reported on NPDES Discharge Monitoring Reports (DMRs) and as required by EPA's NPDES Self-Monitoring System, User Guide, March 1985.

B. List the average design flow and average design BOD<sub>5</sub> loading for the facility below. If you are not aware of these design quantities, contact your consulting engineer or the Alabama Department of Environmental Management.

	Average Design Flow	Average Design BOD <sub>5</sub> Loading (lbs/day)
Design Criteria	30MGD	50, 040
90% of the Design Criteria	27	31, 525

C. How many times did the monthly flow (Column 1) to the WWTP exceed 90% of design flow?

(Check the appropriate point total)

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

D. How many times did the monthly flow (Column 1) to the WWTP exceed the design flow?

(Check the appropriate point total)

O = 0 points 
$$1 - 2 = \overline{5}$$
 points  $3 - 4 = \overline{10}$  points  $\overline{5}$  or more  $\overline{= 15}$  points

E. How many times did the monthly BOD<sub>5</sub> (or CBOD<sub>5</sub>)\* loading (lbs/day) (Column 3) to the WWTP exceed 90% of the design loading? \_\_\_\_ (Check the appropriate point total)

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

F. How many times did the monthly BOD<sub>5</sub> (or CBOD<sub>5</sub>)\* loading (lbs/day) (Column 3) to the WWTP exceed the design loading? \_\_\_\_ (Check the appropriate point total)

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

G. Enter each point value marked for Cthrough F and enter the sum in the appropriate blank below.

C points 
$$= 0$$

D points 
$$=$$
 0

E points 
$$=$$
 0

F points = 
$$0$$

TOTAL POINTS VALUE OR PART 1 \_\_0

Enter this value on Part 11: Summary Sheet.

<sup>\*</sup>To obtain equivalent BOD<sub>5</sub> loading for comparison with design loading for those permittees using influent CBOD<sub>5</sub>, divide annual average CBOD<sub>5</sub>, loading in lbs/day from Part 1, A by 0.7.

# Part 2: Effluent Quality/Plant Performance

DOD

A. List the monthly average permit limits for the facility in the blanks below and the average monthly effluent DMR BOD<sub>5</sub>, (CBOD<sub>5</sub>) TSS, NH<sub>3</sub>-N and/or TKN concentration produced by the facility during the last calendar year.

# (1) NPDES Permit Concentration

Permit Limit	<u>Months</u>	$(CBOD_5)$ $(mg/l)$	TSS (mg/l)	NH <sub>3</sub> -N (mg/l)	TKN (mg/l)
	May - Nov.	6.0	30.0	2.0	4.0
	Dec April	7.0	30.0	2.5	5.0

# (2) DMR Concentration

<u>Qtr</u>	<u>Month</u>	$\begin{array}{c} BOD_5 \\ (CBOD_5) \\ \hline (mg/l) \end{array}$	TSS (mg/l)	NH <sub>3</sub> -N (mg/l)	TKN (mg/l)
1	January	1.4	1.8	0.081	0.60
	February	0.95	1.9	0.035	0.35
	March	0.95	0.93	0.007	0.31
2	April	0.76	1.3	0.003	0.35
	May	0.72	1.3	0.008	0.36
	June	1.4	1.8	0.954	2.21
3	July	0.88	0.65	0.057	0.30
	August	0.69	0.34	0.003	0.27
	September	0.76	0.49	0.036	0.38
4	October	0.61	0.37	0.043	0.40
	November	0.63	0.60	0.022	0.37
	December	0.55	1.1	0.060	0.30
	Annual Avg.	0.86	1.0	0.11	0.52

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

# (1) NPDES Permit Loading

D %	<u>Months</u>	BOD <sub>5</sub> (CBOD <sub>5</sub> ) (lbs/day)	TSS (lbs/day)	NH3-N (lbs/day)	TKN (lbs/day)
Permit Limit	May - Nov.	1501	7506	500	1000
	Dec April	1751	7506	625	1251
(2) DM	R Loading				
<u>Qtr</u>	<u>Month</u>	BOD <sub>5</sub> (CBOD <sub>5</sub> ) (lbs/day)	TSS (lbs/day)	NH3-N (lbs/day)	TKN (lbs/day)
1	January	306	554	23	138
	February	179	352	6.6	64
	March	142	191	1.2	48
2	April	105	164	0.36	49
	May	109	256	0.79	52
	June	169	270	109	250
3	July	99	83	6.6	31
	August	79	35	0.22	31
	September	56	41	2.6	28
4	October	37	23	2.6	25
	November	54	57	2.4	31
	December	87	217	9.5	46
	Annual Avg.	119	187	14	66

C. During the past year did the BOD<sub>5</sub> 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? (Check the appropriate point total.)

No = 0 points 
$$Yes = 121$$
 points

D.	During the past year did the BOD <sub>5</sub> concentration (mg/l) and/or loading (lbs/day), exceed the
	monthly average permit limit during four months of any two consecutive quarters? (Check
	the appropriate point total.)

No = 
$$0$$
 points Yes =  $121$  points

No = 
$$0$$
 points  $\frac{1}{1}$  Yes =  $\frac{1}{1}$  points

No = 
$$\overline{0}$$
 points  $\overline{Y}$  yes =  $\overline{121}$  points

No = 0 points 
$$Yes = 121$$
 points

No = 0 points 
$$Yes = 121 points$$

HIGHEST INDIVIDUAL POINT VALUE FOR PART 2 (C-H) \_\_\_ 0 (HIGHEST POINT = 121) Enter this value on Part 11: Summary Sheet.

Part	t 3: Age of the Wastewater Treatment Facility		
A.	What year was the wastewater treatment plant	constructed or last reconstructed? 2	008
	Subtract the above answer from the report year	to determine age:	
	Age = (Last Calendar year) - (Answer to	A)	
	Age $\frac{5}{}$ = $(\underline{2013})$ - $(\underline{2008})$	3)	
	Enter Age in Part C below.		
B.	Check the type of treatment facility employed	1.	
		Factor	
	× Mechanical Treatment Plant	2.0	
	Aerated Lagoon	1.5	
	Stabilization Pond	1.0	
	Other (Specify:	) 1.0	

$$\frac{2.0}{\text{(Factor)}} \times \frac{5}{\text{(Age)}} = \frac{10}{\text{(Age)}}$$
 TOTAL POINT VALUE FOR PART 3

Enter the above value on Part 11: Summary Sheet. If the total point value exceeds 40, enter 40 on Part 11: Summary Sheet.

Facil	ity Name: Five Mile Creek WWTP
Part	4: Bypassing and Overflows
A.	How many bypass or overflow events of untreated wastewater occurred in the last year at the WWTP 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 WWTP due to heavy rain? 8
C.	How many of the bypass or overflow events listed in Parts A and B have been corrected such that future bypass or overflow events at the same location due to heavy rain are not anticipated? 2
D.	Add together Answers A and B and subtract Answer C from that total.  A + B - C =(Check the appropriate point total.)  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 WWTP due to equipment failure? (This includes clogged/broken lines or manholes.) <u>0</u>
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 WWTP? (This includes clogged/broken lines or manholes.) 17
G.	How many of the bypass or overflow events listed in Parts E and F have been corrected such that future bypass or overflow events at the same location due to the same equipment failure are not anticipated? 17
H.	Add together Answers E and F and subtract Answer G from that total. E + F - G = (Check the appropriate point total.)
	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
ī	Add point values circled in D and H and enter the total in the blank below

I. Add point values circled in D and H and enter the total in the blank below

TOTAL POINT VALUE FOR PART 4 \_\_\_\_\_30 \_\_\_ Enter this value on Part 11: Summary Sheet.

All bypass or overflow events that have occurred in the last year (for any reason) must be individually reported with this MWPP report.

	5: Sludge Quantity and Storage
<b>A.</b>	Please provide information concerning sludge quantity, characteristics, and storage practices based on available data as requested on the <i>MWPP Sewage Sludge Survey</i> , ADEM Form 419.
B.	How many months of sludge storage capacity does the wastewater treatment facility have available, either on-site or off-site? (i.e., How many months can the facility operate without land spreading or disposing of sludge?)4 months
	(Check the appropriate point total.)  Greater than or equal to 4 months  Less than 4 months, but greater than or equal to 3 months  Less than 3 months, but greater than or equal to 2 months  Less than 2 months, but greater than or equal to 1 month  Less than one month  ■ 0 points  ■ 20 points  ■ 30 points  ■ 50 points
	FAL POINT VALUE FOR PART 50 er this value on Part 11: Summary Sheet.
Part	6: Sludge Disposal Practices and Sites
A.	Please provide the sludge disposal practices and site information based on available data as requested on the MWPP Sewage Sludge Survey, ADEM Form 419.
B.	How many months or years does the facility have access to and approval for sufficient land disposal sites to provide proper land disposal? (Check the appropriate point total.)
	36 or more months = 0 points ☐  24 - 35 months = 10 points ☐  12 - 23 months = 20 points ☐  6 - 11 months = 30 points ☐  Less than 6 months = 50 points ☐
	ΓAL POINT VALUE FOR PART 6 _ 20 _ er this value on Part 11: Summary Sheet.

Facility Name: Five Mile Creek WV	///	····· \	<u> </u>		
Part 7: New Development	-				
Are there any major n calendar year or anticip the sewage system could	pated in the no	ext 2-3 years	such that eith	er flow or BOD <sub>5</sub>	loadings to
Design Population: Equivalent (PE)		Design Flow:	MGD	Design BOD <sub>5</sub> :	lbs/day
List industrial and/or r	esidential dev	elopments.			
No major new developments p	planned.				
Will the additional loa		<u>-</u>	heck the appro	priate point total.	)
No = 0 points $  \underline{\checkmark}  $ Enter the point total in t					
ΓΟΤΑL POINT VALUE FOR Enter this value on Part 11: Su			point total = 1	21)	
Part 8: Operator Certification	<u> </u>				
Complete the Plant and Colle	ection System I	Personnel Inv	entory, ADEM	1 Form 441.	
Do both the plant opera Code; Division 10, Ope		<del>-</del>			
Yes = 0  points	$N_0 = 1$	121 points			
ГОТАL POINT VALUE FOR Enter this value on Part 11: St			est point total	= 121)	

	9: Financial Status
rari	3. Phiancial Status
A.	Are User-Charge Revenues sufficient to cover operation and maintenance expenses? If no, how are O&M costs being financed? <i>Include user charge rates</i> .
	Revenues are sufficient. The below values are based on a 5/8" meter and 6,000 gallons water use. Jefferson
	County has a three tier block rate structure for residential users for 0-3, 4-6, and 7+ ccf water use.
	Residential Minimum 15.00 Plus rate 6.02; 9.36; 10.69 /1,000 gal.
	Industrial Minimum 15.00 Plus rate 10.51 /1,000 gal.
	Monthly residential rate based on 6,000 gallons usage \$ 56.04 (includes 15% credit for residential)
	ase complete the above information based on your user charge rates for the report year. You attach a sample water and sewer bill for clarity.
В.	What financial resources are available to pay for the wastewater improvements and/or reconstruction needs?
	In 2013, Jefferson County issued Series 2013 Sewer Warrants that fund capital improvements
	through 2023 at an annual average rate of \$71.9 million over the 10-year period.
Part	10: Subjective Evaluation
A.	Describe briefly the physical and structural conditions of the wastewater treatment facility.
	Most of the WWTP was upgraded or newly constructed in 2008 and is in good condition. Some
	equipment and processes were constructed in the 1970s, 80s, and 90s and are in fair to average condition.
	Maintenance and refurbishments are planned for assets needing improvements.
В.	Describe the general condition of the sewer system (sewer lines, manholes, lift stations).
	The Five Mile sewer system includes roughly 2,250,000' of pipe and 30 pump stations. The system's
	performance is below the expectations of the County. SSES investigations and repairs and replacements
	are planned.

What sewage system improvements does the community have planned for construction in the next 5 years?
Sewer condition assessment and sewer line repair, replacement, and renewal projects.
Backup power generators are planned for Dean Drive and Don Berri Apartment pump stations.
Pump replacements are planned for Newfound #1 and Newfound #2 pump stations.
What is the theoretical design life of the plant, and what is the estimated remaining useful life of the wastewater treatment facility?
Calculated remaining useful life of the structures is 45 years (50 years - 5 years age of facility).
Calculated remaining useful life of the equipment is 20 years (25 years - 5 years of equipment).
Based on EPA's 2002 Clean Water and Drinking Water Infrastructure Gap Analysis Report.
What problems, if any, over the last year have threatened treatment or conveyance within the system?
See attached Form 421 for May 2013 concerning an operator error that caused a SSO.
Extended rainfall between January 13-15 produced three large SSOs in the collection system.
Is the community presently involved in formal planning for treatment facility upgrading?  No.
How many days in the last year were there residential backups at any point in the collection system for any reason other than clogging of the lateral connection? 16
Does the plant have a written plan for preventive maintenance on major equipment items? If yes, describe.
Yes. Our INFOR maintenance program generates work orders for scheduled preventive maintenance. This is backed up

-	Sewer condition assessment and sewer line repair, replacement, and renewal projects.
-	Improvements to Newfound, Cunningham, and Penefield pump stations.
	That is the theoretical design life of the plant, and what is the estimated remaining use f the wastewater treatment facility?
_	Calculated remaining useful life of the structures is 45 years (50 years - 5 years age of facility).
_	Calculated remaining useful life of the equipment is 20 years (25 years - 5 years of equipment).
_	Based on EPA's 2002 Clean Water and Drinking Water Infrastructure Gap Analysis Report.
	That problems, if any, over the last year have threatened treatment or conveyance wit vstem?
_	See attached Form 421 for May 2013 concerning an operator error that caused a SSO.
_	Extended rainfall between January 13-15 produced three large SSOs in the collection system.
	the community presently involved in formal planning for treatment facility upgrading
	ow many days in the last year were there residential backups at any point in the colvistem for any reason other than clogging of the lateral connection? 16
	oes the plant have a written plan for preventive maintenance on major equipment iteres, describe.
	Yes. Our INFOR maintenance program generates work orders for scheduled preventive maintenance. This is backed

# ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT WATER DIVISION - INDUSTRIAL AND MUNICIPAL SECTIONS NONCOMPLIANCE NOTIFICATION FORM

PERMITTEE NAME:	Five Mile Creek WWTP PERMIT NO: AL0026913
FACILITY LOCATION:	3410 Happy Hollow Lane Fultondale, AL 35068
DMR REPORTING PERIOD	May 2013

1. DESCRIPTION OF DISCHARGE: (Include outfall number (s)): Signs of a previous overflow was discovered, Monday, May 6, 2013, at Junction Box 23 (2000-024) on the sewer main to Five Mile Creek WWTP. On further inspection manhole 2000-012 also showed signs of a previous overflow. After discovery, a SSO advisory was made for Five Mile Creek. The SSO event is assumed to have occurred for 45 minutes on Saturday, May 4, 2013 sometime between 11:00 am and 12:00 pm with an assumed height of 1 inch based on observations and actions by the WWTP staff. The combined estimated volume of the SSOs is calculated to be approximately 45,000 gallons. The actual height of the SSO for use in the volume calculation is unknown and is indeterminable since it was not observed. The actual volume of the SSO may have been more or less than estimated and reported in this document.

OF NON-COMPLIANCE. (Allaci	i additional pages it nece	ssary).
NONCOMPLIANCE PARAMETER(S) SSO	Result Reported (Include units)	Permit Limit (Include units)
NITORING / REPORTING VIC	OLATIONS (If applica	ble)
NONCOMPLIANCE PARAMETER(S)		
	NONCOMPLIANCE PARAMETER(S) SSO  NITORING / REPORTING VIO	PARAMETER(S) (Include units)  SSO  NITORING / REPORTING VIOLATIONS (If applical NONCOMPLIANCE PARAMETER(S) Monitoring / Rep (Provide de

3. CAUSE OF NON-COMPLIANCE (Attach additional pages if necessary): After investigation of the treatment plant's weekend operations it is believed that a sudden change in operations on May 4, 2013 around 11:00am caused an SSO prior to the headworks. The operators on duty, Tony Sutton and Mark Cruce, fearing what they considered a drastic increase in flow that could cause damage to the facility temporarily closed the influent gate for a few minutes from its set position of 25% to 5% of its open capacity to allow the Influent Pump wet well level to lower before flooding. The operators then opened a valve that allowed the water in the trunk sewer to flow into the plant's peak flow basins. The influent gate was then raised to higher position. About 12:00 pm both operators knowing that the gate being lowered to 5% open could cause a SSO on the sewer main, drove to the entrance gate where they could visibly see if the junction box (located across Coalburg Road) had or was overflowing. They both saw no sewage overflowing from the box.

The actions of the operators on Saturday were in direct conflict with written instructions for high flow events and training and instruction provided to the operational staff. The operators over reacted to increasing flow and lowered the gate to a level that was unnecessary and overprotective of the WWTP.

4. PERIOD OF NONCOMPLIANCE: (Include exact date(s) and time(s) or, if not corrected, the anticipated time the noncompliance is expected to continue): There is not an exact time to apply to this event. An approximation based on the statements by the operators and their visual inspection of the overflow area was used. The influent gate was recorded as being closed on May 4, 2013, between 11:00am and 12:00pm, from 25% to 15%. The operator Mark Cruce stated that the gate was initially closed to 5% and was opened minutes after closing when the threat to flooding had subsided. They then continued to open it until it was 15% by 12:00, noon. They also, between 11:00am and 12;00pm, opened the effluent valve allowing flow in the trunk line to flow into the aerated holding basins. They drove to the entrance gate to see if the box was overflowing. It was not overflowing. For the purpose of volume estimation calculations, the estimated time of the over flow is considered 45 minutes.

DESCRIPTION OF STEPS TAKEN AND/OR BEING TAKEN TO REDUCE OR ELIMINATE THE 5. NONCOMPLYING DISCHARGE AND TO PREVENT ITS RECURRENCE (attach additional pages if necessary): Both operators will undergo a performance appraisal that could lead to disciplinary actions for not following written procedures for operation. There would not have been an SSO if the written procedures had been followed.

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

Lynn D. Jones, Plant Manager Five Mile Creek

NAME AND TITLE OF RESPONSIBLE OFFICIAL (type or print)

SIGNATURE OF RESPONSIBLE OFFICIAL / DATE SIGNED

ADEM Form 421 11/06 m2

I.	Does this preventive maintenance program depict frequency of intervals, types of lubrication, and other preventive maintenance tasks necessary for each piece of equipment? (Check the appropriate response.) Yes No
J.	Are these preventive maintenance tasks, as well as equipment problems, being recorded and filed so future maintenance problems can be assessed properly? (Check the appropriate response.)  Yes  No
K.	Describe any major repairs or mechanical equipment replacement made in the last year and include the approximate cost for those repairs. Do not include major treatment plant construction or upgrading programs.
	One 50 HP ECO-JET I aerator replacement in the aerated holding basin for \$13,737.00.
L.	List any additional comments. (Attach additional sheets if necessary.)

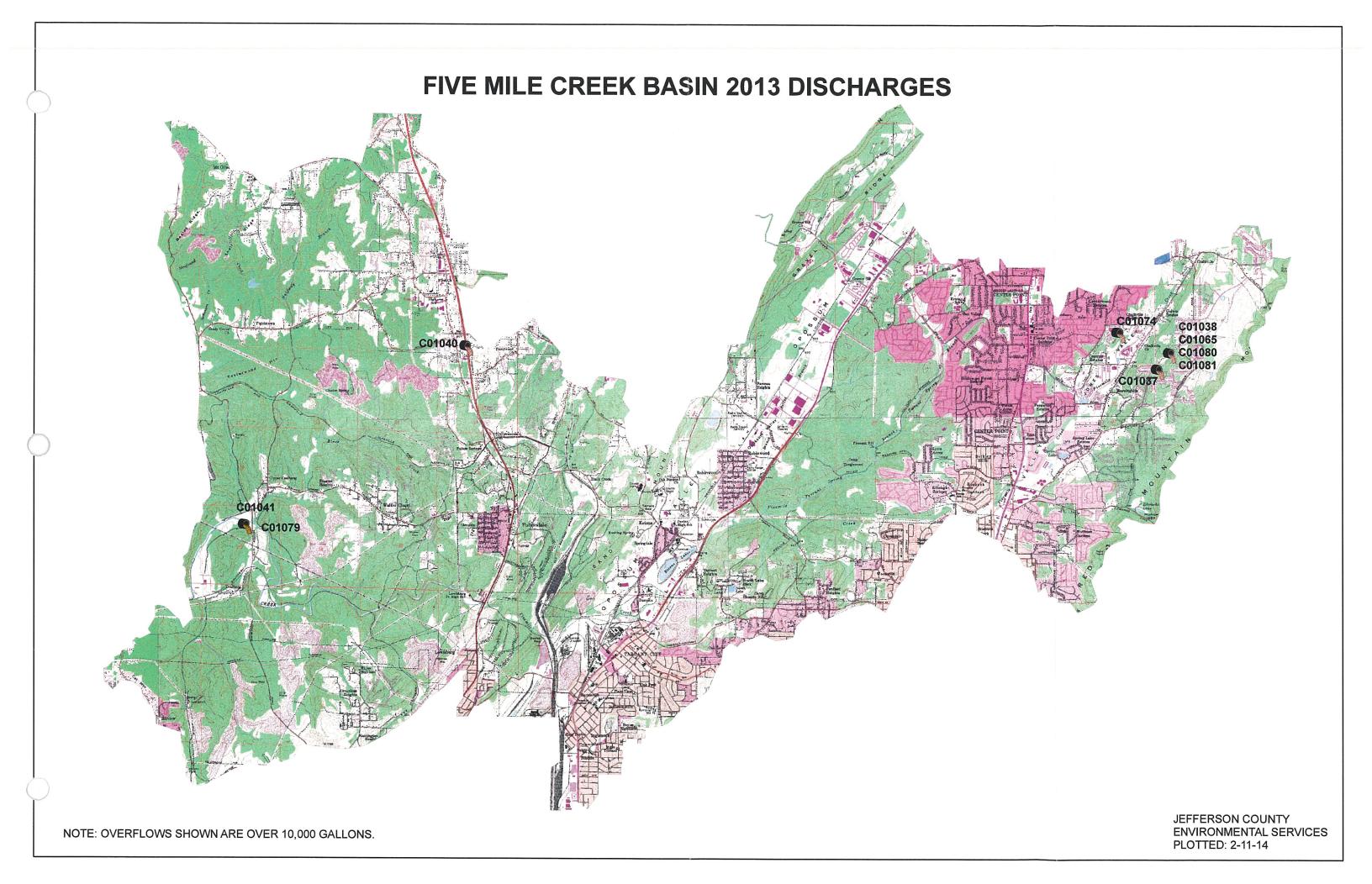
Facility Name: Five Mile Creek WWTP	
Part 11: Summary Sheet	
	ough 8 in the left column below. Add the numbers in the P Report point total the wastewater system generated for
Actual Values	Maximum Possible
Part 1 _ o _ points	80 points
Part 2_0 points	121 points
Part 3 10 points	40 points
Part 4 30 points	200 points
Part 5 o points	50 points
Part 6 20 points	50 points
Part 7 o points	121 points
Part 8 o points	121 points
Total 60 points	783 points
2. Check the facility type that best descr	ibes the plant's treatment and disposal of wastewater.
Mechanical plant with surface water Aerated Lagoon or stabilization pon Mechanical plant using land disposa Aerated Lagoon or stabilization pon	d with surface water discharge
0 - 70 pts. Actions as Ap	Recommendation Range* Action Range*

4. Complete the Municipal Water Pollution Prevention Resolution Form, ADEM Form 418.

In Question 1, do any of the actual point values in the left column equation possible points in the right column? (Check the appropriate response)  Yes	al the maxim
If yes, provide a written explanation for this situation in the space below.	
	***************************************

# Five Mile Creek Wastewater Treatment Plant <u>ATTACHMENT 2</u> – Raw Sewage Bypass and <u>SUMMARY</u>









# Summary of Unpermitted Discharges - Five Mile Creek

January 01, 2013 through December 31, 2013

NOTE: Quantities shown in the column "Est. Volume" are ESTIMATED ONLY. These estimates are the County's best determination of the discharge volume, based upon site-determinable information and accepted estimating methods. However, such estimates are subject to a high number of variables which are completely beyond the County's control and which can have a significant effect upon the calculated amount. Therefore, these estimates are to be used for relative comparison only, not as actual discharge volumes.

Event No.	Date Reported	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
C01037	1/14/13 Notes:	1/14/13 1220 Sweetwater Cir	Five Mile - Upstream of Barton Branch	Drainage Ditch/ Feeder Creek to Five Mile Creek	483,075	Manhole	Surcharge from Rain	Light Rain	Line Monitored	Brian	Sewer Maintenance Supervisor
C01038	1/15/13 Notes:	1908 & 1919 East Lawson Drive	Five Mile - Upstream of Barton Branch	Five Mile Creek	4,173,248	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
C01040	1/15/13 Notes:	C01040 1/15/13 532 Decatur Hwy Notes:	Five Mile - Downstream of Barton Branch (Remainder of System)	Drainage Ditch	200,535	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
C01041	1/15/13 Notes:	3410 Happy Hollow Lane/ 3330 Coalburg Rd	Five Mile - Downstream of Barton Branch (Remainder of System)	Five Mile Creek	1,020,000	Manhole/ Junction Box	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
C01048	1/28/13 Notes:	536 Decatur Hwy	Five Mile -  Downstream of Barton Branch (Remainder of System)	Ground Absorbed/ Drainage Ditch	182	Manhole	Debris	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor

Page 2 of 5

NOTE: Quantities shown in the column "Est. Volume" are ESTIMATED ONLY. These estimates are the County's best determination of the discharge volume, based upon site-determinable information and accepted estimating methods. However, such estimates are subject to a high number of variables which are completely beyond the County's control and which can have a significant effect upon the calculated amount. Therefore, these estimates are to be used for relative comparison only, not as actual discharge volumes.

Event No.	Date Reported	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
C01065	2/26/13 Notes:	2/26/13 1908 & 1919 East Lawson Dr s:	Five Mile - Upstream of Barton Branch	Five Mile Creek	217,665	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
C01066	2/26/13 Notes:	1220 Sweetwater Cir	Five Mile - Upstream of Barton Branch	Feeder Creek to Five Mile Creek	8,500	Manhole	Surcharge from Rain	Moderate Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
C01069	3/8/13	3/8/13 989 Huffman Road Five Mile-Drai Upstream of Barton Sta Branch Notes: Debris body was not latched all the way on the vacuum truck allowing sewage to leak	Five Mile - Upstream of Barton Branch caum track allowing sewage	Drainage Ditch/ Storm Drain to leak out.		Сотво Тruck	Vacuum Truck	No Rain	Washed Street Down	Brian Champion	Sewer Maintenance Supervisor
C01074	3/29/13 Notes:	3/29/13 2110 Willow Glenn Drive	Five Mile - Upstream of Barton Branch	Drainage Ditch	43,342	Manhole	Grease/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
C01079	5/6/13 Notes:	3330/ 3331 Coalburg Rd	Five Mile - Downstream of Barton Branch (Remainder of System)	Five Mile Creek	45,000	Manhole	Operator Error	Heavy Rain	Operations Corrected at WWTP	Brian Champion	Sewer Maintenance Supervisor
C01080	5/18/13 Notes:	1908 & 1919 East Lawson Dr	Five Mile - Upstream of Barton Branch	Five Mile Creek	584,508	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
C01081	6/10/13 Notes:	1919 East Lawson Drive	Five Mile - Upstream of Barton Branch	Ground Absorbed/ Five Mile Creek	236,052	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor

Page 3 of 5

Event No.	Date Reported	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
C01083	6/13/13 Notes:	1664 Lake Dr NE	Five Mile - Upstream of Barton Branch	Ground Absorbed/ Drainage Ditch	7.1	Manhole	Roots	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
C01087	8/19/13 Notes:	ž	Five Mile - Upstream of Barton Branch	Storm Drain	440	Manhole	Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
C01088 8/2	8/24/13 stes:	1800 Center Polnt Parkway	Five Mile - Upstream of Barton Branch	Ground Absorbed	360	Manhole	Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
C01098	10/2/13 Notes:	1734 Brewster Rd	Five Mile - Upstream of Barton Branch	Drainage Ditch	8,000	Manhole	Grease/ Debris	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04315	1/8/13	1/8/13 5012 41st Way N Five Mile - Ground Absorbed Pipe Downstream of Barton Branch (Remainder of System) Notes: While jewashing sanitary sewer line, sewage sprayed from hole in ground where gravity main pipe was broken. Volume not determinable.	Five Mile - Downstream of Barton Branch (Remainder of System) ayed from hole in ground wh	Ground Absorbed	broken. Volume	Pipe 7 not determinable	Gravity Main Break	No Rain	Line Repaired	Brian Champion	Sewer Maintenance Supervisor
M04387	4/5/13 Notes:	4010 49th Crt N	Five Mile - Downstream of Barton Branch (Remainder of System)	Storm Drain	169	Manhole	Grease	Light Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04412	5/5/13 Notes:	1432 Bobolink Lane	Five Mile - Upstream of Barton Branch	Ground Absorbed	98	Manhole	Grease/ Roots/ Rags	Light Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor

Page 4 of 5

NOTE: Quantities shown in the column "Est. Volume" are ESTIMATED ONLY. These estimates are the County's best determination of the discharge volume, based upon site-determinable information and accepted estimating methods. However, such estimates are subject to a high number of variables which are completely beyond the County's control and which can have a significant effect upon the calculated amount. Therefore, these estimates are to be used for relative comparison only, not as actual discharge volumes.

Event No.	Date Reported	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
M04419	5/22/13 1113 E	5/22/13 1113 Elm Ave 5/22/13 1113 Elm Ave 5:: Power company	Five Mile - Downstream of Barton Branch (Remainder of System)	Ground Absorbed	200	Pipe	Gravity Main Break	No Rain	Blockage Removed/ Line Repaired	Brian Champion	Sewer Maintenance Supervisor
M04422	5/30/13 Notes:	377 Sunbrook Ave	Five Mile - Upstream of Barton Branch	Ground Absorbed	55	Cleanout	Grease/ Roots/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04424	6/6/13	6/6/13 805 Jeffery Circle Five Mile - Ground Absorbed Upstream of Barton Feeder Creek to Branch Five Mile Creek Notes: Volume was not determinable. Cleanout not overflowing upon crew arrival, but there was evidence.	Five Mile - Upstream of Barton Branch owing upon crew arrival, bu	Ground Absorbed/ Feeder Creek to Five Mile Creek ut there was evidence.		Cleanout	Grease/ Debris/ Rags	Light Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04432	7/11/13 Notes:	400 Old Farm Dr	Five Mile - Upstream of Barton Branch	Ground Absorbed	2,700	Manhole	Grease	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04479	12/1/13 Notes:	M04479 12/1/13 1139 Ware Blvd Notes:	Five Mile - Upstream of Barton Branch	Ground Absorbed	96	Manhole	Grease	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04480	12/2/13 Notes:	1205 Five Mile Road	Five Mile - Upstream of Barton Branch	Drainage Ditch/ Feeder to Five Mile Creek	312	Manhole	Grease/ Rags	Moderate Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04490	12/13/13 Notes:	9817 Maple Ln	Five Mile - Upstream of Barton Branch	Storm Drain	180	Manhole	Grease/ Debris	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor

NOTE: Quantities shown in the column "Est. Volume" are ESTIMATED ONLY. These estimates are the County's best determination of the discharge volume, based upon site-determinable information and accepted estimating methods. However, such estimates are subject to a high number of variables which are completely beyond the County's control and which can have a significant effect upon the calculated amount. Therefore, these estimates are to be used for relative comparison only, not as actual discharge volumes.

No. Reported Location	Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
M04500 12/26/13 517 Montrose Cir	517 Montrose Cir	Five Mile - Upstream of Barton Branch	Drainage Ditch	999	Manhole	Grease/ Roots	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor

# Five Mile Creek Wastewater Treatment Plant ATTACHMENT 3 – MWPP Sewage Sludge SURVEY



# **MWPP SEWAGE SLUDGE SURVEY**

Facility Bac	kground Information:					
1. Facility I	nformation			Permit Nu	ımber:	AL0026913
	Name:	Five Mile Cre	ek WWTP			
	Street Address:	3410 Happy H	lollow Lane I	Fultondale	, Alabama 350	168
	County:	Jefferson Cou	unty			
2. Facility (	Contact					
<b>,</b> .	Name:	Lynn D. Jones	S			
	Title:	Plant Manage	*****			
	Telephone:	205 - 841 - 59				
	Permittee Name:	Jefferson Cou		ssion		
	Mailing Address:	Environmenta	_		nt Suite A-30	0
		•		<del></del>		Alabama 35203
				v		
Facility Flov	v Information			•		
1. Facility V	Wastewater Treatment Cap	•	1 =	5.3		
	Avg. Daily Flow for <del>2000</del>	<del>-</del>			_MGD	
	Facility Design Capacity:	-	3 (	0.0	_MGD	
2 Estimate	ed Septage Quantity Handle	ed (Residuals R	emoved fro	m Sentic	Tank System	ne)
z. zoumac	Average Domestic Septa	•	N/A	in ocpao	gallons per	•
	Average Commercial Se		N/A		_gallons per gallons per	
	7.10 ago 0011111010101010100				_ganono por	niona:
3. Method	of Septage Processing					
	Mixed with Influent V	Vastewater for 1	reatment			
	Mixed with Sewage S	_				
	<u> </u>	N/A				
4 Estimate	ed Percentage Contributing	Wastewater Fle	OW.		•	
T. Louinate	Residential: 93	%	J4V			•
	Industrial: 2	_ %				
	Other: 5	<del></del>	Describe:	СОММІ	ERCIAL	
	Other.	<del>-</del> '0	Describe			
5. List type	of wastewater treatment p				•	
	Screening, grit removal,	aeration with ac	ctivated sluc	lge, clarifi	cation, sandf	iltration,
	UV disenfection					
6 Estimate	od oowooo olydaa waatina y	rata at this facili	<b>4.</b>	41019		lle falms only a section to
o. Estimate	ed sewage sludge wasting i	rate at this facili	•	41013		lb/day dry weight
			or_			gallons per day
7. Estimate	ed untreated sludge receive	ed from off site:				lb/day dry weight
	-		or	N/A		gallons per day
8 Estimate	ed percent solids of combin	ed sowers stud	- lae prior to :	traatmant		, .
o. Laundt	d percent sonds or combin	ieu sewaye siuu	ige piloi to	ueaunent	•	4.1 %

ADEM FORM 419 8/02

				(untr	Sludge Quantity eated pounds per day)
Aerobic Di Thickening					
	eds (air drying)			<del>-</del>	•
10. Estima	ate the total volume of sludge	generated:			1021
				(dr	y U.S. tons per year)
Sludge Dis	posal Methods				
1. Which o	of the following describes the	current method	d of sewa	ge sludge disposal for	this facility:
	•	Ammar and bu	Current F		Proposed Practices
		Approved by Yes	No No	Quantity (dry U.S. tons/year)	Approved by ADEN <u>Yes</u> <u>No</u>
<b>a</b> .	Shipped			1021	- x
	X Agriculture				^
	Forest Public Contact				
	Lawn/Home Garden				
b.					
	Bagged/Other Container Agriculture				
	Forest				
	Public Contact	•	·		
	Lawn/Home Garden			•	
C.	Incineration				
d.	Subtitle D Landfill				
e.	(Disposal Only) Lined Treatment Lagoon				<del></del>
<b>.</b>	or Stabilization Pond				
f.	Unlined Lagoon or Stabilization Pond				<del></del>
g.	Other (Please Describe)				<del></del>
				-	
				<del>-</del> <del>-</del>	
	s selected above and sludge				

**ADEM FORM 419 8/02** 

## **Pollutant Concentrations**

1. Enter the total concentrations of the following analytes using existing data. Do not enter TCLP results.

Analyte	Concentration (mg/kg or ppm)	Sample Type	Sample Date	Detection Level of
Arsenic	<pql< td=""><td>grab</td><td>*</td><td>Analysis</td></pql<>	grab	*	Analysis
Cadmium	<pql< td=""><td>grab grab</td><td>*</td><td>11.0</td></pql<>	grab grab	*	11.0
Chromium	60.8	grab	*	8.0
Copper	371.7	grab	*	8.0
Lead	37.7	grab	*	15.0
Mercury	1.7	grab grab	*	0.6
Molybdenum	<pql< td=""><td>grab</td><td>*</td><td>5.0</td></pql<>	grab	*	5.0
Nickel	49.0	grab grab	*	6.0
Selenium	<pql< td=""><td>grab</td><td>*</td><td>15.0</td></pql<>	grab	*	15.0
Zinc	3,016.7	grab	*	18.0
Ammonium- Nitrogen	N/A	N/A	N/A	N/A
Nitrate- Nitrogen	N/A	N/A	N/A	N/A
Total Kjeldahl Nitrogen	39,333	grab	*	1.8

analysis: 84 %	lids of the sewage sludge when sample	ed for the above
Treatment Provided for Sewage Sludge at the Fa  1. Which class of pathogen reduction does the s 40 CFR Part 503)  Class A  Alternative A1 - Time and Tempe Alternative A2 - Alkaline Treatme Alternative A3 - Analysis and Ope Alternative A4 - Analysis Only	ewage sludge meet at the facility? (As rature nt	defined in
Alternative A5 - Processes to Fur Heat Drying Pasteurization Composting Alternative A6 - PFRP Equivalent	Thermophilic Aerobic Digestion Gamma Ray Irradiation	Heat Treatment Beta Ray Irradiation
X Class B XAlternative B1 - Fecal Coliform Co XAlternative B2 - Process to Signifi XAerobic Digestion Composting Alternative B3 - PSRP Equivalent	icantly Reduce Pathogens (PSRP)  XAir Drying Lime Stabilization	Anaerobic Digestion

Neither or Unknown

X (	Option 1 - Minimum 38% Reduction in Volatile Solids Option 2 - Anaerobic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction Option 3 - Aerobic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction Option 4 - Specific Oxygen Uptake Rate (SOUR) for Aerobically Digested Sludge Option 5 - Aerobic Processes plus Elevated Temperature Option 6 - Raised pH to 12 and Retained at 11.5 Option 7 - 75% Solids with no Unstabilized Solids Option 8 - 90% Solids with Unstabilized Solids Option 9 - Injection Below Land Surface Option 10 - Incorporation into Soil within 6 or 8 Hours Option 11 Covering Active Sewage Sludge Unit Daily None of the Above
Groundwater M	flonitoring floring
1. If disposal pat the site?	practice is surface disposal or land application, is groundwater monitoring required or performed
	(If yes, please submit a copy of the groundwater monitoring reports along with this survey. Also please provide the approximate depth to groundwater and the groundwater monitoring procedures used to obtain the data.)
Land Application	on of Sewage Sludge
1. If sewage s	owing questions if sewage sludge is applied to land. ludge is land applied in bulk form, what type of crop or other vegetation is grown on this site? Ida Grass and Rye Grass.
	udge is land applied in bulk form, what is the nitrogen requirement for this crop or vegetation?  requirement is 600ibs / acre / year.
neighbors?	udge is land applied in bulk form, briefly describe the nature of any complaints filed from

**Note:** Permittees that submitted the "Annual Report Review Form" for sludge to the EPA may submitt a copy with the MWPP in lieu of this Attachment.

# Five Mile Creek Wastewater Treatment Plant ATTACHMENT 4 – Plant and Collection System Personnel Inventory



# PLANT AND COLLECTION SYSTEM PERSONNEL INVENTORY

FACILITY	NAME:	Five Mile Cre	ek WWTP			PLANT GR	ADE:	IV				
PERMIT N	IUMBER:	AL0026913				=						
PLANT MA	ANAGER:	Lynn Jones				-	TEL.#	(205) 841-59	939			
SYSTEM N	MANAGER	David Denard	1	<u></u> .		•	TEL.#	(205) 325-58	306			
PLANT OP	PERATORS	S:										
		NAME	<u>.</u> .		RADE OR		OR NO.		EXP. D	ATE		
. 1		Lynn Jones	3	Plant Ma	anager	C003327		9/30/2014				
2		Robert Tyle	∍r	Shift Su	pervisor	C003008		11/30/201	5			
3		Randy Max	well	Shift Sup	pervisor	C003076		11/30/201	5			
4		Terry Joe N	/laHaffey	Shift Sur	pervisor	C003135		8/31/2016				
5		Tony Sutto	_	Shift Sur		C002294		11/30/201	 5			7
6		Mark Cruce		Operato		C001682		3/31/2015				
7		Adam Smit		Operator		C002236		4/30/2016				
8		Daniel Tes		Operator		C006050		6/30/2014				_
9		Ellis Brown		Operator								7
		Sam Shear		Operator							***	-
10												-
10 11				Operator	r I							1
F		Todd Smith Michael Wi	nerman right	Operator Operator	•							
11		Todd Smith Michael Wi Avg Daily GRADE I-C GRADE II GRADE III	nerman right MAN HRS./WK 40	Operator NUMBER 7	•	,	1ST		PF EMP		START TIN	ЛE
11 12		Todd Smith Michael Win Avg Daily GRADE I-C GRADE II GRADE III GRADE IV	MAN HRS./WK	Operator NUMBER 7	•	,	1ST 2ND	5 2	PF EMP	Š	START TIN	ΛΕ Sat-Su
11 12	/IENT/SUPI	Todd Smith Michael Win Avg Daily GRADE I-C GRADE II GRADE III GRADE IV	MAN HRS./WK 40 40 40	NUMBER 7 8 8 5	•		1ST 2ND 3rd	5 2 2	PF EMP	S 	M -F 7:00a.m	Sat-Su
MANAGEM OPERATO	MENT/SUPI PR(S):	Todd Smith Michael Win Avg Daily GRADE I-C GRADE II GRADE III GRADE IV	MAN HRS./WK 40 40 40 40	NUMBER 7 8 8 5 3	•		1ST 2ND	5 2 2	PF EMP	5	M -F 7:00a.m 3:00p.m.	Sat-Su 7:00an 7:00pn
MANAGEM OPERATO TRAINEE(S	//ENT/SUPI PR(S): S)	Todd Smith Michael Win Avg Daily GRADE I-C GRADE II GRADE III GRADE IV ERVISOR	MAN HRS./WK 40 40 40	NUMBER 7 8 8 5	•		1ST 2ND 3rd	5 2 2	PF EMP	5	M -F 7:00a.m 3:00p.m.	Sat-Su
MANAGEM OPERATO	//ENT/SUPI PR(S): S)	Todd Smith Michael Win Avg Daily GRADE I-C GRADE II GRADE III GRADE IV ERVISOR	MAN HRS./WK 40 40 40 40	NUMBER 7 8 8 5 3	•		1ST 2ND 3rd	5 2 2	PF EMP	5	M -F 7:00a.m 3:00p.m.	Sat-Su 7:00an 7:00pn
MANAGEM OPERATO TRAINEE(S OTHER PL	/IENT/SUPI PR(S): S) ANT WOR	Todd Smith Michael Windhael Windhael Windhael I-C GRADE II GRADE III GRADE IVERVISOR	MAN HRS./WK 40 40 40 40	NUMBER 7 8 8 5 3 4	•		1ST 2ND 3rd	5 2 2	PF EMP	5	M -F 7:00a.m 3:00p.m.	Sat-Su 7:00an 7:00pn
MANAGEM OPERATO TRAINEE(S OTHER PL	/IENT/SUPI PR(S): S) ANT WOR	Todd Smith Michael Windhael Windhael Windhael I-C GRADE II GRADE III GRADE IVERVISOR	MAN HRS./WK 40 40 40 40 40	NUMBER 7 8 8 5 3 4	•		1ST 2ND 3rd	5 2 2	PF EMP	5	M -F 7:00a.m 3:00p.m.	Sat-Su 7:00an 7:00pn
MANAGEM OPERATO TRAINEE(S OTHER PL OPERATO	MENT/SUPI PR(S): S) ANT WOR PR SHIFTS SUN X	Todd Smith Michael Wi Avg Daily GRADE I-C GRADE II GRADE III GRADE IV ERVISOR KERS	MAN HRS./WK 40 40 40 40 40 40 WORKED EAC	NUMBER 7 8 5 3 4 CH DAY:		١	1ST 2ND 3rd weekend	5 2 2	PF EMP	5	M -F 7:00a.m 3:00p.m.	Sat-Su 7:00an 7:00pn
MANAGEM OPERATO TRAINEE(S OTHER PL	MENT/SUPI PR(S): S) ANT WOR PR SHIFTS SUN	Todd Smith Michael Wi Avg Daily  GRADE I-C GRADE II GRADE III GRADE IV ERVISOR  KERS  NORMALLY MON	MAN HRS./WK 40 40 40 40 40 40 TUES	NUMBER 7 8 5 3 4 CH DAY: WED	THURS	FRI	1ST 2ND 3rd weekend	5 2 2	OF EMP	5	M -F 7:00a.m 3:00p.m.	Sat-Su 7:00an 7:00pn

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

 $2.\ \mathsf{DOES}\ \mathsf{COLLECTION}\ \mathsf{SYSTEM}\ \mathsf{OPERATOR}\ \mathsf{STAFFING}\ \mathsf{COMPLY}\ \mathsf{WITH}\ \mathsf{DIVISION}\ \mathsf{10}\ \mathsf{OF}\ \mathsf{ADEM}\ \mathsf{ADMINISTRATIVE}\ \mathsf{CODE?}$ 

YES NO ADEM FORM 441 8/02

FACILITY	NAME:	Five Mile Cr	eek WWTP			PLANT GF	RADE:	IV		Minimates (New Line) of State (Personal Print) (2000)	
PERMIT N	IUMBER:	AL0026913									
PLANT SU	IPERINTEN	IDENT:	Lynn Jones			'	TEL. #	_(205) 841-	5939		
SYSTEM N	MANAGER:	David Dena	ard				TEL. #	(205) 325-	5806	•	
PLANT OF	PERATORS	:									
		NAME		TRAINE	RADE OR		TOR NO.		EXP. DATE	:	
15		Garren Hub			inee	OI LIV	101(140.		LXI . DXIL		
16		Johnny McI	Donough		inee						
17		Billy Joe Po		Trai	inee						
18		Samuel Sho	ears	Trai	inee						
19		Todd Smith	erman	Trai	inee						
20		Daniel Tess	seneer	Trai	inee						
21		Michael Wr	ight	Trai	inee						
								<u> </u>			
								1			
					-						
								1			
											1
MANIACEN	ACNIT/CUID	-DV/ICOD	MAN HRS./WK	NUMBER							
OPERATO	MENT/SUP! DR(S):	EKVISOK									
	(-)-	GRADE I-C	Constitution of the second								
		GRADE I					AVERAGE	E NUMBER	OF EMPLO	YEES PER	SHIFT:
		GRADE II									
		GRADE III					181			START TIME	
		GRADE IV					2NE	)			
DESIGNAT	TED TRAIN	EE(S)					3RD	) <u> </u>			
LABORAT	ORY										
MAINTEN	ANCE										
OTHER PL	LANT WOR	KERS									
OPERATO	R SHIFTS	NORMALLY W	VORKED EACH	I DAY:							
	SUN	MON	TUES	WED	THURS	FRI	SAT				
1ST								]			
2ND								-			
3RD	L	L	<u> </u>		L	l	L	J .			
	ADEM USE	ONLY									-

PLANT AND COLLECTION SYSTEM PERSONNEL INVENTORY

YES	NO
ADEM FORM	444 9/02

Continued

<sup>1.</sup> DOES PLANT OPERATOR STAFFING COMPLY WITH DIVISION 10 OF ADEM ADMINISTRATIVE CODE?

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

		PLANT A	ND COLL	ECTION S	SYSTEM P	PERSO	NNEL INVE	NTO	RY		
FACILITY NA		Sewer Line M	aintenance				Е	LANT C	SRADE:		<u>IV</u>
	ERINTENDEN	VT:							TEL.#	(205) 54	<u>10-7585</u>
SYSTEM MA	NAGER:		David Denard	<u> </u>					TEL.#	(205) 32	<u>25-5979</u>
PLANT OPE	RATORS:										
	N(				DE OR	۱ ۵			=\/D_D		ı
1. Brian Champ		IAME			STATUS	C002094	PERATOR NO.		EXP. D		
2. Don Goodwir		<u> </u>		l(c)		C002094		-+		6/30/2015 6/30/2015	
3. Lavon Evans				I(c)		C00342				2/31/2014	
4. Brian Rohling				I(c)		C00403	<del></del>	-+		3/30/2015	
5.	<i>'</i>			1(0)		00004	<del></del>			NOUIZO IO	
6.					<del>-</del>	<u> </u>					
7.								1			
8.						<u> </u>					
9.											
10.						i e					
1	N SYSTEM O	PERATORS:	-								
MANAGEME OPERATOR(	:NT/SUPERVI (S):	ISOR GRADE I-C GRADE I GRADE III GRADE III		RS./WK	NUMBER		AVERAGE NUI	MBER C		EES PER	SHIFT:
		GRADE III			<del> </del>	-	1ST 2ND	-	514	RIIME	
DESIGNATE	D TRAINEE(S					1	3RD				
LABORATOR		-,			<del>                                     </del>	1				ı	
MAINTENAN						1					
	NT WORKER	≀s				1					
OPERATOR	SHIFTS NOF	RMALLY WORK	ED EACH DA	Y:	•	_					
	SUN	MON	TUES	WED	THURS	FRI	SAT				
1ST											
2ND											
3RD											
ADEM USE ONLY	(									YES	мо
1. DOES PLAN	IT OPERATOR	STAFFING COM	PLY WITH DIVIS	SION 10 OF ADI	EM ADMINISTRA	ATIVE CO	DE?				
2. DOES COLL	ECTION SYST	EM OPERATOR S	STAFFING COM	IPLY WITH DIV	ISION 10 OF AD	EM ADMI	NISTRATIVE COD	E?			
										ADEM FOR	A 441 8/02

# Municipal Water Pollution Prevention (MWPP) Annual Report Calendar Year 2013

For the

# Leeds WWTP

as required by the Alabama Department of Environmental Management NPDES Program



Prepared by Jefferson County Commission Environmental Services Department

May 31, 2014

# JEFFERSON COUNTY COMMISSION



DAVID CARRINGTON - PRESIDENT GEORGE F. BOWMAN SANDRA LITTLE BROWN - PRESIDENT PRO TEMPORE T. JOE KNIGHT JAMES A."JIMMIE" STEPHENS

May 31, 2014

Mr. Nic Caraway, Water Division Alabama Department of Environmental Management Water Division – Municipal Branch P.O. Box 301463 Montgomery, AL 36130-1463

RE: Municipal Water Pollution Prevention (MWPP) Annual Report Calendar Year 2013

Mr. Caraway:

The Jefferson County Environmental Services Department submits the above referenced report for the Leeds Wastewater Treatment Facility, NPDES Permit No. AL0067067. Included is information as required in ADEM Form 41701/06ml, bypass/overflow event reports, MWPP Sewage Sludge Survey, and the Plant & Collection System Personnel Inventory.

If you have any questions regarding this information, please contact me at 205.325.5979 or Celeste Brown of Jefferson County Barton Laboratory at 205.238.3859.

Sincerely,

David Denard, Director Environmental Services Department

DAVID CARRINGTON - COMMISSIONER

TONY PETELOS, COUNTY MANAGER

Office of

**ENVIRONMENTAL SERVICES** 

Director of Environmental Services

716 Richard Arrington, Jr. Blvd. N. Birmingham, Alabama 35203 Telephone (205) 325-5496

DAVID DENARD

Fax (205) 325-5981

Suite A-300

pc: Celeste Brown, JCESD Barton Laboratory Daniel White, JCESD Deputy Director David Willoughby, Leeds WWTP

# MUNICIPAL WATER POLLUTION PREVENTION (MWPP) ANNUAL REPORT

# SUBMITTED BY:

TREATMENT FACILITY: Leeds WWTP			NPDES #:_AL0067067	
MUNICIPALITY: Jefferson County		_ COUNTY: Jefferson		
CONTACT PERSON	David Denard			
	Municipal C	Official		
	Director of Envi	ronmental Services		
	Title			
	Telephone #	<u>1</u> :	Fax #: (205) 325-5981	
	Email Addre	ess:denardd@jccal.org		
CHIEF OPERATOR	David Willoughl	by		
	Name	· ·		
	Telephone #	£:_(205) 699-8495	Fax #: (205) 699-0640	
	Email Addre	ess: willoughbyd@jccal.org		
	Date: May 14,	2014		
REVIEWED BY:	Daniel White P.E.,	ESD Engineer		
-	Consulting Er	ngineer		
,	Γelephone #:	205 -214 -8610	_Fax #: 205-325-5688	
1	Date: May 14,	, 2014		

### MWPP Annual Report Information Source List

The following information will be needed to complete the compliance maintenance report that covers the calendar year of 2013 (due May 31, 2014).

- Part 1 A. The average plant influent flow for each month (million gallons per day/MGD) during the year.
  - B. The average plant influent BOD (CBOD) for each month (mg/l and lb/day) in the year.
  - C. The 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 the year
  - B. The monthly average effluent limits and DMR loading for BOD, TSS, NH3-N, and/or TKN in lbs/day for the year
- Part 3 The age of the 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 minus the year the new construction was brought on-line.
- Part 4 Bypass and overflow information. This is the number of bypass or overflow events of untreated wastewater due to heavy rain or equipment failure whether intentional or inadvertent from all collection systems tributary to the treatment facility.
- Part 5 A. Describe the characteristics and quantity of sludge generated.
  - B. If sludge is landspread, how many months of sludge storage does the plant have? This should include on-site and off-site storage from the treatment plant. The digestor capacity may be used in the calculation.
- Part 6 A. Sludge Disposal Method
  - B. The number of approved land disposal sites for sludge available, and how many months or years these disposal sites will these be available for use.
- Part 7 The number of sewer extensions installed in the community last year--the design population, design flow, and design BOD for each sewer extension.
- Part 8 Operator Certification
- Part 9 Financial Status
- Part 10 Subjective Evaluation
- Part 11 Summary Sheet

State of Alabama MWPP Annual Report Department of Environmental Management

### 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 the actions necessary to prevent effluent violations. Enter the point totals from Parts 1 through 8 on Part 11: Summary Sheet.
- 3. Add the point totals on Part 11: Summary Sheet.
- 4. Submit the MWPP Report to the governing body and the consulting engineer and owner for review and approval.
- 5. The governing body should pass a resolution which contains the following points:
  - a. The resolution should acknowledge the governing body or owner has reviewed the MWPP Report.
  - b. The resolution should indicate what actions will be taken to prevent effluent violations.
  - c. The resolution should provide any other information the governing body or owner deems appropriate.
- 6. The MWPP Report and the resolution must be submitted by May 31<sup>st</sup> to Municipal Section, Water Division, ADEM, P.O. Box 301463, Montgomery, AL 36130-1463.

Facility Name:	Leeds WWTP	
•	<del></del>	_

# Part 1: Influent Loading/Flows

A. List the average monthly volumetric flows and BOD<sub>5</sub> (CBOD<sub>5</sub>) loadings received at your facility during the last calendar year.

<u>Month</u>	Column 1 Average Monthly Flowrate (MGD)	Column 2 Average Monthly BOD <sub>5</sub> (CBOD <sub>5</sub> ) Concentration (mg/l)	Column 3 Average Loading BOD <sub>5</sub> (CBOD <sub>5</sub> ) (lbs/day**)
January	2.1	67	1100
February	2.1	98	1477
March	1.5	72	757
April	1.3	79	825
May	1.5	66	679
June	0.70	87	522
July	0.76	76	451
August	1.1	75	521
September	0.57	110	470
October	0.49	114	459
November	0.52	125	528
December	1.4	62	703
Annual Avg.	1.2	86	708

<sup>\*\*</sup>As reported on NPDES Discharge Monitoring Reports (DMRs) and as required by EPA's NPDES Self-Monitoring System, User Guide, March 1985.

B. List the average design flow and average design BOD<sub>5</sub> loading for the facility below. If you are not aware of these design quantities, contact your consulting engineer or the Alabama Department of Environmental Management.

	Average Design Flow	Average Design BOD <sub>5</sub> Loading (lbs/day)
Design Criteria	5.0	8340
90% of the Design Criteria	4.5	7506

C. How many times did the monthly flow (Column 1) to the WWTP exceed 90% of design flow?

the appropriate point total)

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

D. How many times did the monthly flow (Column 1) to the WWTP exceed the design flow?

the appropriate point total)

$$\boxed{ \boxed{\checkmark} \quad \boxed{\bigcirc} \quad \boxed{\bigcirc}$$

E. How many times did the monthly BOD<sub>5</sub> (or CBOD<sub>5</sub>)\* loading (lbs/day) (Column 3) to the WWTP exceed 90% of the design loading? \_\_\_\_\_ the appropriate point total)

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

F. How many times did the monthly BOD<sub>5</sub> (or CBOD<sub>5</sub>)\* loading (lbs/day) (Column 3) to the WWTP exceed the design loading? \_\_\_\_ the appropriate point total)

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

G. Enter each point value marked for Cthrough F and enter the sum in the appropriate blank below.

D points = 
$$0$$

F points = 
$$0$$

TOTAL POINTS VALUE OR PART 1 \_\_0 Enter this value on Part 11: Summary Sheet.

<sup>\*</sup>To obtain equivalent BOD<sub>5</sub> loading for comparison with design loading for those permittees using influent CBOD<sub>5</sub>, divide annual average CBOD<sub>5</sub>, 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 BOD<sub>5</sub>, (CBOD<sub>5</sub>) TSS, NH<sub>3</sub>-N and/or TKN concentration produced by the facility during the last calendar year.

# (1) NPDES Permit Concentration

		$\mathrm{BOD}_5$ $(\mathrm{CBOD}_5)$	TSS	NH <sub>3</sub> -N	TKN
Permit	<u>Months</u>	(mg/l)	(mg/l)	(mg/l)	(mg/l)
Limit	May-Nov	4.0	24	2.0	4.0
	Dec-Apr	10.0	24	3.0	8.0

# (2) DMR Concentration

<u>Qtr</u>	<u>Month</u>	BOD <sub>5</sub> (CBOD <sub>5</sub> ) (mg/l)	TSS (mg/l)	NH <sub>3</sub> -N (mg/l)	TKN (mg/l)
1	January	0.53	0.77	0.00	0.40
	February	0.39	0.58	0.011	0.29
	March	1.10	0.64	0.00	0.35
2	April	0.30	0.74	0.00	0.24
	May	0.20	1.8	0.00	0.23
	June	0.32	0.98	0.00	0.36
3	July	0.43	0.95	0.00	0.11
	August	0.23	0.57	0.00	0.22
	September	0.25	0.58	0.00	0.31
4	October	0.49	0.80	0.00	0.25
	November	0.54	1.62	0.011	0.28
	December	0.41	0.34	0.00	0.26
	Annual Avg.	0.43	0.87	0.002	0.28

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

# (1) NPDES Permit Loading

Permit	<u>Months</u>	BOD <sub>5</sub> (CBOD <sub>5</sub> ) (lbs/day)	TSS (lbs/day)	NH3-N (lbs/day)	TKN (lbs/day)
Limit	May-Nov	66.7	400	33.3	66.7
	Dec-Apr	166	400	50.0	133
(2) DM	R Loading				
<u>Qtr</u>	<u>Month</u>	BOD <sub>5</sub> (CBOD <sub>5</sub> ) (lbs/day)	TSS (lbs/day)	NH <sub>3</sub> -N (lbs/day)	TKN (lbs/day)
1	January	8.0	20.9	0.00	7.5
	February	6.8	11.1	0.20	4.9
	March	10.1	8.0	0.00	3.7
2	April	3.2	7.9	0.00	2.5
	May	2.0	12.8	0.00	3.0
	June	2.0	6.2	0.00	2.3
3	July	2.9	7.8	0.00	.72
	August	1.9	5.8	0.00	1.9
	September	1.14	2.7	0.00	1.4
4	October	1.8	3.3	0.00	1.0
	November	2.8	7.4	0.03	1.4
	December	5.9	3.9	0.00	3.7
	Annual Avg.	4.1	8.1	0.02	2.8

C. During the past year did the BOD<sub>5</sub> 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? (Check the appropriate point total.)

No = 
$$0$$
 points  $Yes = 121$  points

D.	During the past year did the BOD <sub>5</sub> concentration (mg/l) and/or loading (lbs/day), exceed the
	monthly average permit limit during four months of any two consecutive quarters? (Check
	the appropriate point total.)

No = 
$$0$$
 points Yes =  $121$  points

No = 
$$0$$
 points Yes =  $121$  points

No = 
$$0$$
 points  $Yes = 121$  points

No = 0 points 
$$Yes = 121$$
 points

No = 0 points 
$$Yes = 121 points$$

Facility Name:	Leeds WWTP

# Part 3: Age of the Wastewater Treatment Facility

A. W	hat year was the wastewater	r treatment plant constructed	l or last reconstructed?	1995
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Subtract the above answer from the report year to determine age:

Age = (Last Calendar year) - (Answer to A)
$$Age \underline{ ^{18} } = (\underline{ ^{2013} }) - (\underline{ ^{1995} })$$

Enter Age in Part C below.

B. Check the type of treatment facility employed.

		Factor
xMechanical Treatment Plant		2.0
Aerated Lagoon		1.5
Stabilization Pond		1.0
Other (Specify:	)	1.0

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

$$\frac{2.0}{\text{(Factor)}} \times \frac{18}{\text{(Age)}} = \frac{36}{\text{TOTAL POINT VALUE FOR PART 3}}$$

Enter the above value on Part 11: Summary Sheet. If the total point value exceeds 40, enter 40 on Part 11: Summary Sheet.

Facil	ity Name: Leeds WWTP
Part	4: Bypassing and Overflows
<b>A.</b>	How many bypass or overflow events of untreated wastewater occurred in the last year at the WWTP 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 WWTP due to heavy rain?
C.	How many of the bypass or overflow events listed in Parts A and B have been corrected such that future bypass or overflow events at the same location due to heavy rain are not anticipated?
D.	Add together Answers A and B and subtract Answer C from that total. A + B - C = (Check the appropriate point total.) 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 WWTP due to equipment failure? (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 WWTP? (This includes clogged/broken lines or manholes.)2
G.	How many of the bypass or overflow events listed in Parts E and F have been corrected such that future bypass or overflow events at the same location due to the same equipment failure are not anticipated?2
Н.	Add together Answers E and F and subtract Answer G from that total. $E + F - G = $ (Check the appropriate point total.) $0 = 0$ 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 point values circled in D and H and enter the total in the blank below.
	AL POINT VALUE FOR PART 40 r this value on Part 11: Summary Sheet.
	All bypass or overflow events that have occurred in the last year (for any reason) must

be individually reported with this MWPP report.

<u>Part</u>	5: Sludge Quantity and	Storage	
A.	<u>-</u>	ation concerning sludge quantity, character as requested on the MWPP Sewage	
B.	available, either on-site	sludge storage capacity does the vector off-site? (i.e., How many montosing of sludge?)	
	Less than 3 months, b	-	= 0 points
	CAL POINT VALUE FOR this value on Part 11: S		
Part	6: Sludge Disposal Pract	ices and Sites	<del></del>
A.		udge disposal practices and site info	
B.		years does the facility have access de proper land disposal? (Check the	* *
	36 or more months	**************************************	
	24 - 35 months	= 10 points	
	12 - 23 months 6 - 11 months	= 20 points 🗸	
	Less than 6 months	= 30 points  = 50 points =	
	AL POINT VALUE FO		

Facility	y Name: Leeds WWTP		_		
Part 7:	New Development		_		
C	Are there any major new develocalendar year or anticipated in the he sewage system could significate	ne next 2-3 years	such that eith	er flow or BOD5	loadings to
	Design Population: Equivalent (PE)	Design Flow:	MGD	Design BOD <sub>5</sub> :	lbs/day
	List industrial and/or residential	developments.			
	The Environmental Services Department ha	as not received any appli	cable sewer		
	availability requests that would significantly	impact the sewer systen	n, but ESD		
	is aware of long-term development concepts	s that could affect the			
	collection system and potentially the WWTP	in the next 5 to 10 year	s.		
TOTA	No = 0 points Ye	(highest	point total = 1	121)	
	Operator Certification ete the Plant and Collection System	em Personnel Inve	entory, ADEN	И Form 441.	
	Do both the plant operator and co Code; Division 10, Operator Cert	•			
	$Yes = 0 \text{ points} \qquad No$	o = 121 points			
	L POINT VALUE FOR PART 8 his value on Part 11: Summary S		est point total	= 121)	

Faci	lity Name: Leeds WWTP						
Part	9: Financial Status						
A.	Are User-Charge Revenue how are O&M costs being		•		ntenance expe	nses? If no,	
	Revenues are sufficient. The below	ow values are base	ed on a 5/8" meter and 6,0	000 gallons w	ater use. Jefferson	_	
	County has a three tier block rate	e structure for resid	dential users for 0-3, 4-6,	and 7+ ccf wa	ter use.	_	
	Residential Minimum	\$15.00	Plus rate <u>6.0</u>	02;9.36;10.69	/1,000 gal.		
	Industrial Minimum	\$15.00	Plus rate	\$10.51	/1,000 gal.		
	Monthly residential rate	based on 6,00	00 gallons usage \$_	56.04 (include	es 15% credit for res	sidential	
	ase complete the above inf attach a sample water and		· · · · · · · · · · · · · · · · · · ·	harge rate	es for the repo	rt year. You	
B.	What financial resource reconstruction needs?	es are availa	ble to pay for th	e wastewa	ater improven	nents and/or	
	In 2013, Jefferson County issued Series 2013 Sewer Warrants that fund capital improvements						
	through 2023 at an annual avera	ge rate of \$71.9 m	illion over the 10-year per	riod.			
	·						
<u>Part</u>	10: Subjective Evaluation						
A.	Describe briefly the phys	ical and struct	tural conditions of	the wastev	vater treatment	t facility.	
	The physical and structural cond	ition of the WWTP	is good.			_	
						_	
						_	
B.	Describe the general cond	dition of the so	ewer system (sewe	er lines, ma	nholes, lift sta	tions).	
	The Leeds system includes roug	hly 275,000' of pip	e and 8 pump stations. T	Γhe system's r	ate of	_	
	SSO's/100 miles of sewer met th	ne department's go	al. There are no known ca	apacity deficie	ncies.	_	
	The general condition of the sys	tem is good.					

	Sewer line repairs and replacements. Generators at Coosa Ave. and Parkway pump stations.
	The Coosa Ave. pump station, force main and gravity sewer will likely need a capacity expansion.
	Replacement of the WWTP SCADA system. Replacement of the WWTP UV system.
	What is the theoretical design life of the plant, and what is the estimated remaining useful of the wastewater treatment facility?
	Calculated remaining useful life of the structures is 32 years (50 years - 18 years age of facility).
	Remaining useful life of equipment is 7 years (25 years - 18 years age of equipment).
	*Based on EPA's 2002 Clean Water and Drinking Water Infrastructure Gap Analysis Report.
	What problems, if any, over the last year have threatened treatment or conveyance with ystem?
	There were two blockages in sewer lines that resulted in SSOs.
Is	s the community presently involved in formal planning for treatment facility upgrading?
,	
	Now many days in the last year were there residential backups at any point in the collegetem for any reason other than clogging of the lateral connection? 6
	Ooes the plant have a written plan for preventive maintenance on major equipment item es, describe.
У	Yes. Preventive maintenance schedules are entered into the INFOR asset management program. Work orders
<b>y</b>	

[.	Does this preventive maintenance program depict frequency of intervals, types of lubrication, and other preventive maintenance tasks necessary for each piece of equipment? (Check the
	appropriate response.) Yes No
Г.	Are these preventive maintenance tasks, as well as equipment problems, being recorded and filed so future maintenance problems can be assessed properly? (Check the appropriate response.)  Yes  No
K.	Describe any major repairs or mechanical equipment replacement made in the last year and include the approximate cost for those repairs. Do not include major treatment plant construction or upgrading programs.
	Replaced one backwash pump on sand filter #1 at an approximate cost of \$4,050.
	Repaired plant water wash-down pump at an approximate cost of \$7,300
-	
	List any additional comments. (Attach additional sheets if necessary.)

Facility Name: Leeds WWTP	
Part 11: Summary Sheet	
	ough 8 in the left column below. Add the numbers in the P Report point total the wastewater system generated for
Actual Values	Maximum Possible
Part 1 _ 0 _ points	80 points
Part 2 <u>0</u> points	121 points
Part 3 <u>36</u> points	40 points
Part 4 <u>0</u> points	200 points
Part 5 _ o _ points	50 points
Part 6 20 points	50 points
Part 7 _ 0 _ points	121 points
Part 8 o points	121 points
Total <u>56</u> points	783 points
2. Check the facility type that best descr	ibes the plant's treatment and disposal of wastewater.
Mechanical plant with surface water	•
Aerated Lagoon or stabilization pon Mechanical plant using land disposa	3
Aerated Lagoon or stabilization pon-	d using land disposal of liquid wastes
✓ 0 - 70 pts. Actions as Ap  71 - 120 pts. Departmental	Recommendation Range* Action Range*

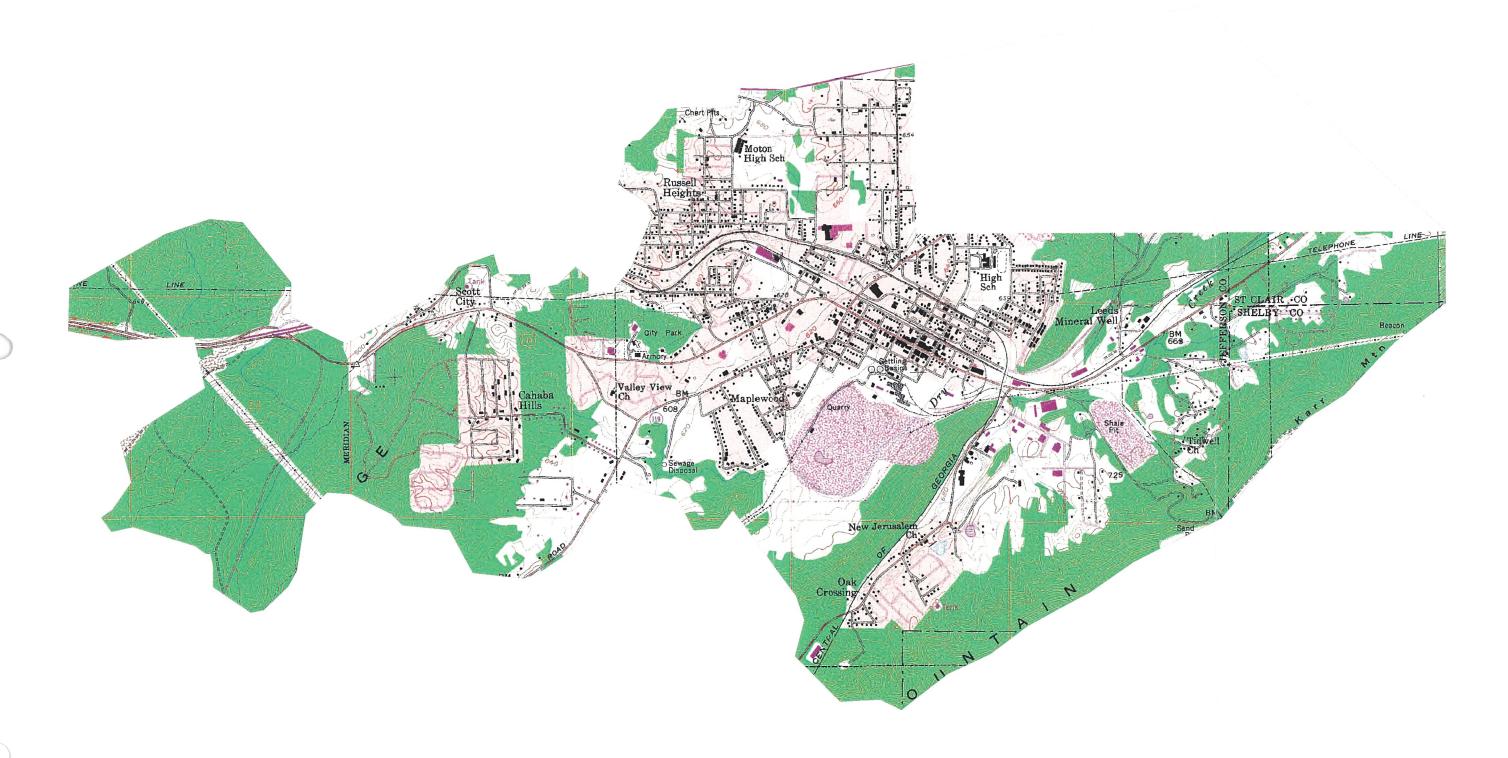
4. Complete the Municipal Water Pollution Prevention Resolution Form, ADEM Form 418.

In Question 1, do any of the actual point values in the left column equal the maxim possible points in the right column? (Check the appropriate response)  Yes  No
If yes, provide a written explanation for this situation in the space below.

# Leeds Wastewater Treatment Plant <u>ATTACHMENT 2</u> – Raw Sewage Bypass and <u>SUMMARY</u>



# **LEEDS BASIN 2013 DISCHARGES**



NOTE: OVERFLOWS SHOWN ARE OVER 10,000 GALLONS NONE REPORTED FOR LEEDS BASIN.

JEFFERSON COUNTY ENVIRONMENTAL SERVICES PLOTTED: 2-11-14





# Summary of Unpermitted Discharges - Leeds

January 01, 2013 through December 31, 2013

NOTE: Quantities shown in the column "Est. Volume" are ESTIMATED ONLY. These estimates are the County's best determination of the discharge volume, based upon site-determinable information and accepted estimating methods. However, such estimates are subject to a high number of variables which are completely beyond the County's control and which can have a significant effect upon the calculated amount. Therefore, these estimates are to be used for relative comparison only, not as actual discharge volumes.

							-				
Event No.	Event Date No. Reported Location	Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
T00041	2/4/13	T00041 2/4/13 7237 President Street	Leeds	Ground Absorbed/ Drainage Ditch	695	Manhole	Grease/ Jetwashing Activity	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
	Notes:					**************************************	e desirable deserve est est est est est est est est est es	manufacture of the state of the		2 10 10 10 10 10 10 10 10 10 10 10 10 10	
T00048	11/14/13	T00048 11/14/13 8517 Hampton St	Leeds	Storm Drain		Pipe	Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
	Notes: Volum	Notes: Volume was not determinable.									

# Leeds Wastewater Treatment Plant ATTACHMENT 3 – MWPP Sewage Sludge SURVEY



# **MWPP SEWAGE SLUDGE SURVEY**

1. Facility				
•	y Information		Permit Number:	AL0067067
	Name:	LEEDS WWTP		
	Street Address:	800 HELEN STREE	T	
	County:	JEFFERSON	********	
	•		100 - 100 -	
2. Facility	y Contact			
	Name:	David Willoughby		
	Title:	PLANT SUPERINTE	ENDENT	
	Telephone:	(205) 699-8495	10000 1000 1400	
	Permittee Name:	JEFFERSON COUN	ITY COMMISSION (Lee	eds WWTP)
	Mailing Address:	SUITE A-300, 716 R	RICHARD ARRINGTON,	JR. BLVD. N.
			· · · · · ·	
<b>F</b> = -3134 + <b>F</b> 1				
-	ow Information			
1. Facility	Wastewater Treatment C			
	Avg. Daily Flow for 201		MGD	
	Facility Design Capacit	ty: <u>5.0</u>	MGD	
2 Ectime	ated Septage Quantity Han	dlad (Pasiduals Pamou	and from Sontin Tonk Sw	stoma)
Z. ESUITIO	· =	•	· · · · · · · · · · · · · · · · · · ·	•
	Average Domestic Sep			er month
	Average Commercial S	Septage: <u>N/A</u>	galions p	er month
3 Metho	d of Septage Processing			
		Wastewater for Treatm	nent	
	Mixed with Sewage	e Sludge		
	X	N/A		
	<u> </u>	1071		
4. Estima	ated Percentage Contributi	ng Wastewater Flow		
	Residential: 92	%		
	Industrial: 3	<del></del> %		
		— % Describ	oe: COMMERCIAL	
	Other: 5	% Describ	pe: COMMERCIAL	10 (10 m) (10 m)
5. List typ		_		
5. List typ	Other: 5  De of wastewater treatment	— t process(es) utilized at		TIVATED
5. List typ	Other: 5  De of wastewater treatment	— t process(es) utilized at	this facility:	TIVATED
5. List typ	Other: 5  De of wastewater treatment	— t process(es) utilized at	this facility:	TIVATED
•	Other: 5  De of wastewater treatment	t process(es) utilized at REMOVAL, EXTENDE	this facility:	TIVATED Ib/day dry weight
•	Other: 5  De of wastewater treatment  COMMINUTOR, GRIT	t process(es) utilized at REMOVAL, EXTENDE	this facility:	
6. Estima	Other: 5  De of wastewater treatment COMMINUTOR, GRIT  ated sewage sludge wastin	t process(es) utilized at REMOVAL, EXTENDE	this facility: D AERATION WITH AC	lb/day dry weight gallons per day
6. Estima	Other: 5  De of wastewater treatment  COMMINUTOR, GRIT	t process(es) utilized at REMOVAL, EXTENDE	this facility: D AERATION WITH AC or 11,400 N/A	Ib/day dry weight gallons per day Ib/day dry weight
6. Estima	Other: 5  De of wastewater treatment COMMINUTOR, GRIT  ated sewage sludge wastin	t process(es) utilized at REMOVAL, EXTENDE	this facility: D AERATION WITH AC	lb/day dry weight gallons per day

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Aorahia Digaatian				udge Quantit ed pounds p	
Aerobic Digestion Drying Beds(Air Drying)					
brying beds(All brying)			<del>-</del>	4-4	,,
Estimate the total volume of sludge	generated:			372	·
			(dry U	l.S. tons per	year)
Sludge Disposal Methods					
. Which of the following describes the	current me	thod of sew Current I		•	Drasticas
	Approved	by ADEM	Quantity	Proposed Approved	
	Yes	No	(dry U.S. tons/year)	Yes	No
a. <b>X</b> Land Application, Bulk					
Shipped	-	-	373	_	_
<b>X</b> Agriculture					
☐ Forest	0	0			
Public Contact					
Lawn/Home Garden					
b. 🛘 Land Application, Bagged/Other Container					
Agriculture					
Forest					
☐ Public Contact					
Lawn/Home Garden					
c. [] Incineration	0	П			
d. DSubtitle D Landfill (Disposal Only)					
e. 🛘 Lined Treatment Lagoon or Stabilization Pond	0				
f. Dunlined Lagoon or Stabilization Pond				П	П
g. [] Other (Please Describe)	0	0		ם	П
			- - -		
. If "f" was selected above and sludge urface disposal site and the property lin		r 2 or more	years, enter the distanc	e between th	ie

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1. Enter the total concentrations of the followin	analytes using existing data.	Do not enter TCLP results.
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	Concentration	Sample	Sample	Detection Level of
Analyte	(mg/kg or ppm)	Туре	Date	Analysis
Arsenic	<pql< td=""><td>GRAB</td><td>*</td><td>11.0</td></pql<>	GRAB	*	11.0
Cadmium	<pql< td=""><td>GRAB</td><td>*</td><td>5.0</td></pql<>	GRAB	*	5.0
Chromium	62	GRAB	*	6.0
Copper	930	GRAB	*	5.0
Lead	28	GRAB	*	12.0
Mercury	2.0	GRAB	*	0.03
Molybdenum	16.00	GRAB	*	6.0
Nickel	29	GRAB	*	6.0
Selenium	<pql< td=""><td>GRAB</td><td>*</td><td>12.0</td></pql<>	GRAB	*	12.0
Zinc	780	GRAB	*	8.0
Ammonium- Nitrogen	N/A	N/A	*	N/A
Nitrate-				
Nitrogen	N/A	N/A	*	N/A
Total Kjeldahl Nitrogen	27,750	GRAB	*	0.09

2. Enter the estimated or determined percent so analysis: 84 %	lids of the sewage sludge when sam	pled for the above
Treatment Provided for Sewage Sludge at the Fa	acility	
1. Which class of pathogen reduction does the s	sewage sludge meet at the facility?	(As defined in
40 CFR Part 503)	, ,	`
🛘 Class A		
☐ Alternative A1 - Time and Tempe	rature	
Alternative A2 - Alkaline Treatme		
Alternative A3 - Analysis and Ope		
☐ Alternative A4 - Analysis Only		
Alternative A5 - Processes to Fur	ther Reduce Pathogens (PERP)	
☐ Heat Drying	Thermophilic Aerobic Digestion	☐ Heat Treatment
☐ Pasteurization	☐ Gamma Ray Irradiation	Beta Ray Irradiation
☐ Composting	П	П
☐ Alternative A6 - PFRP Equivalent		
<b>X</b> Class B		
X Alternative B1 - Fecal Coliform Co	ount	
Alternative B2 - Process to Significant		
Aerobic Digestion	Air Drying	Anaerobic Digestion
	☐ Lime Stabilization	1 / macrobio Digestion

Neither or Unknown

**Vector Attraction Control** 

☐ Option 1 - Minimum 38% Reduction in Volatile Solids

Alternative B3 - PSRP Equivalent

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🛮 Option 3 - Aerol	robic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction bic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction
	ific Oxygen Uptake Rate (SOUR) for Aerobically Digested Sludge
	bic Processes plus Elevated Temperature ed pH to 12 and Retained at 11.5
	Solids with no Unstabilized Solids
	Solids with Unstabilized Solids
	tion Below Land Surface
•	prporation into Soil within 6 or 8 Hours
	ering Active Sewage Sludge Unit Daily
None of the Abo	ove
Groundwater Monitoring	
If disposal practice is surfaperformed at the site?	ace disposal or land application, is groundwater monitoring required or
•	yes, please submit a copy of the groundwater monitoring reports along with this
<b>(</b>	rvey. Also please provide the approximate depth to groundwater and the
	oundwater monitoring procedures used to obtain the data.)
Land Application of Sewage S	Sludge
	ns if sewage sludge is applied to land.  pplied in bulk form, what type of crop or other vegetation is grown on this site?  rass
	· · · · · · · · · · · · · · · · · · ·
If sewage sludge is land a     600 lb/acre/year(Reclamation	pplied in bulk form, what is the nitrogen requirement for this crop or vegetation?
3. If sewage sludge is land a neighbors?	pplied in bulk form, briefly describe the nature of any complaints filed from
No recent complaints have be	een filed.

**Note:** Permittees that submitted the "Annual Report Review Form" for sludge to the EPA may submit a copy with the MWPP in lieu of this Attachment.

ADEM FORM 419 8/02 Page 4 of 4

# Leeds Wastewater Treatment Plant <u>ATTACHMENT 4</u> – Plant and Collection System Personnel Inventory



FACILITY NAME: Leed: PERMIT NUMBER: AL00	67067				-	PLANT GRA			·
PLANT SUPERINTENDENT:		ughby			<b>-</b>		TEL.#	(205) 699-8	3495
SYSTEM MANAGER:	David Dena			•		· · ·	TEL.#	(205) 325-5	
PLANT OPERATORS:								<u> </u>	
NAME		GRAD TRAINEE	_	0	PERATOR NO	). [	EXP	. DATE	_
Ben Cato	·,,	IN	v		C001942		11/3	0/2015	_
Doris Gill		I)	v .		C000444		11/3	0/2015	_
David Willoughby		IN	v		C002616		11/3	0/2015	
Wanda June McCarty		1\	v		C003209		7/3	1/2015	_
Hermon Ramsey		1\	v		C003658		8/31	1/2015	
Anthony Weldon		1\	<i>_</i>		C002650			30/2013	_
Willie G. Harmon									-
Eric T. Lawler								:	-
									-
									-
	DATODS:	<u> </u>							-
COLLECTION SYSTEM ODE	naions.								
COLLECTION SYSTEM OPE							-		-
COLLECTION SYSTEM OPE									<b>-</b>
		·							-
									- - -
									- -
		RS /WK	NUMBER						- - -
	MAN H	RS./WK	NUMBER 1						- - -
	MAN H	10							- - -
MANAGEMENT/SUPERVISO OPERATOR(S): GRAE	MAN H	10							-
MANAGEMENT/SUPERVISO OPERATOR(S): GRAE GR	MAN H OR 4	10			AVERAGE N	UMBER OF	EMPLOY	ÆES PER S	- - - -
MANAGEMENT/SUPERVISO OPERATOR(S): GRAD GRAD GRAD	MAN H PR 4 DE I-C ADE I	10			_				
MANAGEMENT/SUPERVISO OPERATOR(S): GRAD GRAD GRAD GRAD	MAN H PR 4 DE I-C ADE I ADE II DE III	10			AVERAGE N	UMBER OF		ÆES PER SI	
MANAGEMENT/SUPERVISO OPERATOR(S): GRAD GRAD GRAD GRAD	MAN H PR 4 DE I-C ADE II DE II	10	1		1ST				
MANAGEMENT/SUPERVISO OPERATOR(S): GRAE GRAE GRAE GRAE GRAE	MAN H PR 4 DE I-C ADE II DE II	10	1		1ST 2ND 3RD				
MANAGEMENT/SUPERVISO OPERATOR(S): GRAE GRAE GRAE GRAE GRAE GRAE GRAE GRAE	MAN H PR 4 DE I-C ADE II DE II	10	1		1ST 2ND				
MANAGEMENT/SUPERVISO OPERATOR(S): GRAD GRAD GRAD GRAD GRAD GRAD GRAD GRAD	MAN H  OR 4  OE I-C  ADE I  DE IV 2	10	1		1ST 2ND 3RD				
MANAGEMENT/SUPERVISO OPERATOR(S): GRAE GRAE GRAE GRAE GRAE GRAE DESIGNATED TRAINEE(S) LABORATORY MAINTENANCE OTHER PLANT WORKERS	MAN H PR ADE I-C ADE II DE IV 20	00	5		1ST 2ND 3RD				
MANAGEMENT/SUPERVISO OPERATOR(S): GRAE GRAE GRAE GRAE GRAE GRAE GRAE DESIGNATED TRAINEE(S) LABORATORY MAINTENANCE OTHER PLANT WORKERS OPERATOR SHIFTS NORMA	MAN H PR ADE I-C ADE II DE IV 20	00	5	FRI	1ST 2ND 3RD				
MANAGEMENT/SUPERVISO OPERATOR(S):  GRAE GRA GRA DESIGNATED TRAINEE(S) LABORATORY MAINTENANCE OTHER PLANT WORKERS  OPERATOR SHIFTS NORMA SUN MO	MAN H  OR 4  OE I-C  ADE II  DE IV  20  8  ALLY WORKED E/	00 00 ACH DAY:	5		1ST 2ND 3RD				
MANAGEMENT/SUPERVISO OPERATOR(S):  GRAE GRAE GRAE GRAE GRAE DESIGNATED TRAINEE(S) LABORATORY MAINTENANCE OTHER PLANT WORKERS  OPERATOR SHIFTS NORMAR SUN MO	MAN H  OE I-C  ADE I  DE IV  20  ALLY WORKED EACON  TUES	00 ACH DAY:	1  5  THURS	FRI x	1ST 2ND 3RD				

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

ADEM FORM 441 8/02

PLANT AND COLLECTION SYSTEM PERSONNEL INVENTORY

			PLANT A	ND COLL	ECTION S	SYSTEM F	PERSO	NNEL INV	ENTORY			
	FACILITY NA	ME:	Sewer Line M	laintenance					PLANT GRAI	DE:		<u>IV</u>
	PERMIT NUM	IBER:			-							
	PLANT SUPE	ERINTENDE	NT:						T.	EL.#	(205) 54	0-7585
	SYSTEM MA	NAGER:		David Denard	<u> </u>				T	EL.#	(205) 32	<u>5-5979</u>
	PLANT OPER	RATORS:										
					GRA	DE OR						
			IAME		TRAINE	E STATUS	0	PERATOR NO	).	EXP. DA	E	
	Brian Champi		. <u>.</u>		l(c)		C002094	4		6/3	0/2015	
	Don Goodwin				l(c)		C00542	3		6/3	0/2015	
3.	Lavon Evans				l(c)		C00463	1		12/3	1/2014	
4.	Brian Rohling				l(c)		C005418	3		6/3	0/2015	
5.												
6.	Ĺ											
7.												
8.												
9.												
10.		•					].					
1. 2. 3. 4.	MANAGEMEI OPERATOR(	NT/SUPERV		MAN H	RS./WK	NUMBER		AVERAGE NU	JMBER OF E		ES PER	SHIFT:
			GRADE IV				]	2ND			Ī	
	DESIGNATE	D TRAINEE(	S)					3RD				
	LABORATOR	RY					]	_			•	
	MAINTENAN	CE ·										
	OTHER PLAN	NT WORKER	RS				]					
	OPERATOR	SHIFTS NOF	RMALLY WORK	ED EACH DA	V·		_					
	OI LIVITORY	SUN	MON	TUES	 WED	THURS	FRI	SAT				
	1ST		1		1	1110110	T					
	2ND		<del></del>			1	<del>                                     </del>					
	3RD					1						
	ADEM USE ONLY	T OPERATOR	STAFFING COM						DE?	[	YES	NO
										,	DEM FORM	441 8/02

# Municipal Water Pollution Prevention (MWPP) Annual Report Calendar Year 2013

For the

# **Prudes Creek WWTP**

as required by the Alabama Department of Environmental Management NPDES Program



Prepared by Jefferson County Commission Environmental Services Department

May 31, 2014

# JEFFERSON COUNTY COMMISSION



DAVID CARRINGTON - PRESIDENT GEORGE F. BOWMAN SANDRA LITTLE BROWN - PRESIDENT PRO TEMPORE T. JOE KNIGHT JAMES A."JIMMIE" STEPHENS

May 31, 2014

Mr. Nic Caraway
Alabama Department of Environmental Management
Water Division – Municipal Branch
P.O. Box 301463
Montgomery, AL 36130-1463

RE: Municipal Water Pollution Prevention (MWPP) Annual Report Calendar Year 2013

Mr. Caraway:

The Jefferson County Environmental Services Department submits the above referenced report for the Prudes Creek Wastewater Treatment Facility, NPDES Permit No. AL0056120. Included is information as required in ADEM Form 41701/06ml, bypass/overflow event reports, MWPP Sewage Sludge Survey, and the Plant & Collection System Personnel Inventory.

If you have any questions regarding this information, please contact me at 205.325.5979 or Celeste Brown at Jefferson County Barton Laboratory at 205.238.3859.

Sincerely,

David Denard, Director

Environmental Services Department

**DAVID CARRINGTON - COMMISSIONER** 

TONY PETELOS, COUNTY MANAGER

Office of

**ENVIRONMENTAL SERVICES** 

Director of Environmental Services

716 Richard Arrington, Jr. Blvd. N. Birmingham, Alabama 35203

Telephone (205) 325-5496 Fax (205) 325-5981

DAVID DENARD

Suite A-300

pc: Celeste Brown, JCESD Barton Laboratory
Daniel White, JCESD Deputy Director
Lynn Jones, Prudes Creek WWTP

# MUNICIPAL WATER POLLUTION PREVENTION (MWPP) ANNUAL REPORT

# SUBMITTED BY:

TREATMENT FACI	NPDES #:_AL0056120		
MUNICIPALITY: Jet	fferson County Commission	COUNTY:Jefferson	
CONTACT PERSON			
	Municipal Official		
	Director of Environmental Services		
	Title		
	Telephone #: 205 - 325-5979	Fax #: <sup>205 - 325-5981</sup>	
	Email Address: denardd@jcal.org		
CHIEF OPERATOR	Lynn D. Jones, Plant Manager		
	Name		
	Telephone #: 205 - 841 - 5939	Fax #: 205 - 841 - 7698	
	Email Address: jonesly@jccal.org		
	Date: May 14, 2014		
REVIEWED BY:	Daniel White P.E., ESD Engineer		
Ī	Consulting Engineer		
,	Telephone #: 205 - 214 - 8610	Fax #:_205 - 325 - 5981	
]	Date: May 14, 2014		

### MWPP Annual Report Information Source List

The following information will be needed to complete the compliance maintenance report that covers the calendar year of 2013 (due May 31, 2014).

- Part 1 A. The average plant influent flow for each month (million gallons per day/MGD) during the year.
  - B. The average plant influent BOD (CBOD) for each month (mg/l and lb/day) in the year.
  - C. The 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 the year
  - B. The monthly average effluent limits and DMR loading for BOD, TSS, NH3-N, and/or TKN in lbs/day for the year
- Part 3 The age of the 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 minus the year the new construction was brought on-line.
- Part 4 Bypass and overflow information. This is the number of bypass or overflow events of untreated wastewater due to heavy rain or equipment failure whether intentional or inadvertent from all collection systems tributary to the treatment facility.
- Part 5 A. Describe the characteristics and quantity of sludge generated.
  - B. If sludge is landspread, how many months of sludge storage does the plant have? This should include on-site and off-site storage from the treatment plant. The digestor capacity may be used in the calculation.
- Part 6 A. Sludge Disposal Method
  - B. The number of approved land disposal sites for sludge available, and how many months or years these disposal sites will these be available for use.
- Part 7 The number of sewer extensions installed in the community last year--the design population, design flow, and design BOD for each sewer extension.
- Part 8 Operator Certification
- Part 9 Financial Status
- Part 10 Subjective Evaluation
- Part 11 Summary Sheet

State of Alabama MWPP Annual Report Department of Environmental Management

### 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 the actions necessary to prevent effluent violations. Enter the point totals from Parts 1 through 8 on Part 11: Summary Sheet.
- 3. Add the point totals on Part 11: Summary Sheet.
- 4. Submit the MWPP Report to the governing body and the consulting engineer and owner for review and approval.
- 5. The governing body should pass a resolution which contains the following points:
  - a. The resolution should acknowledge the governing body or owner has reviewed the MWPP Report.
  - b. The resolution should indicate what actions will be taken to prevent effluent violations.
  - c. The resolution should provide any other information the governing body or owner deems appropriate.
- 6. The MWPP Report and the resolution must be submitted by May 31<sup>st</sup> to Municipal Section, Water Division, ADEM, P.O. Box 301463, Montgomery, AL 36130-1463.

# Part 1: Influent Loading/Flows

A. List the average monthly volumetric flows and BOD<sub>5</sub> (CBOD<sub>5</sub>) loadings received at your facility during the last calendar year.

<u>Month</u>	Column 1 Average Monthly Flowrate (MGD)	Column 2 Average Monthly BOD <sub>5</sub> (CBOD <sub>5</sub> ) Concentration (mg/l)	Column 3 Average Loading BOD <sub>5</sub> (CBOD <sub>5</sub> ) (lbs/day**)
January	0.68	24	135
February	0.62	34	168
March	0.55	33	143
April	0.54	51	185
May	0.45	47	139
June	0.34	50	131
July	0.37	48	121
August	0.33	42	116
September	0.25	67	133
October	0.24	73	147
November	0.29	84	223
December	0.63	30	121
Annual Avg.	0.44	49	147

<sup>\*\*</sup>As reported on NPDES Discharge Monitoring Reports (DMRs) and as required by EPA's NPDES Self-Monitoring System, User Guide, March 1985.

B. List the average design flow and average design BOD<sub>5</sub> loading for the facility below. If you are not aware of these design quantities, contact your consulting engineer or the Alabama Department of Environmental Management.

	Average Design Flow	Average Design BOD <sub>5</sub> Loading (lbs/day)
Design Criteria	0.9	2144
90% of the Design Criteria	0.81	1930

C. How many times did the monthly flow (Column 1) to the WWTP exceed 90% of design flow?

(Check the appropriate point total)

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

D. How many times did the monthly flow (Column 1) to the WWTP exceed the design flow?

(Check the appropriate point total)

E. How many times did the monthly BOD<sub>5</sub> (or CBOD<sub>5</sub>)\* loading (lbs/day) (Column 3) to the WWTP exceed 90% of the design loading? \_\_\_\_\_ (Check the appropriate point total)

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

F. How many times did the monthly BOD<sub>5</sub> (or CBOD<sub>5</sub>)\* loading (lbs/day) (Column 3) to the WWTP exceed the design loading? \_\_\_\_ (Check the appropriate point total)

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

G. Enter each point value marked for Cthrough F and enter the sum in the appropriate blank below.

C points = 
$$0$$

D points = 
$$0$$

E points = 
$$0$$

F points = 
$$0$$

TOTAL POINTS VALUE OR PART 1 º

Enter this value on Part 11: Summary Sheet.

<sup>\*</sup>To obtain equivalent BOD<sub>5</sub> loading for comparison with design loading for those permittees using influent CBOD<sub>5</sub>, divide annual average CBOD<sub>5</sub>, loading in lbs/day from Part 1, A by 0.7.

#### Part 2: Effluent Quality/Plant Performance

DOD

A. List the monthly average permit limits for the facility in the blanks below and the average monthly effluent DMR BOD<sub>5</sub>, (CBOD<sub>5</sub>) TSS, NH<sub>3</sub>-N and/or TKN concentration produced by the facility during the last calendar year.

#### (1) NPDES Permit Concentration

Permit Limit	Months	$(CBOD_5)$ $(mg/l)$	TSS (mg/l)	NH <sub>3</sub> -N (mg/l)	TKN (mg/l)
	April - Oct.	8.0	30.0	2.5	5.0
	Nov May	25.0	30.0	10.0	20.0

#### (2) DMR Concentration

<u>Qtr</u>	<u>Month</u>	BOD <sub>5</sub> (CBOD <sub>5</sub> ) (mg/l)	TSS (mg/l)	NH <sub>3</sub> -N (mg/l)	TKN (mg/l)
1	January	0.80	0.98	0.24	0.60
	February	0.73	0.50	0.01	0.26
	March	0.75	0.54	0.14	0.53
2	April	0.68	0.94	0.17	0.64
	May	0.43	0.68	0.03	0.27
	June	2.2	2.2	0.24	0.74
3	July	1.5	3.1	0.06	0.34
	August	0.68	0.67	0.01	0.31
	September	0.72	0.94	0.11	0.42
4	October	0.88	0.67	0.04	0.38
	November	0.89	1.5	0.01	0.32
	December	1.0	0.71	0.18	0.47
	Annual Avg.	0.94	1.1	0.10	0.44

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

#### (1) NPDES Permit Loading

D ''	<u>Months</u>	$BOD_5$ (CBOD $_5$ ) (lbs/day)	TSS (lbs/day)	NH3-N (lbs/day)	TKN (lbs/day)
Permit Limit	April - Oct.	60.0	225	18.7	37.5
	Nov May	187	225	75.0	150
(2) DM	R Loading				
<u>Qtr</u>	<u>Month</u>	BOD <sub>5</sub> (CBOD <sub>5</sub> ) (lbs/day)	TSS (lbs/day)	NH <sub>3</sub> -N (lbs/day)	TKN (lbs/day)
1	January	4.6	8.9	1.4	3.5
	February	3.6	2.6	0.07	1.1
	March	3.3	1.9	0.75	2.8
2	April	2.6	3.4	0.53	2.2
	May	1.6	2.2	0.21	1.1
	June	6.3	6.8	0.83	2.5
3	July	5.2	8.9	0.26	1.3
	August	1.8	1.7	0.02	0.92
	September	1.4	1.9	0.25	0.85
4	October	1.8	1.4	0.08	0.77
	November	2.1	6.5	0.03	0.81
	December	5.4	3.4	0.98	2.3
	Annual Avg.	3.3	4.1	0.45	1.7

C. During the past year did the BOD<sub>5</sub> 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? (Check the appropriate point total.)

No = 
$$\overline{0}$$
 points Yes =  $\overline{121}$  points

D.	During the past year did the BOD <sub>5</sub> concentration (mg/l) and/or loading (lbs/day), exceed the
	monthly average permit limit during four months of any two consecutive quarters? (Check
	the appropriate point total.)

No = 
$$0$$
 points  $Yes = 121$  points

No = 
$$0$$
 points  $\frac{1}{1}$  Yes =  $121$  points

No = 
$$0$$
 points  $Yes = 121$  points

No = 0 points 
$$Yes = 121$$
 points

No = 0 points 
$$Yes = 121 points$$

Facility Name: Prudes Creek WWTP	
Part 3: Age of the Wastewater Treatment Facility	

A. What year was the wastewater treatment plant constructed or last reconstructed? 2006

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

Age = (Last Calendar year) - (Answer to A)
$$Age \frac{7}{} = (\underline{2013}) - (\underline{2006})$$

Enter Age in Part C below.

B. Check the type of treatment facility employed.

			Factor
x	Mechanical Treatment Plant		2.0
	Aerated Lagoon		1.5
	Stabilization Pond		1.0
	Other (Specify:	)	1.0

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

$$\frac{2.0}{\text{(Factor)}}$$
 x  $\frac{7.0}{\text{(Age)}}$  =  $\frac{14}{\text{Model}}$  TOTAL POINT VALUE FOR PART 3

Enter the above value on Part 11: Summary Sheet. If the total point value exceeds 40, enter 40 on Part 11: Summary Sheet.

Facil	ity Name: Prudes Creek WWTP
Part 4	4: Bypassing and Overflows
A.	How many bypass or overflow events of untreated wastewater occurred in the last year at the WWTP 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 WWTP due to heavy rain? 0
C.	How many of the bypass or overflow events listed in Parts A and B have been corrected such that future bypass or overflow events at the same location due to heavy rain are not anticipated? o
D.	Add together Answers A and B and subtract Answer C from that total. A + B - C = (Check the appropriate point total.)
	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 WWTP due to equipment failure? (This includes clogged/broken lines or manholes.) <u>0</u>
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 WWTP? (This includes clogged/broken lines or manholes.) 0
G.	How many of the bypass or overflow events listed in Parts E and F have been corrected such that future bypass or overflow events at the same location due to the same equipment failure are not anticipated?   Output  Description:
H.	Add together Answers E and F and subtract Answer G from that total. E + F - G = (Check the appropriate point total.)
	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 point values circled in D and H and enter the total in the blank below.
	AL POINT VALUE FOR PART 4 0 this value on Part 11: Summary Sheet.
	All bypass or overflow events that have occurred in the last year (for any reason) must be individually reported with this MWPP report.

ADEM FORM 417 01/09 m2

Facil	ity Name: Prudes Creek W	VTP
Part :	5: Sludge Quantity and	Storage
A.		ation concerning sludge quantity, characteristics, and storage practice a as requested on the MWPP Sewage Sludge Survey, ADEM Form 419.
B.	•	f sludge storage capacity does the wastewater treatment facility have the or off-site? (i.e., How many months can the facility operate without osing of sludge?)
	Less than 3 months,	to 4 months = 0 points   out greater than or equal to 3 months = 10 points   out greater than or equal to 2 months = 20 points   out greater than or equal to 1 month = 30 points
	AL POINT VALUE FO this value on Part 11:	· · · · · · · · · · · · · · · · · · ·
Part 6	5: Sludge Disposal Prac	tices and Sites
A.	=	udge disposal practices and site information based on available data a <i>PP Sewage Sludge Survey</i> , ADEM Form 419.
B.	_	or years does the facility have access to and approval for sufficient landide proper land disposal? (Check the appropriate point total.)
	36 or more months	= 0 points
	24 - 35 months	= 10 points
	12 - 23 months	= 20 points
	6 - 11 months	= 30 points
	Less than 6 months	= 50 points
	AL POINT VALUE FO	

Facility Name: Prudes Creek WWTF	P .		<u> </u>		
Part 7: New Development					
Are there any major ne calendar year or anticipathe the sewage system could	ated in the r	next 2-3 years	such that eith	er flow or BOD5	loadings to
Design Population: Equivalent (PE)		Design Flow:	MGD	Design BOD <sub>5</sub> :	lbs/day
List industrial and/or re	esidential de	velopments.			
No major new developments pla	anned.				
<del></del>					
		·			
Will the additional load  No = 0 points  V Enter the point total in the  TOTAL POINT VALUE FOR Enter this value on Part 11: Sur	Yes = ne blank belo PART 7 0	= 121 points  ow.  (highest		-	.)
Part 8: Operator Certification					
Complete the Plant and Collec	tion System	Personnel Inv	entory, ADEN	1 Form 441.	
Do both the plant operate Code; Division 10, Oper					
Yes = 0  points	No=	121 points			
TOTAL POINT VALUE FOR Enter this value on Part 11: Sur			est point total	= 121)	

Faci	lity Name: Prudes Creek WWTP
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? <i>Include user charge rates</i> .
	Revenues are sufficient. The below values are based on a 5/8" meter and 6,000 gallons water use. Jefferson
	County has a three tier block rate structure for residential users for 0-3, 4-6, and 7+ ccf water use.
	Residential Minimum 15.00 Plus rate 6.02; 9.36; 10.69 /1,000 gal.
	Industrial Minimum 15.00 Plus rate 10.51 /1,000 gal.
	Monthly residential rate based on 6,000 gallons usage \$_56.04 (includes 15% credit for residential)
	ease complete the above information based on your user charge rates for the report year. You attach a sample water and sewer bill for clarity.
,	with the same server of the for the server of the server o
B.	What financial resources are available to pay for the wastewater improvements and/o reconstruction needs?
	In 2013, Jefferson County issued Series 2013 Sewer Warrants that fund capital improvements
	through 2023 at an annual average rate of \$71.9 million over the 10-year period.
Part	10: Subjective Evaluation
A.	Describe briefly the physical and structural conditions of the wastewater treatment facility.
	Most of the WWTP was upgraded or newly constructed in 2006 and is in good condition. Some
	equipment and processes were constructed in the 80s and 90s and are in fair to average condition.
B.	Describe the general condition of the sewer system (sewer lines, manholes, lift stations).
	The Prudes system includes roughly 164,000' of pipe and 8 pump stations. The system's performance in
	2013 was exceptional.

	naintenance and system renewal are budgeted within the capital improvement plan.
Sewer lin	e repairs and replacements are continual activities planned for the collection systems.
	the theoretical design life of the plant, and what is the estimated remaining useful astewater treatment facility?
Calculate	ed remaining useful life of the structures is 50 years - years age of facility.
Remaini	ng useful life of equipment is 25 years - years age of equipment.
Based or	n EPA's 2002 Clean Water and Drinking Water Infrastructure Gap Analysis Report.
What pr system?	oblems, if any, over the last year have threatened treatment or conveyance with
None	
Is the co	emmunity presently involved in formal planning for treatment facility upgrading?
	any days in the last year were there residential backups at any point in the colle for any reason other than clogging of the lateral connection? 0
system f Does the	e plant have a written plan for preventive maintenance on major equipment item cribe.
system f Does the yes, des	

I.	Does this preventive maintenance program depict frequency of intervals, types of lubrication, and other preventive maintenance tasks necessary for each piece of equipment? (Check the appropriate response.) Yes No
J.	Are these preventive maintenance tasks, as well as equipment problems, being recorded and filed so future maintenance problems can be assessed properly? (Check the appropriate response.)  Yes  No
K.	Describe any major repairs or mechanical equipment replacement made in the last year and include the approximate cost for those repairs. Do not include major treatment plant construction or upgrading programs.
	In our continuing automation efforts at Prudes Creek 2 LIMITORQUE actuators were purchased at a cost of 8996.00.
	\$7338.43 was the cost of UV repairs.
L.	List any additional comments. (Attach additional sheets if necessary.)

Facility Name: Prudes Creek WWTP	
Part 11: Summary Sheet	
	ough 8 in the left column below. Add the numbers in the P Report point total the wastewater system generated for
Actual Values	Maximum Possible
Part 1 o points	80 points
Part 2 o points	121 points
Part 3 14 points	40 points
Part 4 o points	200 points
Part 5 opoints	50 points
Part 6 20 points	50 points
Part 7 o points	121 points
Part 8 o points	121 points
Total 34 points	783 points
2. Check the facility type that best descri	ribes the plant's treatment and disposal of wastewater.
Mechanical plant with surface water	r discharge
Aerated Lagoon or stabilization pon	d with surface water discharge
Mechanical plant using land disposa	<del>-</del>
Aerated Lagoon or stabilization pon	d using land disposal of liquid wastes
	tion needed to address problems identified in the report.
✓ 0 - 70 pts. Actions as Ap	
71 - 120 pts. Departmental 121 – 783 Municipality	
*Other actions may be required by NPD	

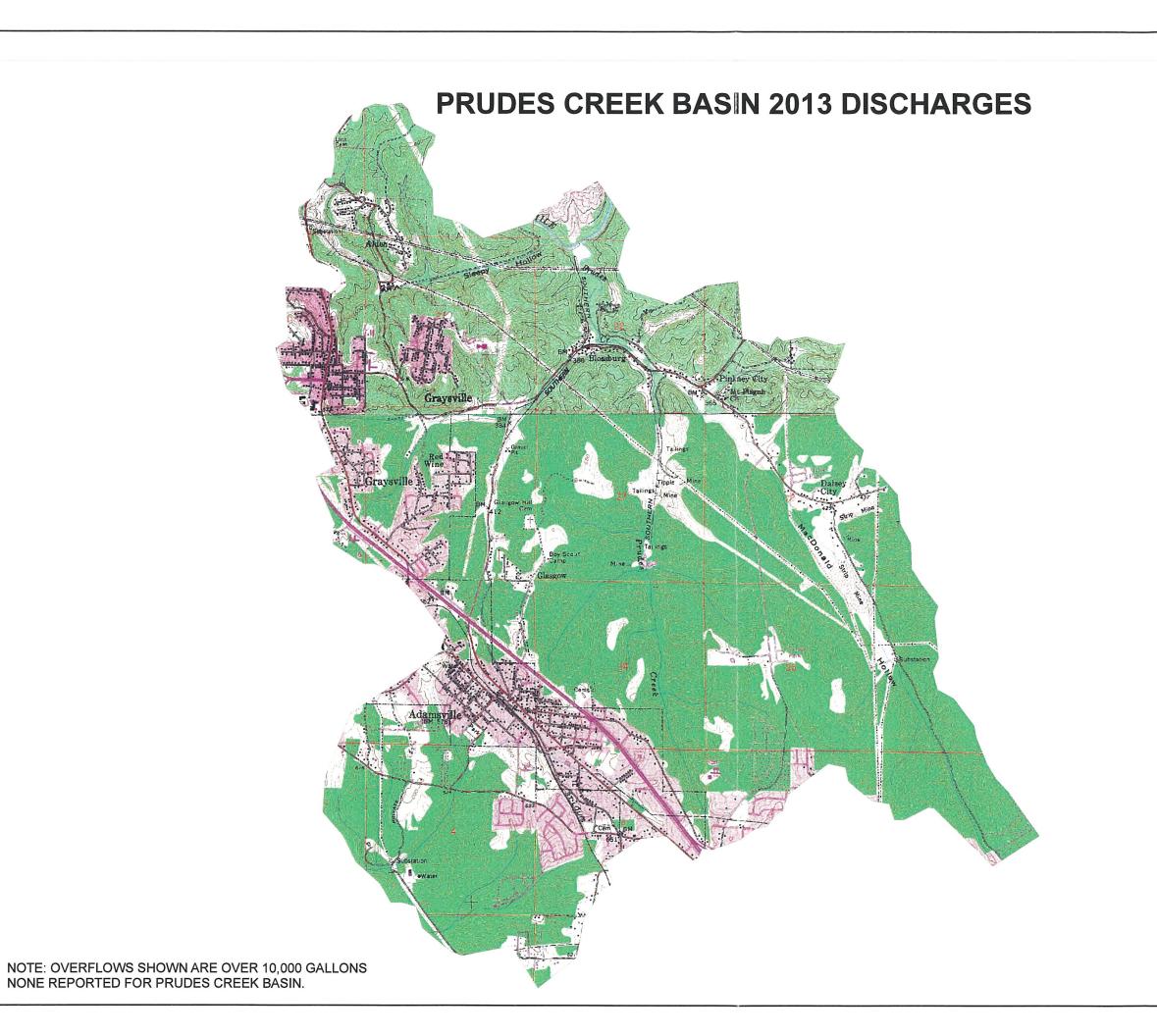
Complete the Municipal Water Pollution Prevention Resolution Form, ADEM Form 418.

4.

In Question 1, do any of the actual point values in the left column equal the maximum and the minute in the night as large 2. (Checkethe and a column equal the maximum and the minute in the night as large 2.)
possible points in the right column? (Check the appropriate response)  Yes  Vo
If yes, provide a written explanation for this situation in the space below.
•

## Prudes Creek Wastewater Treatment Plant <u>ATTACHMENT 2</u> – Raw Sewage Bypass and <u>SUMMARY</u>





JEFFERSON COUNTY ENVIRONMENTAL SERVICES PLOTTED: 2-11-14





# Summary of Unpermitted Discharges - Prudes Creek

January 01, 2013 through December 31, 2013

NOTE: Quantities shown in the column "Est. Volume" are ESTIMATED ONLY. These estimates are the County's best determination of the discharge volume, based upon site-determinable information and accepted estimating methods. However, such estimates are subject to a high number of variables which are completely beyond the County's control and which can have a significant effect upon the calculated amount. Therefore, these estimates are to be used for relative comparison only, not as actual discharge volumes.

Person	Keporting
,	Action Taken
,	Weather
,	Cause
i	Source
Est. Vol.	(mg)
Ultimate	Деѕипапоп
;	Collection System
Date	Reported Location
Event	No.

Title

Notes:

## No Unpermitted Discharges for 2013

## Prudes Creek Wastewater Treatment Plant <u>ATTACHMENT 3</u> – MWPP Sewage Sludge <u>SURVEY</u>



#### **MWPP SEWAGE SLUDGE SURVEY**

Facility Bac	kground Information:				
1. Facility I	nformation			Permit Number:	AL0026913
	Name:	Prudes Cree	ek WWTP		
	Street Address:	500 Water Tra	ail Graysville,	AL 35073	
	County:	Jefferson Co	ounty		
2. Facility C	Contact				
2. 1 doy c	Name:	Lynn D. Jon	es		
	Title:	Plant Manag			
	Telephone:	205 - 841 - 9	· · · · · · · · · · · · · · · · · · ·		·
	Permittee Name:		ounty Comm	ission	
	Mailing Address:	Environmen	tal Services	Department Suite A-30	00
	,	716 Richard	Arrington Jr	. Blvd. N. Birmingham,	Alabama 35203
Facility Flavo	. In farmenting				
•	/ Information				
1. Facility V	Vastewater Treatment Cap Avg. Daily Flow for <del>2000:</del>		0 44	MOD	
		2013	0.44	MGD MGD	
	Facility Design Capacity:			IVIGD	
2. Estimate	d Septage Quantity Handle	ed (Residuals	Removed fro	om Septic Tank Systen	ns)
	Average Domestic Septa	ge:	N/A	gallons pe	r month
	Average Commercial Se	ptage:	N/A	gallons pe	r month
3. Method (	of Septage Processing Mixed with Influent W	Jastewater for	Treatment		
	Mixed with Sewage S		ricatinent		
	<del>-</del>	J/A			
4. Estimate	d Percentage Contributing	Wastewater F	low		
	Residential: 98	_%			
	Industrial:	_%			
	Other: 2	_%	Describe:	COMMERCIAL	
5 list time	of wastewater treatment p	rocoss(es) util	izad at this f	ooilih <i>u</i>	
o. List type	Screening, grit removal,	aeration with a	activated slu	acinty. dge, clarification, sandi	filtration,
	UV disenfection	<u></u>			
			***		
6. Estimate	d sewage sludge wasting r	ate at this fac	ility:	,	_ lb/day dry weight
			or	46	gallons per day
7 Fetimata	d untreated sludge receive	d from off eite			lb/day dry weight
Loundle	a anti-cated sludge receive	a nom on site	or	N/A	gallons per day
	,		OI ,		_ gallotis per day
8. Estimate	d percent solids of combin-	ed sewage slu	idge prior to	treatment:	2.4%

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Aorobio Dio	vootion					ludge Quanti ted pounds p	
Aerobic Dig Thickening			•				
	ds (air drying)					•	
10. Estima	te the total volume of sludge	generated:		- -		122.5	
					(dry L	J.S. tons per	year)
Sludge Disp	oosal Methods	•					
1. Which of	f the following describes the	current method	of sewa	ge sludge disp	osal for th	is facility:	
			Current F	Practices		Proposed	Practices
		Approved by Yes	ADEM No	Quant (dry U.S. to		Approved Yes	•
a.	Land Application, Bulk	165	140	<u>(aly 0.5. to</u>	<u>IIS/YCAI)</u>	<u>163</u>	<u>No</u>
	Shipped <sup>X</sup> Agriculture			122.5		X	
	Forest						
	Public Contact	-					
	Lawn/Home Garden						
b.	Land Application, Bagged/Other Container Agriculture						•
	Forest						
	Public Contact						
	Lawn/Home Garden						
C.	Incineration						
d.	Subtitle D Landfill (Disposal Only)						
е.	Lined Treatment Lagoon or Stabilization Pond						
f.	Unlined Lagoon or Stabilization Pond			·			
g.	Other (Please Describe)						
<u>-</u>				- -			
				<b>-</b>			
2. If "f" was	selected above and sludge	is stored for 2 d	or more y	ears, enter the	e distance l	between the	

ADEM FORM 419 8/02

#### **Pollutant Concentrations**

1. Enter the total concentrations of the following analytes using existing data. Do not enter TCLP results.

	Concentration	Sample	Sample	Detection Level of
Analyte	(mg/kg or ppm)	Туре	Date	Analysis
Arsenic	<pql< td=""><td>grab</td><td>*</td><td>11.0</td></pql<>	grab	*	11.0
Cadmium	<pql< td=""><td>grab</td><td>*</td><td>8</td></pql<>	grab	*	8
Chromium	36.3	grab	*	8.0
Copper	210	grab	*	8.0
Lead	38.8	grab	*	15.0
Mercury	4.8	grab	*	0.6
Molybdenum	<pql< td=""><td>grab</td><td>*</td><td>5.0</td></pql<>	grab	*	5.0
Nickel	23.3	grab	*	6.0
Selenium	<pql< td=""><td>grab</td><td>*</td><td>15.0</td></pql<>	grab	*	15.0
Zinc	1,150	grab grab	*	18.0
Ammonium- Nitrogen	-	9.5 N/A	N/A	N/A
Nitrate-	_		N/A	
Nitrogen Total Kjeldahl Nitrogen	20,875	N/A grab	*	N/A 1.8

<ol> <li>Enter the estimated or determined percent solids of the sewage sludge when sample analysis:48%</li> </ol>	ed for the above
Treatment Provided for Sewage Sludge at the Facility	
1. Which class of pathogen reduction does the sewage sludge meet at the facility? (As	defined in
40 CFR Part 503)	
Class A	
Alternative A1 - Time and Temperature	
Alternative A2 - Alkaline Treatment	
Alternative A3 - Analysis and Operation	
Alternative A4 - Analysis Only	
Alternative A5 - Processes to Further Reduce Pathogens (PFRP)	
Heat Drying Thermophilic Aerobic Digestion	Heat Treatment
Pasteurization Gamma Ray Irradiation	Beta Ray Irradiation
Composting	•
Alternative A6 - PFRP Equivalent	
Class B	
XAlternative B1 - Fecal Coliform Count	
Alternative B2 - Process to Significantly Reduce Pathogens (PSRP)	
Aerobic Digestion XAir Drying	Anaerobic Digestion
Composting Lime Stabilization	
Alternative B3 - PSRP Equivalent	

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Neither or Unknown

Option 2 - An Option 3 - Ae Option 4 - Sp Option 5 - Ae Option 6 - Ra Option 7 - 75 Option 8 - 90 Option 9 - Inje X Option 10 - In	nimum 38% Reduction in Volatile Solids aerobic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction probic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction probic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction probic Processes plus Elevated Temperature probic Processes, with Bench-Scale Demonstration of Volatile Solids probic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction probic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction probic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction probic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction probic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction probic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction probic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction probic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction probic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction probic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction probic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction probic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction probic Processes, with Bench-Scale Demonstration of Volatile Solids probic Processes, with Bench-Scale Demonstration of Volatile Solids probic Processes, with Bench-Scale Demonstration of Volatile Solids probic Processes, with Bench-Scale Pr
Groundwater Monitoring	
If disposal practice is su     at the site?	rface disposal or land application, is groundwater monitoring required or performed
Yes XNo	(If yes, please submit a copy of the groundwater monitoring reports along with this survey. Also please provide the approximate depth to groundwater and the groundwater monitoring procedures used to obtain the data.)
Land Application of Sewage	e Sludge
Answer the following questi  1. If sewage sludge is land  Tifton Bermuda grass	ons if sewage sludge is applied to land. applied in bulk form, what type of crop or other vegetation is grown on this site? and Rye Grass.
If sewage sludge is land     The nitrogen requirem	applied in bulk form, what is the nitrogen requirement for this crop or vegetation? ent is 600lbs / acre /year.
neighbors?	applied in bulk form, briefly describe the nature of any complaints filed from
No complaints received	J.

**Note:** Permittees that submitted the "Annual Report Review Form" for sludge to the EPA may submitt a copy with the MWPP in lieu of this Attachment.

## Prudes Creek Wastewater Treatment Plant ATTACHMENT 4 – Plant and Collection System Personnel Inventory



#### PLANT AND COLLECTION SYSTEM PERSONNEL INVENTORY

FACILITY NAME:	Five Mile Creek WWTP				PLANT GI	RADE:	IV		
PERMIT NUMBER:	AL0026913				_				
PLANT MANAGER:	Lynn Jones	<del></del>		_	TEL.#	(205) 841-5939	<u>.                                    </u>		
SYSTEM MANAGER	R David Denard	[			-	TEL. #	(205) 325-5806		
PLANT OPERATOR	S:	_	NA DE 00	J					
	NAME			SRADE OR E STATUS		TOR NO.	EXP	. DATE	
1	Lynn Jones		Plant Ma		C003327		9/30/2014		7
2	Robert Tyle	r	Shift Sup		C003008	3	11/30/2015		1
3	Randy Max		Shift Sup	-	C003076	 3	11/30/2015		7
4	Terry Joe M		Shift Sup	pervisor	C003135	5	8/31/2016		7
5	Tony Suttor	-	Shift Sup	• • •	C002294	1	11/30/2015		7
6	Mark Cruce	<del>)</del>	Operator		C001682	2	3/31/2015		7
7	Adam Smitl	h	Operator	r II	C002236	3	4/30/2016		7
8	Daniel Tess	seneer	Operator	r II	C006050	)	6/30/2014		7
9	Ellis Brown		Operator	r I					1
10	Sam Shear	s	Operator						7
11	Todd Smith	erman	Operator						
12	Michael Wr	ight	Operator	r I					7
	Avg Daily  GRADE I-C  GRADE I  GRADE II  GRADE III	MAN HRS.WK	NUMBER 7			AVERAGI 1ST		MPLOYEES PER START TIM	
	GRADE IV	40	8			2ND	2	M-F	Sat-Sur
MANAGEMENT/SUF	PERVISOR	40	5			3rd	2	7:00a.m	. 7:00am
OPERATOR(S):		40	3			weekend	2	3:00p.m.	7:00pm
TRAINEE(S)		40	4					11:00p.m	ı. 7:00am
OTHER PLANT WO	RKERS								
OPERATOR SHIFTS	1	1	T	T .		<del></del>	7		
1ST X	MON	TUES	WED	THURS	FRI	SAT	-		
2ND X	X	X	X	X	X	X	1		
3RD X	X	X	X	X	x	x	1		
ADEM USE ONLY  1. DOES PLANT OPERATOR 2. DOES COLLECTION SYST						CODE?	<u>-</u>	YES ADEM FORM 441	NO 8/02

	F	PLANT AND	COLLECTIO	ON SYSTE	M PERSO	ONNEL IN	IVENTO	RY	1. Webstack	Continued
FACILITY NAME:		Prudes Creek WWTP					PLANT GRADE:		·	<del></del>
PERMIT NUMBER:		AL0026913			· ·					
PLANT SI	UPERINTEI	NDENT: Lynn Jones					TEL. #	<u>(</u> 205) 841-5	939	
SYSTEM MANAGER		: David Dena	ard				TEL. #	(205) 325-5	806	
PLANT O	PERATORS	S:		_						
		NAME			GRADE OR E STATUS	OPERA*	TOR NO.	E	XP. DATE	
15	5	Garren Hub		Tra	inee					
16	\$	Johnny McI		Tra	inee					
17		Billy Joe Po			inee					
18		Samuel Sho		1	inee			ļ		
19		Todd Smith		Trainee					<del> </del>	
20		Daniel Tess			inee					
21	1	Michael Wr	ight	Tra	inee					
						•				
	"									
				1		<u> </u>				
						•			***************************************	
								1		
			MAN HRS./WK	NUMBER	1					
OPERATO	MENT/SUP	ERVISOR								
OFERATO	JK(S).	GRADE I-C	17							
		GRADE I			1		AVEDAGE	E NII IMPED (	NE EMDLO	EES PER SHIF
		GRADE II			1		AVENAGI	INOMBER C	DE EMIELO	EES FER SHIF
		GRADE III			1		187			START TIME
		GRADE IV			1		2NE			517.KT 11ML
DESIGNA	TED TRAIN			-			3RD			
LABORAT		• •			1		·			
MAINTEN	IANCE				]					
OTHER P	LANT WOF	RKERS								
OPERAT(	OR SHIFTS	NORMALLY W	ORKED EACH	H DAY:	-					
	CLIN	MON	TUES	/ <b>//</b> ////	TUUDO	EDI	CAT			
1ST	SUN	MON	TUES	WED_	THURS	FRI	SAT	1		
2ND								1		
3RD								]		
	ADEM USE	ONLY	-					-		

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

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

YES	NO
ADEM FORM	444 0/00

PLAN	PLANT AND COLLECTION SYSTEM PERSONNEL INVENTORY								
FACILITY NAME: Sewer Lir PERMIT NUMBER:	e Maintenance				<u> </u>	PLANT GRADE:	<u>IV</u>		
PLANT SUPERINTENDENT:						TE: #	(20E) E40 7E0E		
SYSTEM MANAGER:	David Denard					TEL. # TEL. #			
STOTEM MANAGEN.	David Deliaid		•			1 E.L. #	(205) 325-5979		
PLANT OPERATORS:									
NAME	1		E OR	1 000		1 505	I		
		TRAINEE	STATUS		RATOR NO.	. EXP.	DATE		
1. Brian Champion		i(c)		C002094			6/30/2015		
2. Don Goodwin	·	I(c)		C005423			6/30/2015		
3. Lavon Evans	+	l(c)		C004631			12/31/2014		
4. Brian Rohling		l(c)		C005418			6/30/2015		
5.									
6.									
7.									
8.				ļ					
9.									
0.									
COLLECTION SYSTEM OPERATOR:	3: .			l		1	1 .		
1.		***				-			
2.	-						<del></del>		
3.						-			
4.									
4.	1	<u> </u>		L					
MANAGEMENT/SUPERVISOR OPERATOR(S):	MAN HE	RS./WK	NUMBER						
GRADE GRAI	DE I			Α\	VERAGE NU	MBER OF EMPLO	YEES PER SHIFT:		
GRAD				ļ					
GRAD					1ST	s	TART TIME		
GRADI	= IV				2ND				
DESIGNATED TRAINEE(S)					3RD_				
LABORATORY									
MAINTENANCE				1					
OTHER PLANT WORKERS	L			]					
OPERATOR SHIFTS NORMALLY WO		<b>'</b> :							
SUN MON	TUES	WED	THURS	FRI	SAT				
1ST				<u> </u>					
2ND									
3RD									
ADEM USE ONLY									
							YES NO		
1. DOES PLANT OPERATOR STAFFING (	OMPLY WITH DIVIS	ION 10 OF ADE	M ADMINISTR	ATIVE CODE	?				
2. DOES COLLECTION SYSTEM OPERAT	OR STAFFING COM	PLY WITH DIVI	SION 10 OF AD	EM ADMINIS	TRATIVE COD	DE?			

#### Municipal Water Pollution Prevention (MWPP) Annual Report Calendar Year 2013

For the

#### **Trussville WWTP**

as required by the Alabama Department of Environmental Management NPDES Program



Prepared by Jefferson County Commission Environmental Services Department

May 31, 2014

#### JEFFERSON COUNTY COMMISSION



DAVID CARRINGTON - PRESIDENT GEORGE F. BOWMAN SANDRA LITTLE BROWN - PRESIDENT PRO TEMPORE T. JOE KNIGHT JAMES A."JIMMIE" STEPHENS

May 31, 2014

Mr. Nic Caraway
Alabama Department of Environmental Management
Water Division – Municipal Branch
P.O. Box 301463
Montgomery, AL 36130-1463

RE: Municipal Water Pollution Prevention (MWPP)

Annual Report Calendar Year 2013

Mr. Caraway:

The Jefferson County Environmental Services Department submits the above referenced report for the Trussville Wastewater Treatment Facility, NPDES Permit No. AL0022934. Included is information as required in ADEM Form 41701/06ml, bypass/overflow event reports, MWPP Sewage Sludge Survey, and the Plant & Collection System Personnel Inventory.

If you have any questions regarding this information, please contact me at 205.325.5979 or Celeste Brown at Jefferson County Barton Laboratory at 205.238.3859.

Sincerely,

David Denard, Director

Environmental Services Department

DAVID CARRINGTON - COMMISSIONER

TONY PETELOS, COUNTY MANAGER

Office of

**ENVIRONMENTAL SERVICES** 

Director of Environmental Services

716 Richard Arrington, Jr. Blvd. N. Birmingham, Alabama 35203

Telephone (205) 325-5496 Fax (205) 325-5981

DAVID DENARD

Suite A-300

pc: Celeste Brown, JCESD Barton Laboratory
Daniel White, JCESD Deputy Director
David Willoughby, Trussville WWTP

### MUNICIPAL WATER POLLUTION PREVENTION (MWPP) ANNUAL REPORT

#### SUBMITTED BY:

TREATMENT FACI	NPDES #:_AL 0022934	
MUNICIPALITY: Jef	ferson County	COUNTY:Jefferson
CONTACT PERSON		
	Municipal Official	
	Director of Environmental Services	
	Title	
	Telephone #: (205) 325-5979	_ Fax #:
	Email Address: denardd@jccal.org	
CHIEF OPERATOR:	David Willoughby	
	Name	
	Telephone #: (205) 655-3617	Fax #: (205) 655-9240
	Email Address: willoughbyd@jccal.org	44 - 14 - 14 - 14 - 14 - 14 - 14 - 14 -
	Date: May 14, 2014	
REVIEWED BY:	Daniel White P.E., ESD Engineer	
(	Consulting Engineer	
,	Telephone #: 205 214 8610	Fax #: 205 325 5688
]	Date: May 14, 2014	

#### MWPP Annual Report Information Source List

The following information will be needed to complete the compliance maintenance report that covers the calendar year of 2013 (due May 31, 2014).

- Part 1 A. The average plant influent flow for each month (million gallons per day/MGD) during the year.
  - B. The average plant influent BOD (CBOD) for each month (mg/l and lb/day) in the year.
  - C. The 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 the year
  - B. The monthly average effluent limits and DMR loading for BOD, TSS, NH3-N, and/or TKN in lbs/day for the year
- Part 3 The age of the 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 minus the year the new construction was brought on-line.
- Part 4 Bypass and overflow information. This is the number of bypass or overflow events of untreated wastewater due to heavy rain or equipment failure whether intentional or inadvertent from all collection systems tributary to the treatment facility.
- Part 5 A. Describe the characteristics and quantity of sludge generated.
  - B. If sludge is landspread, how many months of sludge storage does the plant have? This should include on-site and off-site storage from the treatment plant. The digestor capacity may be used in the calculation.
- Part 6 A. Sludge Disposal Method
  - B. The number of approved land disposal sites for sludge available, and how many months or years these disposal sites will these be available for use.
- Part 7 The number of sewer extensions installed in the community last year--the design population, design flow, and design BOD for each sewer extension.
- Part 8 Operator Certification
- Part 9 Financial Status
- Part 10 Subjective Evaluation
- Part 11 Summary Sheet

State of Alabama MWPP Annual Report Department of Environmental Management

#### 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 the actions necessary to prevent effluent violations. Enter the point totals from Parts 1 through 8 on Part 11: Summary Sheet.
- 3. Add the point totals on Part 11: Summary Sheet.
- 4. Submit the MWPP Report to the governing body and the consulting engineer and owner for review and approval.
- 5. The governing body should pass a resolution which contains the following points:
  - a. The resolution should acknowledge the governing body or owner has reviewed the MWPP Report.
  - b. The resolution should indicate what actions will be taken to prevent effluent violations.
  - c. The resolution should provide any other information the governing body or owner deems appropriate.
- 6. The MWPP Report and the resolution must be submitted by May 31<sup>st</sup> to Municipal Section, Water Division, ADEM, P.O. Box 301463, Montgomery, AL 36130-1463.

Facility Name:	Trussville WWTP

#### Part 1: Influent Loading/Flows

A. List the average monthly volumetric flows and BOD<sub>5</sub> (CBOD<sub>5</sub>) loadings received at your facility during the last calendar year.

<u>Month</u>	Column 1 Average Monthly Flowrate (MGD)	Column 2 Average Monthly BOD <sub>5</sub> (CBOD <sub>5</sub> ) Concentration (mg/l)	Column 3 Average Loading BOD <sub>5</sub> (CBOD <sub>5</sub> ) (lbs/day**)
January	3.51	80	2229
February	3.47	81	2231
March	2.62	93	2025
April	2.66	86	1748
May	2.87	80	1651
June	2.33	86	1561
July	2.23	108	1809
August	2.54	86	1618
September	1.75	111	1633
October	1.51	146	1825
November	1.69	141	1883
December	2.83	72	1769
Annual Avg.	2.50	98	1832

<sup>\*\*</sup>As reported on NPDES Discharge Monitoring Reports (DMRs) and as required by EPA's NPDES Self-Monitoring System, User Guide, March 1985.

B. List the average design flow and average design BOD<sub>5</sub> loading for the facility below. If you are not aware of these design quantities, contact your consulting engineer or the Alabama Department of Environmental Management.

	Average Design Flow	Average Design BOD <sub>5</sub> Loading (lbs/day)
Design Criteria	4.0	10014
90% of the Design Criteria	3.6	9012

C. How many times did the monthly flow (Column 1) to the WWTP exceed 90% of design flow?

(Check the appropriate point total)

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

D. How many times did the monthly flow (Column 1) to the WWTP exceed the design flow?

(Check the appropriate point total)

E. How many times did the monthly BOD<sub>5</sub> (or CBOD<sub>5</sub>)\* loading (lbs/day) (Column 3) to the WWTP exceed 90% of the design loading? \_\_\_\_\_ (Check the appropriate point total)

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

F. How many times did the monthly BOD<sub>5</sub> (or CBOD<sub>5</sub>)\* loading (lbs/day) (Column 3) to the WWTP exceed the design loading? \_\_\_\_ (Check the appropriate point total)

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

G. Enter each point value marked for Cthrough F and enter the sum in the appropriate blank below.

TOTAL POINTS VALUE OR PART 1 \_\_0 Enter this value on Part 11: Summary Sheet.

<sup>\*</sup>To obtain equivalent BOD<sub>5</sub> loading for comparison with design loading for those permittees using influent CBOD<sub>5</sub>, divide annual average CBOD<sub>5</sub>, 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 BOD<sub>5</sub>, (CBOD<sub>5</sub>) TSS, NH<sub>3</sub>-N and/or TKN concentration produced by the facility during the last calendar year.

#### (1) NPDES Permit Concentration

		$\begin{array}{c} \mathrm{BOD_5} \\ \mathrm{(CBOD_5)} \end{array}$	TSS	NH <sub>3</sub> -N	TKN
Permit	<u>Months</u>	(mg/l)	(mg/l)	(mg/l)	(mg/l)
Limit	May-Nov	3.0	30.0	1.0	2.0
	Dec-Apr	10.0	30.0	1.0	3.0

#### (2) DMR Concentration

<u>Qtr</u>	<u>Month</u>	BOD <sub>5</sub> (CBOD <sub>5</sub> ) (mg/l)	TSS (mg/l)	NH <sub>3</sub> -N (mg/l)	TKN (mg/l)
1	January	0.60	0.85	0.21	0.50
	February	0.71	0.83	0.06	0.21
	March	1.6	1.3	0.02	0.21
2	April	0.37	1.2	0.0	0.21
	May	0.28	1.6	0.0	0.29
	June	0.57	1.4	0.0	0.27
3	July	0.54	1.2	0.02	0.27
	August	0.31	1.6	0.004	0.25
	September	0.38	1.7	0.005	0.34
4	October	0.56	2.5	0.0	0.41
	November	0.51	5.4	0.02	0.63
	December	0.64	4.9	0.04	0.57
	Annual Avg.	0.59	2.0	0.03	0.35

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

#### (1) NPDES Permit Loading

	<u>Months</u>	$\begin{array}{c} \mathrm{BOD_5} \\ \mathrm{(CBOD_5)} \\ \mathrm{(lbs/day)} \end{array}$	TSS (lbs/day)	NH <sub>3</sub> -N (lbs/day)	TKN (lbs/day)
Permit Limit	May-Nov	100	1000	33.3	66.7
	Dec-Apr	333	1000	33.3	100
(2) DM	R Loading				
<u>Otr</u>	<u>Month</u>	BOD <sub>5</sub> (CBOD <sub>5</sub> ) (lbs/day)	TSS (lbs/day)	NH <sub>3</sub> -N (lbs/day)	TKN (lbs/day)
1	January	17	39	13	25
	February	20	26	2.6	7.0
	March	29	31	0.83	5.0
2	April	7.6	25	0.00	4.1
	May	5.1	31	0.00	6.3
	June	13	26	0.00	5.5
3	July	10.9	28	0.48	5.6
	August	6.0	32	0.06	5.1
	September	5.7	26	0.10	5.1
4	October	7.0	31	0.00	5.0
	November	8.0	75	0.54	9.3
	December	19	141	1.7	16
	Annual Avg.	12	43	1.6	8.2

C. During the past year did the BOD<sub>5</sub> 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? (Check the appropriate point total.)

No = 
$$0$$
 points  $Yes = 121$  points

D.	During the past year did the BOD <sub>5</sub> concentration (mg/l) and/or loading (lbs/day), exceed the
	monthly average permit limit during four months of any two consecutive quarters? (Check
	the appropriate point total.)

No = 0 points 
$$Yes = 121 \text{ points}$$

No = 
$$0$$
 points  $Yes = 121$  points

No = 
$$0$$
 points  $Yes = 121$  points

No = 0 points 
$$Yes = 121 points$$

#### H. During the past year did either the NH<sub>3</sub>-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? (Check the appropriate point total.)

No = 
$$\overline{0}$$
 points  $\overline{1}$  Yes = 121 points

HIGHEST INDIVIDUAL POINT VALUE FOR PART 2 (C-H) \_\_0 (HIGHEST POINT = 121) Enter this value on Part 11: Summary Sheet.

Facility	Name: Trussville WWTP	
Part 3: A	Age of the Wastewater Treatment Facility	
A. W	What year was the wastewater treatment plant co	onstructed or last reconstructed?
S	ubtract the above answer from the report year to	o determine age:
	Age = (Last Calendar year) - (Answer to A	<b>(</b> )
	Age $\frac{15}{}$ = $(\frac{2013}{})$ - $(\frac{1998}{})$	
	Enter Age in Part C below.	
В. О	Check the type of treatment facility employed.	
		Factor
	xMechanical Treatment Plant	2.0
	Aerated Lagoon	1.5
	Stabilization Pond	1.0
	Other (Specify:	) 1.0
C. M	fultiply the factor listed next to the type of the	facility your community employs by the a

Įе of your facility to determine the total point value for Part 3:

$$\frac{2.0}{\text{(Factor)}}$$
 x  $\frac{15}{\text{(Age)}}$  =  $\frac{30}{\text{TOTAL POINT VALUE FOR PART 3}}$ 

Enter the above value on Part 11: Summary Sheet. If the total point value exceeds 40, enter 40 on Part 11: Summary Sheet.

	ity Name: Irussville www iP
Part -	4: Bypassing and Overflows
A.	How many bypass or overflow events of untreated wastewater occurred in the last year at the WWTP due to heavy rain?0
В.	How many bypass or overflow events of untreated wastewater occurred in the last year prior to the headworks of the WWTP due to heavy rain?0
C.	How many of the bypass or overflow events listed in Parts A and B have been corrected such that future bypass or overflow events at the same location due to heavy rain are not anticipated?
D.	Add together Answers A and B and subtract Answer C from that total. A + B - C = (Check the appropriate point total.)
	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 WWTP due to equipment failure? (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 WWTP? (This includes clogged/broken lines or manholes.)4
G.	How many of the bypass or overflow events listed in Parts E and F have been corrected such that future bypass or overflow events at the same location due to the same equipment failure are not anticipated?4
Н.	Add together Answers E and F and subtract Answer G from that total. E + F - G = (Check the appropriate point total.)
	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
[.	Add point values circled in D and H and enter the total in the blank below.
	AL POINT VALUE FOR PART 40 r this value on Part 11: Summary Sheet.
	All bypass or overflow events that have occurred in the last year (for any reason) must be individually reported with this MWPP report.

Facil	ity Name: Trussville WWTF	·	
Part :	5: Sludge Quantity and	Storage	
A.		nation concerning sludge quantity, che as requested on the MWPP Sewage	
B.		f sludge storage capacity does the value or off-site? (i.e., How many mont osing of sludge?)4	•
	Less than 3 months,	I to 4 months but greater than or equal to 3 months but greater than or equal to 2 months but greater than or equal to 1 month	= 0 points
	AL POINT VALUE FO this value on Part 11:		
Part 6	6: Sludge Disposal Prac	etices and Sites	
A.	<del>-</del>	ludge disposal practices and site info	
B.		or years does the facility have access ride proper land disposal? (Check the	<b>* *</b>
	36 or more months	= 0 points	
	24 - 35 months	= 10 points	
	12 - 23 months	= 20 points 🔽	
	6 - 11 months	= 30 points	
	Less than 6 months	= 50 points	
	AL POINT VALUE FO		

Facility Name: Trussville WWTP				
Part 7: New Development	V	···· <u></u>		
Are there any major new calendar year or anticipated the sewage system could significant.	d in the next 2-3 years su	ch that eithe	er flow or BOD	loadings to
Design Population: Equivalent (PE)	Design Flow:	_MGD	Design BOD <sub>5</sub> :	lbs/day
List industrial and/or resid	lential developments.			
No major new development				
		· · · · · · · · · · · · · · · · · · ·		
-				
Will the additional loading  No = 0 points  TOTAL POINT VALUE FOR PAEnter this value on Part 11: Sumn	Yes = 121 points  plank below.  ART 7 $\frac{0}{}$ (highest po		-	)
Part 8: Operator Certification			·	
Complete the Plant and Collection	n System Personnel Invent	tory, ADEM	Form 441.	
Do both the plant operator Code; Division 10, Operator				
Yes = 0  points	No = $\frac{121}{120}$ points			
TOTAL POINT VALUE FOR PAEnter this value on Part 11: Summ		t point total	= 121)	

Faci	lity Name: Trussville WWTP
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? <i>Include user charge rates</i> .
	Revenues are sufficient. The below values are based on a 5/8" meter and 6,000 gallons water use. Jefferson
	County has a three tier block rate structure for residential users for 0-3, 4-6, and 7+ ccf water use.
	Residential Minimum\$15.00 Plus rate \$6.02; 9.36; 10.69 /1,000 gal.
	Industrial Minimum\$15.00 Plus rate\$10.51 /1,000 gal.
	Monthly residential rate based on 6,000 gallons usage \$_56.04 (includes 15% credit for residential)
	case complete the above information based on your user charge rates for the report year. You
<u>nay</u>	attach a sample water and sewer bill for clarity.
В.	What financial resources are available to pay for the wastewater improvements and/or reconstruction needs?
	In 2013, Jefferson County issued Series 2013 Sewer Warrants that fund capital improvements
	through 2023 at an annual average rate of \$71.9 million over the 10-year period.
Part	10: Subjective Evaluation
<u>uit</u>	101 Subjective Dividuation
A.	Describe briefly the physical and structural conditions of the wastewater treatment facility.
	All structures are in good condition.
В.	Describe the general condition of the sewer system (sewer lines, manholes, lift stations).
	The Trussville system includes roughly 460,000' of pipe and 8 pumping stations. The system's rate of
	SSO's/100 miles of sewer is slightly above the department's goal. There are no known capacity deficiencies.
	The general condition of the system is good.

Complet	tion of Phase I TMDL currently in construction; Phase II TMDL Improvements;
Improve	ments to Wisteria Trace and Cedar Creek pump stations.
What is of the w	the theoretical design life of the plant, and what is the estimated remaining useful vastewater treatment facility?
Calculat	ed remaining useful life of the structures is 35 years (50 years - 15 years age of facility).
Calculat	ted remaining useful life of the equipment is 10 years (25 years - 15 years of equipment).
Based o	on EPA's 2002 Clean Water and Drinking Water Infrastructure Gap Analysis Report.
What pr	roblems, if any, over the last year have threatened treatment or conveyance within
None	
	ommunity presently involved in formal planning for treatment facility upgrading?
Is the co	ommunity presently involved in formal planning for treatment facility upgrading?
No.  How ma	emmunity presently involved in formal planning for treatment facility upgrading?  any days in the last year were there residential backups at any point in the collector any reason other than clogging of the lateral connection?6
No.  How many system to	any days in the last year were there residential backups at any point in the collector any reason other than clogging of the lateral connection? 6 e plant have a written plan for preventive maintenance on major equipment items
No.  How many system to the poet the yes, des	any days in the last year were there residential backups at any point in the collector any reason other than clogging of the lateral connection? 6 e plant have a written plan for preventive maintenance on major equipment items

	Does this preventive maintenance program depict frequency of intervals, types of lubrication, and other preventive maintenance tasks necessary for each piece of equipment? (Check the
	appropriate response.) Yes No □
	Are these preventive maintenance tasks, as well as equipment problems, being recorded and filed so future maintenance problems can be assessed properly? (Check the appropriate response.)  Yes  No
	Describe any major repairs or mechanical equipment replacement made in the last year and include the approximate cost for those repairs. Do not include major treatment plant construction or upgrading programs.
]	List any additional comments. (Attach additional sheets if necessary.)

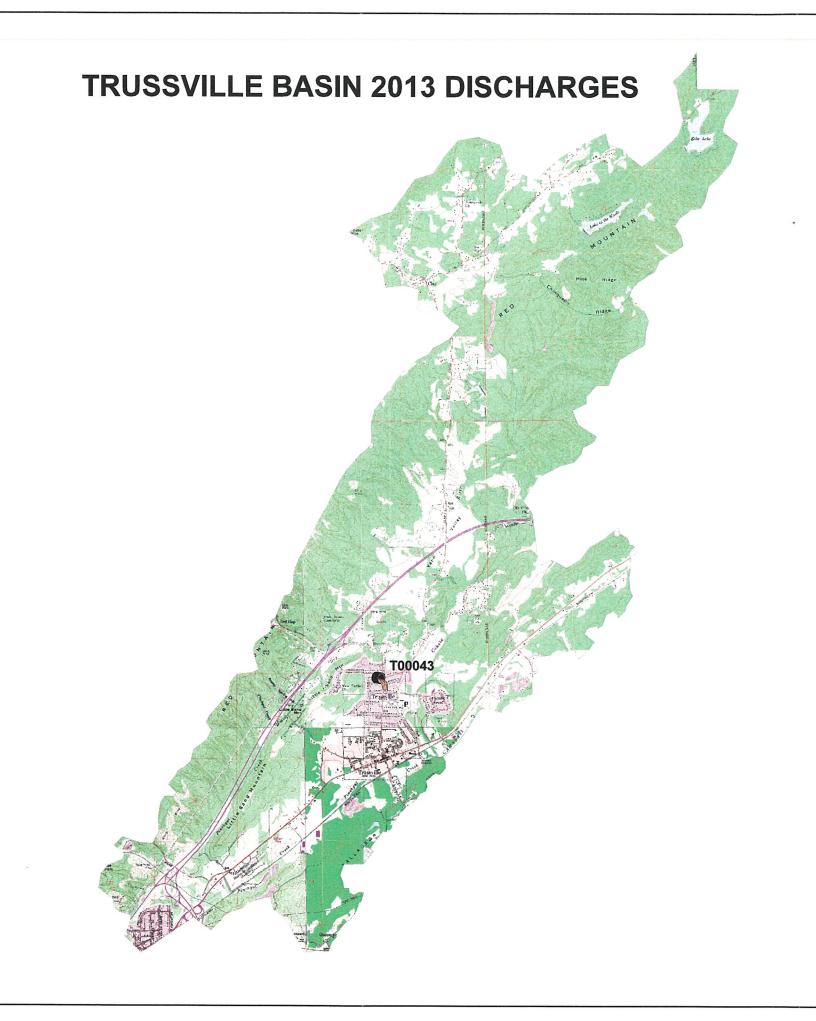
Facility Name: Trussville WWTP	
Part 11: Summary Sheet	
	ough 8 in the left column below. Add the numbers in the P Report point total the wastewater system generated for
Actual Values	Maximum Possible
Part 1 points	80 points
Part 2 0 points	121 points
Part 3 30 points	40 points
Part 4 <u>0</u> points	200 points
Part 5o_points	50 points
Part 6 20 points	50 points
Part 7 0 points	121 points
Part 8 <u>0</u> points	121 points
Total <u>50</u> points	783 points
2. Check the facility type that best descri	ribes the plant's treatment and disposal of wastewater.
✓ Mechanical plant with surface water	r discharge
Aerated Lagoon or stabilization pon	nd with surface water discharge
Mechanical plant using land disposa	•
Aerated Lagoon or stabilization pon	d using land disposal of liquid wastes
✓ 0 - 70 pts.       Actions as Approximately         71 - 120 pts.       Departmental         121 - 783       Municipality	Recommendation Range* Action Range*
*Other actions may be required by NPD	es outside the scope of this report.

4. Complete the Municipal Water Pollution Prevention Resolution Form, ADEM Form 418.

In Question 1, do any of the actual point values in the left column equal the maxin possible points in the right column? (Check the appropriate response) Yes No
possible points in the right column? (Check the appropriate response)  Yes  No
If yes, provide a written explanation for this situation in the space below.

# Trussville Wastewater Treatment Plant <u>ATTACHMENT 2</u> – Raw Sewage Bypass and <u>SUMMARY</u>









# Summary of Unpermitted Discharges - Trussville

January 01, 2013 through December 31, 2013

NOTE: Quantities shown in the column "Est. Volume" are ESTIMATED ONLY. These estimates are the County's best determination of the discharge volume, based upon site-determinable information and accepted estimating methods. However, such estimates are subject to a high number of variables which are completely beyond the County's control and which can have a significant effect upon the calculated amount. Therefore, these estimates are to be used for relative comparison only, not as actual discharge volumes.

Event	Date Panorted	Date Denosted T	: · · · · · · · · · · · · · · · · · · ·	Ultimate	Est. Vol. (gal)	: :	Ç	6 41	E	Person	
NO.	veporied	Location	Collection System	Destination	(-0)	Source	Canse	Weather	Action Taken	reporting	Title
T00042	3/8/13	3/8/13 802 Chalkville Rd	Trussville	Ground Absorbed	2	Manhole	Grease/ Roots/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
2	otes: Manho	Notes: Manhole not overflowing upon crew arrival, but there was evidence on the ground.	ere was evidence on the gro	und.			The control of the section of the control of the co		e certain (effective to manufere for face to manufere to manufere to manufere to manufere to the second		
T00043	4/6/13	4/6/13 527 Rockridge Ave	Trussville	Ground Absorbed	26,652	Pipe	Roots/ Broken Pipe	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
<b>~</b> ;	Notes:		The same of the sa		to a complete to the complete to the	The Thirt states to and the		10 to	ente de la Suita de la Companya del Companya del Companya de la Co		constraints or all comments of the second
T00044	4/11/13	T00044 4/11/13 111 S Chalkville Rd	Trussville	Pinchgut Creek	200	Manhole	Grease/ Debris/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
2	Notes:										1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
T00046	7/3/13	T00046 7/3/13 7473 Gadsden Highway	Trussville	Drainage Ditch	6,625	Manhole	Grease/ Roots/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
×	Notes:									1	1000 to 100 to 1

# Trussville Wastewater Treatment Plant <u>ATTACHMENT 3</u> – MWPP Sewage Sludge <u>SURVEY</u>



# **MWPP SEWAGE SLUDGE SURVEY**

racility bac	kground information.				
1. Facility I	nformation		Per	mit Number:	AL0022934
	Name:	Trussville WW	TP		
	Street Address:	325 City Hall D	rive		
	County:	Jefferson			
2. Facility (					
	Name:	David Willoug			
	Title:	Plant Superint			
	Telephone:	(205) 655-3617			
	Permittee Name:			sion- Trussville	
	Mailing Address:			rrington JR. Bl	/d. N.
		Birmingham A	L 35203		
Facility Flav	v Information				
•	v Information				
<ol> <li>Facility \</li> </ol>	Wastewater Treatment Ca				
	Avg. Daily Flow for 2013		2.5	MGD	
	Facility Design Capacity:	<u></u>	4.0	MGD	
) Estimate	ed Septage Quantity Handl	led (Residuals Re	amoved from	Sentic Tank Syc	etome)
z. Estimate	Average Domestic Septa	•	N/A	gallons pe	•
	Average Commercial Se	<del>-</del>	N/A		
	Average Commercial Se	ptage	IN/A	gallons p	er monun
o. Mourou	of Septage Processing  Mixed with Influent V  Mixed with Sewage		reatment N/A		· 
4	al Danaantana Cantributina	. \^/tt			
4. Estimate	ed Percentage Contributing	-	W		
	Residential: 90	_%			
	Industrial: 2	_%	.,		
	Other: 8	_% De	escribe:	Commerc	<u>cial</u>
5 List type	of wastewater treatment p	orocess(es) utiliza	ad at this faci	lity:	
o. List type	Bar Screening, Grit Re			•	udae
	Clarification, UV Disinf			itii Activated Si	<del>uuge,</del>
	Ciamication, OV Disim	ection, Step Aci	ation		
6. Estimate	ed sewage sludge wasting	rate at this facility	<b>/</b> :		lb/day dry weight
		•	or	21,457	gallons per day
				<i>,</i>	_
7. Estimate	ed untreated sludge receive	ed from off site:	_	N/A	lb/day dry weight
			or		gallons per day
Retimate	ed percent solids of combine	ned sewane slude	ne prior to tre	atment:	2 %

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				udge Quantii ted pounds p	-
Aerobic Digestio	n				
Thicker  Drying Beds (Air Dr	vina)	····	_		
Diying Deas (All Di	yiiig)				
Estimate the total volume of sludge	generated:		(dry U	614 J.S. tons per	vear)
ludge Disposal Methods			` ,	•	,
. Which of the following describes the		hod of sewa Current F I by ADEM		Proposed	Practices by ADEM
	Yes	No	(dry U.S. tons/year)	Yes	No No
a. X Land Application, Bulk Shipped			614		
X Agriculture	Х				
☐ Forest					0
Public Contact					
Lawn/Home Garden				0	
b. I Land Application,					
Bagged/Other Container   B Agriculture	0	0			п
☐ Forest	0	0			0
Public Contact   Pub		0		0	0
☐ Lawn/Home Garden	0				0
				_	П
c. Incineration	0	0		0	
d.   Subtitle D Landfill	-	_		_	_
(Disposal Only)					
e. I Lined Treatment Lagoon or Stabilization Pond	0	0			П
f. Dunlined Lagoon or	u	u		Ц	u
Stabilization Pond					0
g. 🏻 Other (Please Describe)	0				
			_		
			<del>-</del> -		
· · · · · · · · · · · · · · · · · · ·					

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### Pollutant Concentrations

1. Enter the total concentrations of the following analytes using existing data	. Do not enter TCLP results.
---	------------------------------

	Concentration	Sample	Sample	Detection Level of
Analyte	(mg/kg or ppm)	Туре	Date	Analysis
			*	
Arsenic	<pql< td=""><td>Grab</td><td></td><td>11.0</td></pql<>	Grab		11.0
Cadmium	<pql< td=""><td>Grab</td><td>*</td><td>5.0</td></pql<>	Grab	*	5.0
Chromium	62	Grab	*	6.0
Copper	2,075	Grab	*	5.0
Lead	24	Grab	*	12.0
Mercury	1.9	Grab	*	0.03
Molybdenum	9.2	Grab	*	6.0
Nickel	32	Grab	*	6.0
Selenium	<pql< td=""><td>Grab</td><td>*</td><td>12.0</td></pql<>	Grab	*	12.0
Zinc	1,317.5	Grab	*	8.0
Ammonium-				
Nitrogen	***************************************	N/A	N/A	N/A
Nitrate-		·		
Nitrogen		N/A	N/A	N/A
Total Kjeldahl				
Nitrogen	38,500	Grab	*	0.09
	PQL=Practical Quantitati	ve Limit	*= Yearly Average	

2. Enter t	he estimated or	determined	percent solids	of the s	ewage sludge	e when	sampled	for the	above
analysis:	61	%			-		·		

Treatment Provided for Sewage Sludge at the Facility

1.	Which class of	pathogen reduction	does the sewage slu	udge meet at the	facility? (As	defined in
	CFR Part 503)		_	_	,	

ass of pathogen reduction does the sevent 503)	wage sludge meet at the facility? (A	s defined in
□ Class A		
Alternative A1 - Time and Tempera	ature	
Alternative A2 - Alkaline Treatment		
Alternative A3 - Analysis and Opera		
Alternative A4 - Analysis Only		
Alternative A5 - Processes to Furth	er Reduce Pathogens (PERP)	
Heat Drying	Thermophilic Aerobic Digestion	☐ Heat Treatment
Pasteurization	Gamma Ray Irradiation	Beta Ray Irradiation
Composting		
Alternative A6 - PFRP Equivalent	-	
X Class B		
X Alternative B1 - Fecal Coliform Cou	ınt	
Alternative B2 - Process to Signification		
	X Air Drying	Anaerobic Digestion
Composting	Lime Stabilization	I Anaerobic Digestion
	II Lime Stabilization	
Alternative B3 - PSRP Equivalent		

■ Neither or Unknown

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☐ Option 2 - A☐ Option 3 - A☐ Option 4 - S☐	Annimum 38% Reduction in Volatile Solids Anaerobic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction Aerobic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction Appecific Oxygen Uptake Rate (SOUR) for Aerobically Digested Sludge
☐ Option 6 - F ☐ Option 7 - 7 ☐ Option 8 - 9	Lerobic Processes plus Elevated Temperature Raised pH to 12 and Retained at 11.5  5% Solids with no Unstabilized Solids  0% Solids with Unstabilized Solids
x Option 10 -	njection Below Land Surface Incorporation into Soil within 6 or 8 Hours Covering Active Sewage Sludge Unit Daily Above
Groundwater Monitoring	
1. If disposal practice is a performed at the site?  ☐ Yes  X No	surface disposal or land application, is groundwater monitoring required or  (If yes, please submit a copy of the groundwater monitoring reports along with this survey. Also please provide the approximate depth to groundwater and the groundwater monitoring procedures used to obtain the data.)
Land Application of Sewa	ge Sludge
<b>.</b>	stions if sewage sludge is applied to land.  nd applied in bulk form, what type of crop or other vegetation is grown on this site?  Ryegrass
If sewage sludge is lar     600lb/acre/year (Reclan	nd applied in bulk form, what is the nitrogen requirement for this crop or vegetation?
<ol><li>If sewage sludge is lar neighbors?</li><li>No complaints have ber</li></ol>	nd applied in bulk form, briefly describe the nature of any complaints filed from
<del></del>	· · · · · · · · · · · · · · · · · · ·

**Note:** Permittees that submitted the "Annual Report Review Form" for sludge to the EPA may submit a copy with the MWPP in lieu of this Attachment.

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# Trussville Wastewater Treatment Plant <u>ATTACHMENT 4</u> – Plant and Collection System Personnel Inventory



EDMIT NUMBER	Trussville V			<del></del>		-	PLANT GR	ADE:		111
PERMIT NUMBER:	AL0022934		alak			-		<b></b> : "	/00=\ 1==	2015
PLANT SUPERINTEN		David Willo						TEL.#	(205) 655-3	
SYSTEM MANAGER:		David Dena	ard	· ————————————————————————————————————				TEL.#	(205) 325-	5806
PLANT OPERATORS				DE OR			1	l		
	IAME	····.		E STATUS	0	PERATOR N	O	EXP	. DATE	-
David Willoughby		<del></del>		IV	··· ,	C002616		11/3	0/2015	-
Brian Key				IV		C003285		12/3	1/2014	_
Ladonna Coalburn				IV	•	C002043		12/3	1/2014	_
Rosemary Sparks		<del></del>		IV		C002168		12/3	1/2014	_
Ronald Johnson				II		C005501		2/2	3/2014	_
							1			_
										_
					-					_
						<del> </del>				-
COLLECTION SYSTE	M OPERATO	DRS:			····					_
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· .										- - -
· .			PS WK	NII IMRED						- - -
MANAGEMENT/SUPE	ERVISOR	MAN H	RS./WK	NUMBER 3						- - -
· .		MAN H		T		AVERAGE	NUMBER O	F EMPLOY	EES PER S	- - - -
MANAGEMENT/SUPE	ERVISOR GRADE I-C	MAN H		T		AVERAGE	NUMBER O	F EMPLOY	EES PER S	- - - -
MANAGEMENT/SUPE	ERVISOR GRADE I-C GRADE I GRADE II GRADE III	MAN H	20 ////////////////////////////////////	1		18T	NUMBER O	I	EES PER S	
MANAGEMENT/SUPE OPERATOR(S):	ERVISOR GRADE I-C GRADE I GRADE III GRADE IV	MAN H	20 ////////////////////////////////////	3		1ST 2ND		I		
MANAGEMENT/SUPE	ERVISOR GRADE I-C GRADE I GRADE III GRADE IV	MAN H	20 ////////////////////////////////////	1		18T		I		
MANAGEMENT/SUPE OPERATOR(S):  DESIGNATED TRAIN	ERVISOR GRADE I-C GRADE I GRADE III GRADE IV	MAN H	20 ////////////////////////////////////	1		1ST 2ND		I		
MANAGEMENT/SUPE OPERATOR(S):  DESIGNATED TRAIN LABORATORY	ERVISOR  GRADE I-C  GRADE II  GRADE III  GRADE IV  EE(S)	MAN H	20 ////////////////////////////////////	1		1ST 2ND		I		
MANAGEMENT/SUPE OPERATOR(S):  DESIGNATED TRAIN LABORATORY MAINTENANCE OTHER PLANT WOR	ERVISOR  GRADE I-C  GRADE II  GRADE III  GRADE IV  EE(S)  KERS	MAN H	10 10	1		1ST 2ND		I		
MANAGEMENT/SUPE OPERATOR(S):  DESIGNATED TRAIN LABORATORY MAINTENANCE OTHER PLANT WOR	ERVISOR  GRADE I-C  GRADE II  GRADE III  GRADE IV  EE(S)  KERS	MAN H	10 10	1	FRI	1ST 2ND		I		
MANAGEMENT/SUPE OPERATOR(S):  DESIGNATED TRAIN LABORATORY MAINTENANCE OTHER PLANT WORK OPERATOR SHIFTS SUN 1ST x	ERVISOR  GRADE I-C  GRADE III  GRADE IIII  GRADE IV  EE(S)  KERS	MAN H  1:  4  4  WORKED E/	20 40 40 40 ACH DAY:	1 1	FRI x	1ST 2ND 3RD		I		
MANAGEMENT/SUPE OPERATOR(S):  DESIGNATED TRAIN LABORATORY MAINTENANCE OTHER PLANT WORK OPERATOR SHIFTS SUN	ERVISOR  GRADE I-C  GRADE II  GRADE III  GRADE IV  EE(S)  KERS  NORMALLY V	MAN H 1:  4  4  WORKED EA TUES	40 40 ACH DAY: WED	1 1 1 THURS		1ST 2ND 3RD		I		

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

ADEM FORM 441 8/02

PLANT AND COLLECTION SYSTEM PERSONNEL INVENTORY

PLANT /	AND COLLEC	TION SYSTEM	PERSONNEL IN	VENTORY
FACILITY NAME: Sewer Line Mercury PERMIT NUMBER:	Maintenance			PLANT GRADE: IV
PLANT SUPERINTENDENT:	<del></del>			TEL.# (205) 540-7585
SYSTEM MANAGER:	David Denard		•	TEL. # (205) 325-5979
PLANT OPERATORS:		GRADE OR		
NAME	ĺ	TRAINEE STATUS	OPERATOR N	IO. EXP. DATE
1. Brian Champion	I(c		C002094	6/30/2015
2. Don Goodwin	I(c		C005423	6/30/2015
3. Lavon Evans	I(c	<del></del>	C004631	12/31/2014
4. Brian Rohling	I(c	·	C005418	6/30/2015
5.				
6.				
7.				
8.				
9.				
0.				
1. 2. 3. 4. MANAGEMENT/SUPERVISOR OPERATOR(S): GRADE I-C	MAN HRS./	WK NUMBE	R	
GRADE	1		AVERAGE N	NUMBER OF EMPLOYEES PER SHIFT:
GRADE I				
GRADE II			1S <sup>-</sup>	T START TIME
GRADE IV	′ <u> </u>		2NI	
DESIGNATED TRAINEE(S)			3RI	P
LABORATORY				
MAINTENANCE				
OTHER PLANT WORKERS				
OPERATOR SHIFTS MORMAN I V MODI	VED EACH DAY			
OPERATOR SHIFTS NORMALLY WORK SUN MON		WED THURS	FRI SAT	
1ST	1 1	WEB MICK	TIME SATE	7
2ND				†
3RD	·			1
ADEM USE ONLY	•			YES NO
1. DOES PLANT OPERATOR STAFFING COM	MPLY WITH DIVISION	10 OF ADEM ADMINIS	TRATIVE CODE?	
2. DOES COLLECTION SYSTEM OPERATOR	STAFFING COMPLY	WITH DIVISION 10 OF	ADEM ADMINISTRATIVE C	ODE?
				ADEM EORM 444 9/03

# Municipal Water Pollution Prevention (MWPP) Annual Report Calendar Year 2013

For the

# **Turkey Creek WWTP**

as required by the Alabama Department of Environmental Management NPDES Program



Prepared by
Jefferson County Commission
Environmental Services Department

May 31, 2014

# JEFFERSON COUNTY COMMISSION



DAVID CARRINGTON - PRESIDENT GEORGE F. BOWMAN SANDRA LITTLE BROWN - PRESIDENT PRO TEMPORE T. JOE KNIGHT JAMES A."JIMMIE" STEPHENS

May 31, 2014

Mr. Nic Caraway Alabama Department of Environmental Management Water Division – Municipal Branch P.O. Box 301463 Montgomery, AL 36130-1463

RE: Municipal Water Pollution Prevention (MWPP) Annual Report Calendar Year 2013

Mr. Caraway:

The Jefferson County Environmental Services Department submits the above referenced report for the Turkey Creek Wastewater Treatment Facility, NPDES Permit No. AL0022926. Included is information as required in ADEM Form 41701/06ml, bypass/overflow event reports, MWPP Sewage Sludge Survey, and the Plant & Collection System Personnel Inventory.

If you have any questions regarding this information, please contact me at 205.325.5979 or Celeste Brown at Jefferson County Barton Laboratory at 205.238.3859.

Sincerely,

David Denard, Director Environmental Services Department

DAVID CARRINGTON - COMMISSIONER

TONY PETELOS, COUNTY MANAGER

Office of

**ENVIRONMENTAL SERVICES** 

Director of Environmental Services

716 Richard Arrington, Jr. Blvd. N. Birmingham, Alabama 35203

Telephone (205) 325-5496 Fax (205) 325-5981

DAVID DENARD

Suite A-300

pc: Celeste Brown, JCESD Barton Laboratory
Daniel White, JCESD Deputy Director
Chad Quick, Turkey Creek WWTP

# MUNICIPAL WATER POLLUTION PREVENTION (MWPP) ANNUAL REPORT

# SUBMITTED BY:

TREATMENT FAC	ILITY:	NPDES #:_0022926		
MUNICIPALITY:_J	efferson County	COUNTY: Jefferson		
CONTACT PERSO				
	Municipal Official			
	Director of Environmental Services			
	Title			
	Telephone #: (205)325-5979	Fax #: (205)325-5806		
	Email Address: denardd@jccal.org			
CHIEF OPERATOR	Chad Quick			
	Name			
	Telephone #: (205)681-7971	Fax #: (205)680-8139		
	Email Address: quickc@jccal.org			
	Date: May 14, 2014			
REVIEWED BY:	Daniel White P.E. ESD Engineer			
	Consulting Engineer			
	Telephone #: (205) 214-8610	Fax #: (205)325-5688		
	Date: May 14, 2014			

## MWPP Annual Report Information Source List

The following information will be needed to complete the compliance maintenance report that covers the calendar year of 2013 (due May 31, 2014).

- Part 1 A. The average plant influent flow for each month (million gallons per day/MGD) during the year.
  - B. The average plant influent BOD (CBOD) for each month (mg/l and lb/day) in the year.
  - C. The 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 the year
  - B. The monthly average effluent limits and DMR loading for BOD, TSS, NH3-N, and/or TKN in lbs/day for the year
- Part 3 The age of the 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 minus the year the new construction was brought on-line.
- Part 4 Bypass and overflow information. This is the number of bypass or overflow events of untreated wastewater due to heavy rain or equipment failure whether intentional or inadvertent from all collection systems tributary to the treatment facility.
- Part 5 A. Describe the characteristics and quantity of sludge generated.
  - B. If sludge is landspread, how many months of sludge storage does the plant have? This should include on-site and off-site storage from the treatment plant. The digestor capacity may be used in the calculation.
- Part 6 A. Sludge Disposal Method
  - B. The number of approved land disposal sites for sludge available, and how many months or years these disposal sites will these be available for use.
- Part 7 The number of sewer extensions installed in the community last year--the design population, design flow, and design BOD for each sewer extension.
- Part 8 Operator Certification
- Part 9 Financial Status
- Part 10 Subjective Evaluation
- Part 11 Summary Sheet

State of Alabama MWPP Annual Report Department of Environmental Management

## 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 the actions necessary to prevent effluent violations. Enter the point totals from Parts 1 through 8 on Part 11: Summary Sheet.
- 3. Add the point totals on Part 11: Summary Sheet.
- 4. Submit the MWPP Report to the governing body and the consulting engineer and owner for review and approval.
- 5. The governing body should pass a resolution which contains the following points:
  - a. The resolution should acknowledge the governing body or owner has reviewed the MWPP Report.
  - b. The resolution should indicate what actions will be taken to prevent effluent violations.
  - c. The resolution should provide any other information the governing body or owner deems appropriate.
- 6. The MWPP Report and the resolution must be submitted by May 31<sup>st</sup> to Municipal Section, Water Division, ADEM, P.O. Box 301463, Montgomery, AL 36130-1463.

# Part 1: Influent Loading/Flows

A. List the average monthly volumetric flows and BOD<sub>5</sub> (CBOD<sub>5</sub>) loadings received at your facility during the last calendar year.

<u>Month</u>	Column 1 Average Monthly Flowrate (MGD)	Column 2 Average Monthly BOD <sub>5</sub> (CBOD <sub>5</sub> ) Concentration (mg/l)	Column 3 Average Loading BOD <sub>5</sub> (CBOD <sub>5</sub> ) (lbs/day**)
January	7.4	33	2111
February	7.4	33	1941
March	6.4	44	2184
April	6.9	44	2368
May	7.0	45	2238
June	6.6	51	2715
July	5.3	58	2756
August	6.3	39	1895
September	4.0	63	2105
October	3.4	78	2204
November	4.3	72	2404
December	6.1	42	2084
Annual Avg.	5.9	50	2250

<sup>\*\*</sup>As reported on NPDES Discharge Monitoring Reports (DMRs) and as required by EPA's NPDES Self-Monitoring System, User Guide, March 1985.

B. List the average design flow and average design BOD<sub>5</sub> loading for the facility below. If you are not aware of these design quantities, contact your consulting engineer or the Alabama Department of Environmental Management.

	Average Design Flow	Average Design BOD <sub>5</sub> Loading (lbs/day)
Design Criteria	5.0	7506
90% of the Design Criteria	4.5	6755

C.	How many times did	the monthly flow (Colum	mn 1) to the	WWTP exc	eed 90% of des	sign flow?
	(Check the a	appropriate point total)				
		<u>~</u>				
	0 - 4 = 0 points	5  or more = 5  points				

C points = 
$$\frac{5}{}$$

D points = 
$$\frac{15}{}$$

E points = 
$$0$$

F points = 
$$0$$

TOTAL POINTS VALUE OR PART 1 20

Enter this value on Part 11: Summary Sheet.

<sup>\*</sup>To obtain equivalent BOD<sub>5</sub> loading for comparison with design loading for those permittees using influent CBOD<sub>5</sub>, divide annual average CBOD<sub>5</sub>, 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 BOD<sub>5</sub>, (CBOD<sub>5</sub>) TSS, NH<sub>3</sub>-N and/or TKN concentration produced by the facility during the last calendar year.

# (1) NPDES Permit Concentration

	<u>Months</u>	$\begin{array}{c} \mathrm{BOD_5} \\ \mathrm{(CBOD_5)} \\ \mathrm{(mg/l)} \end{array}$	TSS (mg/l)	NH <sub>3</sub> -N (mg/l)	TKN (mg/l)
Permit Limit	April- Oct Nov- March	20.0	24.0	5.0	Report

# (2) DMR Concentration

<u>Qtr</u>	<u>Month</u>	BOD <sub>5</sub> (CBOD <sub>5</sub> ) (mg/l)	TSS (mg/l)	NH3-N (mg/l)	TKN (mg/l)
1	January	1.2	5.8	0.01	0.52
	February	1.5	6.9	0.0	0.42
	March	1.4	7.0	0.01	0.43
2	April	0.89	4.5	0.0	0.17
	May	1.1	6.0	0.0	0.65
	June	0.83	5.7	0.01	0.43
3	July	1.3	4.6	0.0	0.22
	August	0.77	3.3	0.0	0.0
	September	1.4	4.1	0.0	0.47
4	October	2.0	4.6	0.0	0.35
	November	1.4	7.3	0.01	0.30
	December	0.93	5.4	0.02	0.26
	Annual Avg.	1.2	5.4	0.01	0.35

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

BOD<sub>5</sub>

# (1) NPDES Permit Loading

		BOD <sub>5</sub>			
	<u>Months</u>	$(CBOD_5)$ $(lbs/day)$	TSS (lbs/day)	NH <sub>3</sub> -N	TKN
Permit	Wionuis	(los/day)	(los/day)	(lbs/day)	(lbs/day)
Limit	April-Oct	834	1000	104	Report
	Nov-March	834	1000	208	Report
(2) DM	R Loading				
<u>Qtr</u>	<u>Month</u>	BOD <sub>5</sub> (CBOD <sub>5</sub> ) (lbs/day)	TSS (lbs/day)	NH <sub>3</sub> -N (lbs/day)	TKN (lbs/day)
1	January	79	468	0.68	60
	February	93	449	0.0	22
	March	70	387	0.64	23
2	April	48	245	0.0	9.9
	May	54	314	0.0	30
	June	46	325	0.66	31
3	July	59	217	0.0	7.6
	August	43	176	0.0	0.0
	September	49	139	0.0	14
4	October	57	129	0.0	10
	November	49	262	0.45	9.3
	December	50	293	0.98	11
	Annual Avg.	58	284	0.28	19

C. During the past year did the BOD<sub>5</sub> 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? (Check the appropriate point total.)

No = 
$$0$$
 points  $Yes = 121$  points

D.	During the past year did the BOD <sub>5</sub> concentration (mg/l) and/or loading (lbs/day), exceed the
	monthly average permit limit during four months of any two consecutive quarters? (Check
	the appropriate point total.)

No = 
$$0$$
 points  $Yes = 121$  points

No = 
$$\overline{0}$$
 points  $\overline{Y}$  Yes =  $\overline{121}$  points

No = 0 points 
$$Yes = 121 points$$

No = 
$$0$$
 points  $Yes = 121$  points

No = 0 points 
$$Yes = 121 points$$

Facil	lity Name: Turkey Creek WWTP	
Part	3: Age of the Wastewater Treatment Facility	
A.	What year was the wastewater treatment plant cons	tructed or last reconstructed? 2004
	Subtract the above answer from the report year to d	etermine age:
	Age = (Last Calendar year) - (Answer to A)	
	Age $\frac{9}{}$ = $(2013)$ - $(2004)$	_)
	Enter Age in Part C below.	
B.	Check the type of treatment facility employed.	
		Factor
	2.0 Mechanical Treatment Plant	2.0
	Aerated Lagoon	1.5
	Stabilization Pond	1.0
	Other (Specify:)	1.0
C.	Multiply the factor listed next to the type of the fa of your facility to determine the total point value fo	
	2.0 $\times$ 9 = 18 TOTAL POINT V	ALUE FOR PART 3

 $\frac{2.0}{\text{(Factor)}} \times \frac{9}{\text{(Age)}} = \frac{18}{\text{18}} \text{TOTAL POINT VALUE FOR PART 3}$ 

Enter the above value on Part 11: Summary Sheet. If the total point value exceeds 40, enter 40 on Part 11: Summary Sheet.

Facil	ity Name: Turkey Creek WWTP
Part 4	4: Bypassing and Overflows
A.	How many bypass or overflow events of untreated wastewater occurred in the last year at the WWTP due to heavy rain? 0
В.	How many bypass or overflow events of untreated wastewater occurred in the last year prior to the headworks of the WWTP due to heavy rain? 0
C.	How many of the bypass or overflow events listed in Parts A and B 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 Answers A and B and subtract Answer C from that total.  A + B - C =(Check the appropriate point total.) $0 = 0$ 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 WWTP due to equipment failure? (This includes clogged/broken lines or manholes.) 1.0
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 WWTP? (This includes clogged/broken lines or manholes.) 1.0
G.	How many of the bypass or overflow events listed in Parts E and F have been corrected such that future bypass or overflow events at the same location due to the same equipment failure are not anticipated? 2.0
H.	Add together Answers E and F and subtract Answer G from that total.  E + F - G = (Check the appropriate point total.)  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
[.	Add point values circled in D and H and enter the total in the blank below.
	AL POINT VALUE FOR PART 4 0 rthis value on Part 11: Summary Sheet.
	All bypass or overflow events that have occurred in the last year (for any reason) must

be individually reported with this MWPP report.

Facil	lity Name: Turkey Creek WWT	P	
Part:	5: Sludge Quantity and S	Storage	
A.		tion concerning sludge quantity, chass requested on the MWPP Sewage	
В.		sludge storage capacity does the vor off-site? (i.e., How many monthsing of sludge?) 4	
	Less than 3 months, bu	·	= 0 points
	TAL POINT VALUE FOR r this value on Part 11: Su	——————————————————————————————————————	
Part	6: Sludge Disposal Practi	ces and Sites	
A.		dge disposal practices and site infor P Sewage Sludge Survey, ADEM Fo	
B.		years does the facility have access the proper land disposal? (Check the a	^^
	12 - 23 months 6 - 11 months	= 0 points	
	AL POINT VALUE FOR r this value on Part 11: Su		

Facility Name: Turkey Creek WWTP		_		
Part 7: New Development	-			<del></del>
Are there any major new decalendar year or anticipated in the sewage system could sign	in the next 2-3 years	such that eith	er flow or BOD5	loadings to
Design Population: Equivalent (PE)	Design Flow:	MGD	Design BOD <sub>5</sub> :	lbs/day
List industrial and/or resider	ntial developments.			
No major developments are planned.	·			
Will the additional loading of No = 0 points  The Enter the point total in the black of the p	Yes = 121 points	neck the appro	opriate point total.	)
TOTAL POINT VALUE FOR PAR Enter this value on Part 11: Summar	<del></del> \	ooint total = 1	21)	
Part 8: Operator Certification		<del></del>		
Complete the Plant and Collection	System Personnel Inve	ntory, ADEN	1 Form 441.	
Do both the plant operator an Code; Division 10, Operator (				
Yes = 0  points	No = $\frac{121}{1}$ points			
TOTAL POINT VALUE FOR PAR Enter this value on Part 11: Summar		est point total	= 121)	

Faci	lity Name: Turkey Creek WWTP
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? <i>Include user charge rates</i> .
	Revenues are sufficient. The below values are based on a 5/8" meter and 6000 gallons of water use.
	Jefferson County has a three tier block rate structure for residential users for 0-3, 4-6, and 7+ccf water use.
	Residential Minimum 15.00 Plus rate 6.02, 9.36, 10.69 /1,000 gal.
	Industrial Minimum 15.00 Plus rate 10.51 /1,000 gal.
	Monthly residential rate based on 6,000 gallons usage \$_56.04(includes 15% credit for residential)
	ase complete the above information based on your user charge rates for the report year. You attach a sample water and sewer bill for clarity.
В.	What financial resources are available to pay for the wastewater improvements and/or reconstruction needs?
	In 2013, Jefferson County issued Series 2013 Sewer Warrants that fund capital improvements
	through 2023 at an annual average rate of \$71.9 million over the 10-year period.
Part	10: Subjective Evaluation
A.	Describe briefly the physical and structural conditions of the wastewater treatment facility.
	All structures are in good condition.
В.	Describe the general condition of the sewer system (sewer lines, manholes, lift stations).
	The Turkey system includes roughly 460,000' of pipe and 8 pumping stations. The system's rate of
	SSO's/100 miles of sewer is below the department's goal. There are no known capacity deficiencies,
	but I/I rates were high. The general condition of the system is fair.

Improvements to the Womack Road sanitary sewer area that experienced a break in the April 2014
flooding.
What is the theoretical design life of the plant, and what is the estimated remaining useful of the wastewater treatment facility?
Calculated remaining useful life of the structures is 41 years (50 years - 9 years age of facility).
Calculated remaining useful life of the equipment is 16 years (25 years - 9 years age of equipment).
Based on EPA's 2002 Clean Water and Drinking Water Infrastructure Gap Analysis Report.
What problems, if any, over the last year have threatened treatment or conveyance within system?
On May 18, 2013, Turkey Creek flooded after receiving 6+" of rain in a 12-hour period.
Debris overwhelmed and blocked the influent screens. Between 1.6 and 2.2 million gallons of
sewage flowed to Turkey Creek before the screens could be cleared and restarted.
Is the community presently involved in formal planning for treatment facility upgrading?
No
How many days in the last year were there residential backups at any point in the collect system for any reason other than clogging of the lateral connection? 4
Does the plant have a written plan for preventive maintenance on major equipment items? yes, describe.
Yes, O&M manuals for all equipment are on site. We record lubrication and repairs on all equipment in an asset
management program (Infor) for future reference and to keep a log on all repairs. Preventive maintenance

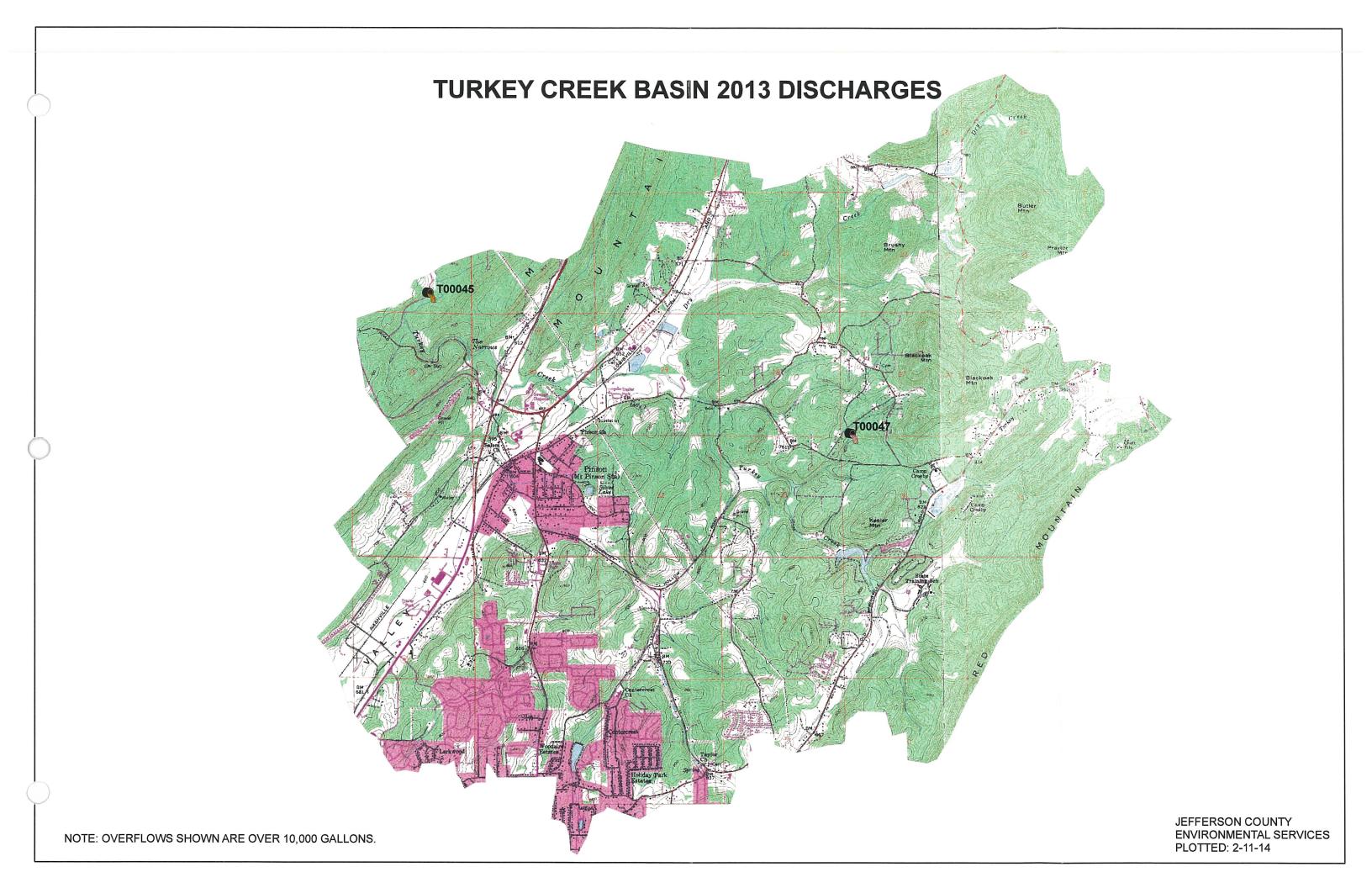
and	s this preventive maintenance program depict frequency of intervals, types of lubrication other preventive maintenance tasks necessary for each piece of equipment? (Check to priate response.) Yes No
иррі	
filed	these preventive maintenance tasks, as well as equipment problems, being recorded at so future maintenance problems can be assessed properly? (Check the approprionse.)  Yes  No
inclu	cribe any major repairs or mechanical equipment replacement made in the last year and the approximate cost for those repairs. Do not include major treatment platruction or upgrading programs.
•	
T int	one of distance of a community (Associated distance of the section
LISI	any additional comments. (Attach additional sheets if necessary.)
_	

Facilit	y Name: Turkey Creek WWTP	<del></del>
Part 11	1: Summary Sheet	
1.		through 8 in the left column below. Add the numbers in the VPP Report point total the wastewater system generated for
	Actual Values	Maximum Possible
	Part 1 20 points	80 points
	Part 2 o points	121 points
	Part 3 18 points	40 points
	Part 4points	200 points
	Part 5 o points	50 points
	Part 6 20 points	50 points
	Part 7 o points	121 points
	Part 8 o points	121 points
	Total 58 points	783 points
2.	Check the facility type that best de	escribes the plant's treatment and disposal of wastewater.
<b>✓</b>	Mechanical plant with surface wa	ater discharge
		ond with surface water discharge
	Mechanical plant using land disp	•
	Aerated Lagoon or stabilization p	ond using land disposal of liquid wastes
<b>4</b>	0 - 70 pts. Actions as 71 - 120 pts. Departmen	action needed to address problems identified in the report. Appropriate* ntal Recommendation Range*
		ity Action Range* PDES outside the scope of this report.
4. (	Complete the Municipal Water Po	llution Prevention Resolution Form, ADEM Form 418.

5.	In Question 1, do any of the actual point values in the left column possible points in the right column? (Check the appropriate response)		the maximur
		1	<u>                                     </u>
	If yes, provide a written explanation for this situation in the space below.		
		<del></del>	

# Turkey Creek Wastewater Treatment Plant ATTACHMENT 2 – Raw Sewage Bypass and SUMMARY









# Summary of Unpermitted Discharges - Turkey Creek

January 01, 2013 through December 31, 2013

NOTE: Quantities shown in the column "Est. Volume" are ESTIMATED ONLY. These estimates are the County's best determination of the discharge volume, based upon site-determinable information and accepted estimating methods. However, such estimates are subject to a high number of variables which are completely beyond the County's control and which can have a significant effect upon the calculated amount. Therefore, these estimates are to be used for relative comparison only, not as actual discharge volumes.

Title	Sewer Maintenance Supervisor	AND ALL DESIGNATIONS OF THE PARTY OF THE PAR	Sewer Maintenance Supervisor	The second section of the second section of the second section
Person Reporting	Brian Champion	**************************************	Brian Champion	and the second s
Action Taken	Blockage Removed	and the second of the second o	Line Repaired	
Weather	Heavy Rain	700	No Rain	The state of the s
Cause	Treatment Plant Equipment Failure		Manhole Washed Out	Company of the Control of the Contro
Source	Treatment Plant	The state of the s	Pipe	
Est. Vol. (gal)	2,000,000	en unterschen eine der geben die sollte der Geben beschändigen bei bei bei der	18,994	to the National Section of the Secti
Ultimate Destination	Turkey Creek	per server of the server of the server of	Drainage Ditch/ Feeder to Turkey Creek	1
Collection System	Turkey Creek	ent flow.	Turkey Creek	
Date Reported Location	5/18/13 7137 Disposal Plant Rd	Notes: Influent screens blinded by debris from influent flow.	8/19/13 6517 Womack Rd	
Event Date No. Reporte	T00045	Note	T00047	Notes:

## Turkey Creek Wastewater Treatment Plant ATTACHMENT 3 – MWPP Sewage Sludge SURVEY



#### **MWPP SEWAGE SLUDGE SURVEY**

Facility Bac	ckground Information:		•		
1. Facility	Information		Permi	t Number:	AL0022926
	Name:	<b>Turkey Cree</b>	k WWTP		
	Street Address:	7137 Dispos	al Plant Road		
	County:	Jefferson	-	·	
2. Facility	Contact				
•	Name:	Chad Quick			
	Title:	Plant Super	visor		<del></del>
	Telephone:	(205) 681-79	71		
	Permitted Name:	Jefferson Co	ounty Commissio	n- Turkey Cre	eek WWTP
	Mailing Address:	Suite A-300,	716 Richard Arri	ngton JR. Blv	d. N.
		Birmingham	AL 35203		
Facility Flo	w Information				
1. Facility	Wastewater Treatment Ca	•			
	Avg. Daily Flow for 201		5.9	MGD	
	Facility Design Capacit	y:	5.0	MGD	
2. Estimate	ed Septage Quantity Hand	dled (Residuals F	Removed from Ser	otic Tank Syste	ems)
	Average Domestic Sep	otage:	N/A	gallons p	er month
	Average Commercial S	Septage:	N/A	gallons p	er month
3. Method	of Septage Processing  Mixed with Influent  Mixed with Sewage		Treatment N/A		
4 Estimate	ed Percentage Contributir	ng Wastewater F	low		
Louinat	Residential: 95	%			
	Industrial: 0	<sup>/</sup>			
	Other: 5	— %	Describe:	Commer	cial
		_			
5. List type	of wastewater treatment Bar Screening, Grit R	. , ,	· · · · · · · · · · · · · · · · · · ·	Activated Slu	dge,
	Clarification, Travelin				
6. Estimate	ed sewage sludge wasting	rate at this facil	itv:		lb/day dry weight
		, , , , , , , , , , , , , , , , , , , ,	or	7297	gallons per day
				N1/A	11.71
<ol><li>Estimate</li></ol>	ed untreated sludge receiv	ved trom off site.		N/A	lb/day dry weight

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Aerobic Digestion, Drying Be	ds (Air Dryi	ing)		udge Quanti ed pounds p	•
10. Estimate the total volume of sludge	generated:		(dry U	<b>251</b> J.S. tons per	vear)
Sludge Disposal Methods			. ,	•	,
1. Which of the following describes the	current metl	hod of sewa	ge sludge disposal for th	is facility:	
		Current F		Proposed	<b>Practices</b>
		by ADEM	Quantity	Approved	-
a. X Land Application, Bulk Shipped	<u>Yes</u>	<u>No</u>	(dry U.S. tons/year)	<u>Yes</u>	<u>No</u>
X Agriculture	Х	0	251	0	0
☐ Forest		0		0	0
Public Contact	0			0	
Lawn/Home Garden	0			0	0
b. 🏿 Land Application,					
Bagged/Other Container	_	_		_	_
☐ Agriculture	_	0			
☐ Forest					
Public Contact					
Lawn/Home Garden	0			0	
c. I Incineration	0	0		0	0
d. 🏿 Subtitle D Landfill			•		
(Disposal Only)					
e. I Lined Treatment Lagoon	_				
or Stabilization Pond	0			0	
f. I Unlined Lagoon or Stabilization Pond	П	п		0	П
g. I Other (Please Describe)		0 0	<del></del>	0	0
		_		_	_
	<u></u>		_		

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#### **Pollutant Concentrations**

1	Enter the total	concentrations (	of the following	i analytes using	existing data	Do not enter TCLP re	esults
- 1	. Liitei tiie totai	CONCENTIATIONS V		ı analytes usinu	CAISIII IU Uala.	DO HOLGHIGH FOLE I	couito.

	Concentration	Sample	Sample	Detection Level of
Analyte	(mg/kg or ppm)	Туре	Date	Analysis
Arsenic	<pql< td=""><td>Grab</td><td>*</td><td>11.0</td></pql<>	Grab	*	11.0
Cadmium	<pql< td=""><td>Grab</td><td>*</td><td>5.0</td></pql<>	Grab	*	5.0
Chromium	47	Grab	*	6.0
Copper	957	Grab	*	5.0
Lead	16	Grab	*	12.0
Mercury	2	Grab	*	0.0
Molybdenum	<pql< td=""><td>Grab</td><td>*</td><td>6.0</td></pql<>	Grab	*	6.0
Nickel	25	Grab	*	6.0
Selenium	<pql< td=""><td>Grab</td><td>*</td><td>12.0</td></pql<>	Grab	*	12.0
Zinc	937	Grab	*	8.0
Ammonium- Nitrogen	***************************************	N/A	N/A	N/A
Nitrate- Nitrogen		N/A	N/A	N/A
Total Kjeldahl	40 667	Grah	*	0.00
Nitrogen I	40,667 PQL=Practical Quantitativ	Grab re Limit	*= Yearly Average	0.09

	F	PQL=Pra	ctical Q	uantitative Limi	it	*=	Yearly Ave	rage		
2.	Enter the esti	mated o	r determ	ined percent s	olids of the	sewage	sludge whe	n sampled	for the	above
an	alvsis:	82	%							

Treatment Provided for Sewage Sludge at the Facility

Neither or Unknown

1.	Which class of pathogen re	eduction does	the sewage sludge	meet at the facility?	(As defined in
40	CFR Part 503)				

class of pathogen reduction does the sev	wage sludge meet at the facility? (As	s aetinea in
rt 503)		
I Class A		
Alternative A1 - Time and Tempera	ature	
Alternative A2 - Alkaline Treatment	t	
Alternative A3 - Analysis and Opera	ation	
Alternative A4 - Analysis Only		
Alternative A5 - Processes to Furth	ner Reduce Pathogens (PFRP)	
Heat Drying	☐ Thermophilic Aerobic Digestion	Heat Treatment
Pasteurization	Gamma Ray Irradiation	Beta Ray Irradiation
Composting		
Alternative A6 - PFRP Equivalent		
X Class B		
X Alternative B1 - Fecal Coliform Co.	unt	
Alternative B2 - Process to Signific		
Aerobic Digestion	Air Drying	Anaerobic Digestion
Composting	Lime Stabilization	J
Alternative B3 - PSRP Equivalent		
• • • • • • • • • • • • • • • • • • •		

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Vector Attraction Control	
☐ Option 2 - Ana ☐ Option 3 - Aer ☐ Option 4 - Spe ☐ Option 5 - Aer ☐ Option 6 - Rai ☐ Option 7 - 75% ☐ Option 8 - 90% ☐ Option 9 - Inje  x Option 10 - Ind	simum 38% Reduction in Volatile Solids aerobic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction robic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction recific Oxygen Uptake Rate (SOUR) for Aerobically Digested Sludge robic Processes plus Elevated Temperature sed pH to 12 and Retained at 11.5 % Solids with no Unstabilized Solids % Solids with Unstabilized Solids rection Below Land Surface corporation into Soil within 6 or 8 Hours vering Active Sewage Sludge Unit Daily bove
Groundwater Monitoring	
If disposal practice is surperformed at the site?	rface disposal or land application, is groundwater monitoring required or
☐ Yes ( ▼No s	If yes, please submit a copy of the groundwater monitoring reports along with this survey. Also please provide the approximate depth to groundwater and the groundwater monitoring procedures used to obtain the data.)
Land Application of Sewage	e Sludge
	ons if sewage sludge is applied to land. applied in bulk form, what type of crop or other vegetation is grown on this site? /egrass
If sewage sludge is land     600lb/acre/year (Reclamate)	applied in bulk form, what is the nitrogen requirement for this crop or vegetation?
If sewage sludge is land neighbors?     No complaints have been	applied in bulk form, briefly describe the nature of any complaints filed from received.

**Note:** Permittees that submitted the "Annual Report Review Form" for sludge to the EPA may submit a copy with the MWPP in lieu of this Attachment.

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# Turkey Creek Wastewater Treatment Plant ATTACHMENT 4 – Plant and Collection System Personnel Inventory



FACILITY NAME:	Turkey	Creek WW	/TP			_ P	LANT GRA	ADE:		III
PERMIT NUMBER:	AL 0022	926				_				
PLANT SUPERINTE	NDENT:	Chad Qu	iick		·—·			TEL.#	(205)68	<u>1-797</u> 1
SYSTEM MANAGER	:	David De	enard						(205)32	6-8232
PLANT OPERATORS	<b>3:</b>		···							
	IAME			.DE OR E STATUS	0	PERATOR NO	). <b>[</b>	EXP	. DATE	
Eric Pond				IV		C003706		2/28	3/2016	_
Mark Lee				IV .		C000389			/2016	_
Chad Quick				IV		C003616	,		3/2015	
Pat McCarty				IV		C003224			/2014	
Adam Moore				IV		C006513			/2014	<del></del>
									·••	
W. Z W.										_
										_
						<del></del>				_
			-							_
COLLECTION SYSTE	EM OPERATO	ORS:				···				_
COLLECTION SYSTE	EM OPERATO	ORS:								<b>-</b> - -
COLLECTION SYSTE	M OPERATO	ORS:	RS./WK	NUMBER						- - -
COLLECTION SYSTE	M OPERATO	ORS:	RS./WK	NUMBER 3						- - -
COLLECTION SYSTE	M OPERATO	MAN H								- - -
COLLECTION SYSTE	ERVISOR  GRADE 1-0  GRADE	MAN H				AVERAGE N	UMBER O	F EMPLOY	EES PER S	SHIFT:
COLLECTION SYSTE	ERVISOR  GRADE I-C  GRADE I	MAN H				_		•		
COLLECTION SYSTE	ERVISOR  GRADE 1-0  GRADE	MAN H		3		1ST	UMBER O	•	EES PER S	
COLLECTION SYSTE	ERVISOR  GRADE I-C  GRADE I  GRADE II  GRADE II	MAN H	20 /////////			_		•		
MANAGEMENT/SUP OPERATOR(S):  DESIGNATED TRAIN LABORATORY	ERVISOR  GRADE I-C  GRADE I  GRADE II  GRADE II	MAN H	20 /////////	3		1ST 2ND		•		
MANAGEMENT/SUP OPERATOR(S):  DESIGNATED TRAIN LABORATORY MAINTENANCE	ERVISOR  GRADE I-C  GRADE I  GRADE II  GRADE IV  IEE(S)	MAN H	20 /////////	3		1ST 2ND		•		
MANAGEMENT/SUP OPERATOR(S):  DESIGNATED TRAIN LABORATORY	ERVISOR  GRADE I-C  GRADE I  GRADE II  GRADE IV  IEE(S)	MAN H	20 /////////	3		1ST 2ND		•		
MANAGEMENT/SUP OPERATOR(S):  DESIGNATED TRAIN LABORATORY MAINTENANCE OTHER PLANT WOR	ERVISOR  GRADE I-C  GRADE I  GRADE II  GRADE IV  EEE(S)	MAN H	30	3		1ST 2ND		•		
MANAGEMENT/SUP OPERATOR(S):  DESIGNATED TRAIN LABORATORY MAINTENANCE OTHER PLANT WOR  OPERATOR SHIFTS SUN	ERVISOR  GRADE I-C  GRADE II  GRADE IV  GRADE IV  KERS  NORMALLY  MON	MAN H  1:  WORKED EA  TUES	30 ACH DAY: WED	3 ///////// 2 THURS	FRI_	1ST 2ND 3RD		•		
MANAGEMENT/SUP OPERATOR(S):  DESIGNATED TRAIN LABORATORY MAINTENANCE OTHER PLANT WOR	ERVISOR  GRADE I-C  GRADE II  GRADE II  GRADE IV  IEE(S)	MAN H	20 80 ACH DAY:	2	FRI X	1ST 2ND 3RD		•		

NOEM GOL ONE

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

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

YES	NO
X	
ADEM FORM 441	8/02

		PLANTA	AND COLL	ECTION S	STOTENT	ERSU	NNEL INVE	NIORI		. 1
FACILITY	NAME:	Sewer Line M	laintenance				PL	ANT GRADE:		<u>IV</u>
PERMIT N							<u></u>			
PLANT SU	JPERINTENDEN <sup>1</sup>	Т:		•				TEL.#	(205) 54	10-758 <u>5</u>
SYSTEMI	MANAGER:		David Denard					TEL.#	(205) 32	
PLANT OF	PERATORS:									
				1	DE OR	۱ ۵		1		1
1 Princ Cha		ME			STATUS	+	PERATOR NO.	EXP. D		
1. Brian Char 2. Don Good				I(c)		C002094			3/30/2015	
3. Lavon Eva				l(c) l(c)		C005423		<del></del>	3/30/2015 2/31/2014	
4. Brian Rohl				I(c)		C00463			3/30/2015	
5.	ing			1(0)		C003416			013012015	
6.			<del>-</del>							
7.			<del></del>							
8.			<del></del>					<del></del>		
9.								<del></del>	_	
10.								<del>.  </del>	-	
						1		<b>_</b>		
COLLECT	ION SYSTEM OF	PERATORS:								
,				1		1		1		
1.		-					· · · · · · · · · · · · · · · · · · ·			
2.										
3.						1				
4.						1				
				· · · · · · · · · · · · · · · · · · ·						
			MAN H	RS./WK	NUMBER					
MANAGE	MENT/SUPERVIS	OR				1				
OPERATO	DR(S):									
		GRADE I-C				1				
		GRADE I				1	AVERAGE NUM	IBER OF EMPLOY	EES PER	SHIFT:
		GRADE II								
		GRADE III					1ST	STA	RT TIME	
		GRADE IV					2ND			
DESIGNA	TED TRAINEE(S)	)				_	3RD_			
LABORAT	ORY					1				
MAINTEN	ANCE					_				
OTHER P	LANT WORKERS	5		1		]				
OPERATO	OR SHIFTS NORM	MALLY WORK	ED EACH DA	Y:						
	SUN	MON	TUES	WED	THURS	FRI	SAT			
1ST										
2ND		ļ				ļ				
3RD		<u> </u>	<u> </u>		<u> </u>	l				
ADEM USE O	NLY									
									YES	NO
	ANT OPERATOR S							_	<u> </u>	
2. DOES CO	DLLECTION SYSTE	M OPERATOR	STAFFING COM	APLY WITH DIV	ISION 10 OF A	DEM ADMIN	NISTRATIVE CODE	?	Щ	
						•			ADEM FOR	M 441 8/02

### Municipal Water Pollution Prevention (MWPP) Annual Report Calendar Year 2013

For the

#### **Valley Creek WWTP**

as required by the
Alabama Department of Environmental Management NPDES Program



Prepared by Jefferson County Commission Environmental Services Department

May 31, 2014

#### JEFFERSON COUNTY COMMISSION



DAVID CARRINGTON - PRESIDENT GEORGE F. BOWMAN SANDRA LITTLE BROWN - PRESIDENT PRO TEMPORE T. JOE KNIGHT JAMES A."JIMMIE" STEPHENS

May 31, 2014

Mr. Nic Caraway Alabama Department of Environmental Management Water Division – Municipal Branch P.O. Box 301463 Montgomery, AL 36130-1463

RE: Municipal Water Pollution Prevention (MWPP)
Annual Report Calendar Year 2013

Mr. Caraway:

The Jefferson County Environmental Services Department submits the above referenced report for the Valley Creek Wastewater Treatment Facility, NPDES Permit No. AL0023655. Included is information as required in ADEM Form 41701/06ml, bypass/overflow event reports, MWPP Sewage Sludge Survey, and the Plant & Collection System Personnel Inventory.

If you have any questions regarding this information, please contact me at 205.325.5979 or Celeste Brown at Jefferson County Barton Laboratory at 205.238.3859.

Sincerely,

David Denard, Director Environmental Services Department

DAVID CARRINGTON - COMMISSIONER

TONY PETELOS, COUNTY MANAGER

Office of

**ENVIRONMENTAL SERVICES** 

Director of Environmental Services

716 Richard Arrington, Jr. Blvd. N. Birmingham, Alabama 35203 Telephone (205) 325-5496

DAVID DENARD

Fax (205) 325-5981

Suite A-300

pc: Celeste Brown, JCESD Barton Laboratory
Daniel White, JCESD Deputy Director
Robby Bennett, Valley Creek WWTP

## MUNICIPAL WATER POLLUTION PREVENTION (MWPP) ANNUAL REPORT

#### SUBMITTED BY:

TREATMENT FACII	TREATMENT FACILITY: Valley Creek WWTP		
MUNICIPALITY: Jeff	erson County		_ COUNTY:Jefferson
CONTACT PERSON:		CC -:-1	
•	Municipal Of	onmental Services	
	Title		
	Telephone #:	(205) 327-8232	Fax #: (205) 325-5981
	Email Addres	SS:denardd@jccal.org	
CHIEF OPERATOR:	Robby Bennett		
	Name	<del></del>	
	Telephone #:	(205) 428-2614	Fax #: (205) 426-3274
	Email Addres	SS: bennettr@jccal.org	
	Date: May 14, 2	2014	
REVIEWED BY:	aniel White P.E., E	SD Engineer	
(	Consulting Eng	gineer	
Т	Telephone #:	205 214 8610	_Fax #: 205 325-5688
Т	Date: May 14, 2	2014	

#### MWPP Annual Report Information Source List

The following information will be needed to complete the compliance maintenance report that covers the calendar year of 2013 (due May 31, 2014).

- Part 1 A. The average plant influent flow for each month (million gallons per day/MGD) during the year.
  - B. The average plant influent BOD (CBOD) for each month (mg/l and lb/day) in the year.
  - C. The 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 the year
  - B. The monthly average effluent limits and DMR loading for BOD, TSS, NH3-N, and/or TKN in lbs/day for the year
- Part 3 The age of the 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 minus the year the new construction was brought on-line.
- Part 4 Bypass and overflow information. This is the number of bypass or overflow events of untreated wastewater due to heavy rain or equipment failure whether intentional or inadvertent from all collection systems tributary to the treatment facility.
- Part 5 A. Describe the characteristics and quantity of sludge generated.
  - B. If sludge is landspread, how many months of sludge storage does the plant have? This should include on-site and off-site storage from the treatment plant. The digestor capacity may be used in the calculation.
- Part 6 A. Sludge Disposal Method
  - B. The number of approved land disposal sites for sludge available, and how many months or years these disposal sites will these be available for use.
- Part 7 The number of sewer extensions installed in the community last year--the design population, design flow, and design BOD for each sewer extension.
- Part 8 Operator Certification
- Part 9 Financial Status
- Part 10 Subjective Evaluation
- Part 11 Summary Sheet

State of Alabama MWPP Annual Report Department of Environmental Management

#### 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 the actions necessary to prevent effluent violations. Enter the point totals from Parts 1 through 8 on Part 11: Summary Sheet.
- 3. Add the point totals on Part 11: Summary Sheet.
- 4. Submit the MWPP Report to the governing body and the consulting engineer and owner for review and approval.
- 5. The governing body should pass a resolution which contains the following points:
  - a. The resolution should acknowledge the governing body or owner has reviewed the MWPP Report.
  - b. The resolution should indicate what actions will be taken to prevent effluent violations.
  - c. The resolution should provide any other information the governing body or owner deems appropriate.
- 6. The MWPP Report and the resolution must be submitted by May 31<sup>st</sup> to Municipal Section, Water Division, ADEM, P.O. Box 301463, Montgomery, AL 36130-1463.

#### Part 1: Influent Loading/Flows

A. List the average monthly volumetric flows and BOD<sub>5</sub> (CBOD<sub>5</sub>) loadings received at your facility during the last calendar year.

<u>Month</u>	Column 1 Average Monthly Flowrate (MGD)	Column 2 Average Monthly BOD <sub>5</sub> (CBOD <sub>5</sub> ) Concentration (mg/l)	Column 3 Average Loading BOD <sub>5</sub> (CBOD <sub>5</sub> ) (lbs/day**)
January	87	53	34602
February	89	54	37054
March	62	87	43682
April	60	123	57792
May	52	122	44532
June	35	135	38659
July	49	118	46310
August	47	108	42357
September	22	159	29330
October	22	163	30150
November	27	160	36679
December	63	107	54757
Annual Avg.	51	116	41325

<sup>\*\*</sup>As reported on NPDES Discharge Monitoring Reports (DMRs) and as required by EPA's NPDES Self-Monitoring System, User Guide, March 1985.

B. List the average design flow and average design BOD<sub>5</sub> loading for the facility below. If you are not aware of these design quantities, contact your consulting engineer or the Alabama Department of Environmental Management.

	Average Design Flow	Average Design BOD <sub>5</sub> Loading (lbs/day)
Design Criteria	85.0	141,780
90% of the Design Criteria	76.5	127,602

C.	How many times did	the monthly flow (Colu	mn 1) to the WWTP	exceed 90% of desig	n flow?
	(Check the a	appropriate point total)	·	_	
	<b>∀</b>				
	0 - 4 = 0 points	5  or more = 5  points			

(Check the appropriate point total)
$$0 = 0 \text{ points} \quad 1 - 2 = 5 \text{ points} \quad 3 - 4 = 10 \text{ points} \quad 5 \text{ or more} = 15 \text{ points}$$

$$C points = 0$$

D points = 
$$\frac{5}{}$$

E points = 
$$0$$

F points = 
$$0$$

TOTAL POINTS VALUE OR PART 1 5
Enter this value on Part 11: Summary Sheet.

<sup>\*</sup>To obtain equivalent BOD<sub>5</sub> loading for comparison with design loading for those permittees using influent CBOD<sub>5</sub>, divide annual average CBOD<sub>5</sub>, 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 BOD<sub>5</sub>, (CBOD<sub>5</sub>) TSS, NH<sub>3</sub>-N and/or TKN concentration produced by the facility during the last calendar year.

#### (1) NPDES Permit Concentration

		$(CBOD_5)$	TSS	NH <sub>3</sub> -N	TKN
Permit	<u>Months</u>	(mg/l)	(mg/l)	(mg/l)	(mg/l)
Limit	May - Nov	8.0	24.0	1.0	3.0
	Dec - Apr	8.0	24.0	1.0	4.0

#### (2) DMR Concentration

<u>Qtr</u>	<u>Month</u>	BOD <sub>5</sub> (CBOD <sub>5</sub> ) (mg/l)	TSS (mg/l)	NH <sub>3</sub> -N (mg/l)	TKN (mg/l)
1	January	2.0	5.3	0.01	0.86
	February	1.7	5.8	0.02	0.76
	March	1.8	4.7	0.02	0.67
2	April	1.1	4.1	0.01	0.50
	May	1.2	4.5	0.01	0.64
	June	0.88	1.8	0.01	0.61
3	July	1.2	4.7	0.03	0.59
	August	0.94	2.9	0.01	0.57
	September	1.1	3.5	0.04	0.80
4	October	1.2	3.7	0.02	0.89
	November	2.0	7.3	0.06	1.1
	December	2.2	7.8	0.03	0.97
	Annual Avg.	1.4	4.7	0.02	0.75

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

#### (1) NPDES Permit Loading

<b>D</b> '	<u>Months</u>	BOD <sub>5</sub> (CBOD <sub>5</sub> ) (lbs/day)	TSS (lbs/day)	NH <sub>3</sub> -N (lbs/day)	TKN (lbs/day)
Permit Limit	May - Nov	5671	17013	708	2126
	Dec - Apr	5671	17013	708	2835
(2) DM	R Loading				
<u>Qtr</u>	<u>Month</u>	BOD <sub>5</sub> (CBOD <sub>5</sub> ) (lbs/day)	TSS (lbs/day)	NH3-N (lbs/day)	TKN (lbs/day)
1	January	1557	4468	4.9	648
	February	1320	4598	23	563
	March	906	2679	12	360
2	April	510	1956	2.7	240
	May	499	2023	5.0	262
	June	251	582	2.5	184
3	July	535	2097	11	243
	August	394	1243	4.8	232
	September	199	673	8.1	149
4	October	222	708	3.2	165
	November	757	2796	22	328
	December	1227	4217	18	506
	Annual Avg.	698	2337	9.7	323

C. During the past year did the BOD<sub>5</sub> 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? (Check the appropriate point total.)

No = 
$$0$$
 points  $Yes = 121$  points

D. During the past year did the BOD<sub>5</sub> concentration (mg/l) and/or loading (lbs/day), exceed the monthly average permit limit during four months of any two consecutive quarters? (Check the appropriate point total.)

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? (Check the appropriate point total.)

No = 
$$0$$
 points  $\frac{\boxed{\cancel{0}}}{}$  Yes =  $121$  points

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

No = 
$$0$$
 points  $Yes = 121$  points

G. During the past year did the NH<sub>3</sub>-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? (Check the appropriate point total.)

No = 0 points 
$$Yes = 121 points$$

H. During the past year did either the NH<sub>3</sub>-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? (Check the appropriate point total.)

No = 0 points 
$$Yes = 121 points$$

I. Enter each point value checkedfor C through H in the blanks below.

HIGHEST INDIVIDUAL POINT VALUE FOR PART 2 (C-H) 0 (HIGHEST POINT = 121) Enter this value on Part 11: Summary Sheet.

Facility Name:	Valley Creek WWTP	
•		

#### Part 3: Age of the Wastewater Treatment Facility

A.	What year was the wastewater treatment plant constructed or last reconstructed?	2005
----	---	------

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

Age = (Last Calendar year) - (Answer to A)
$$Age \frac{2013}{} = (\frac{2005}{}) - (\frac{8}{})$$

Enter Age in Part C below.

B. Check the type of treatment facility employed.

		Factor
<u>x</u>	Mechanical Treatment Plant	2.0
	Aerated Lagoon	1.5
	Stabilization Pond	1.0
	Other (Specify:)	1.0

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

$$\frac{2.0}{\text{(Factor)}}$$
 x  $\frac{8}{\text{(Age)}}$  =  $\frac{16}{\text{TOTAL POINT VALUE FOR PART 3}}$ 

Enter the above value on Part 11: Summary Sheet. If the total point value exceeds 40, enter 40 on Part 11: Summary Sheet.

Facility Name: Valley Creek WWTP		
Part 4	4: Bypassing and Overflows	
A.	How many bypass or overflow events of untreated wastewater occurred in the last year at the WWTP 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 WWTP due to heavy rain? 57	
C.	How many of the bypass or overflow events listed in Parts A and B have been corrected such that future bypass or overflow events at the same location due to heavy rain are not anticipated? 8	
D.	Add together Answers A and B and subtract Answer C from that total. A + B - C = (Check the appropriate point total.)	
	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 WWTP due to equipment failure? (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 WWTP? (This includes clogged/broken lines or manholes.) 126	
G.	How many of the bypass or overflow events listed in Parts E and F have been corrected such that future bypass or overflow events at the same location due to the same equipment failure are not anticipated? 126	
H.	Add together Answers E and F and subtract Answer G from that total. E + F - G = (Check the appropriate point total.)	
	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 point values circled in D and H and enter the total in the blank below.	
	AL POINT VALUE FOR PART 4 100 rthis value on Part 11: Summary Sheet.	

All bypass or overflow events that have occurred in the last year (for any reason) must be individually reported with this MWPP report.

	5: Sludge Quantity and Storage
A.	Please provide information concerning sludge quantity, characteristics, and storage practices based on available data as requested on the <i>MWPP Sewage Sludge Survey</i> , ADEM Form 419.
B.	How many months of sludge storage capacity does the wastewater treatment facility have available, either on-site or off-site? (i.e., How many months can the facility operate without land spreading or disposing of sludge?) 4
	(Check the appropriate point total.)  Greater than or equal to 4 months  Less than 4 months, but greater than or equal to 3 months  Less than 3 months, but greater than or equal to 2 months  Less than 2 months, but greater than or equal to 1 month  Less than one month  ■ 20 points  ■ 30 points  ■ 50 points
	AL POINT VALUE FOR PART 5 <u>0</u> r this value on Part 11: Summary Sheet.
Part (	6: Sludge Disposal Practices and Sites
A.	Please provide the sludge disposal practices and site information based on available data as requested on the <i>MWPP Sewage Sludge Survey</i> , ADEM Form 419.
B.	How many months or years does the facility have access to and approval for sufficient land disposal sites to provide proper land disposal? (Check the appropriate point total.)
	36 or more months = 0 points
	24 - 35 months = 10 points
	$12 - 23 \text{ months} = 20 \text{ points} \sqrt{}$
	6 - 11 months = 30 points
	Less than 6 months = 50 points
ТОТ	AL POINT VALUE FOR PART 6 <sup>20</sup>
	r this value on Part 11: Summary Sheet.

Facility Name: Valley Creek WWTP				
Part 7: New Development				
Are there any major new develop calendar year or anticipated in the the sewage system could significan	e next 2-3 years s	uch that eith	er flow or BOD <sub>5</sub> 1	oadings to
Design Population: Equivalent (PE)	Design Flow: 0.324	MGD	Design BOD <sub>5</sub> : 6,200	lbs/day
List industrial and/or residential of	developments.			
The Cahaba River WWTP to Valley Creek W	WTP Sludge Transfer Fo	orce Main		
is under design. The project is needed to cor	mply with the Cahaba Ri	ver TMDL.		
Waste sludge from Cahaba will be pumped to	the Shades Transfer S	ewer		
and routed to the Valley Creek WWTP.		,		
Will the additional loading overloop  No = 0 points Yes  Verloop  Enter the point total in the blank be  TOTAL POINT VALUE FOR PART 7 ⊆  Enter this value on Part 11: Summary Sh	s = 121 points elow. (highest p	point total = 1		
Part 8: Operator Certification				
Complete the Plant and Collection System	m Personnel Inve	ntory, ADEM	I Form 441.	
Do both the plant operator and col Code; Division 10, Operator Certif				
Yes = 0 points No	= 121 points			
TOTAL POINT VALUE FOR PART 8	(highe	st point total	= 121)	

Enter this value on Part 11: Summary Sheet.

how are O&M costs being financed? Include user charge rates.  Revenues are sufficient. The below values are based on a 5/8* meter and 6,000 gallons water use. Jefferson  County has a three tier block rate structure for residential users for 0-3, 4-6, and 7+ ccf water use.  Residential Minimum \$15.00 Plus rate 6.02; 9.36; 10.69 /1,000 gal.  Industrial Minimum \$15.00 Plus rate \$10.51 /1,000 gal.  Monthly residential rate based on 6,000 gallons usage \$ 56.04 (includes 15% credit for residential)  *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 are available to pay for the wastewater improvements and/or reconstruction needs?  In 2013, Jefferson County issued Series 2013 Sewer Warrants that fund capital improvements  through 2023 at an annual average rate of \$71.9 million over the 10-year period.  Part 10: Subjective Evaluation  A. Describe briefly the physical and structural conditions of the wastewater treatment facility.  Most of the WWTP was upgraded or newly constructed in 2005 and is in good condition. Some  equipment and processes were constructed in the 1970s, 80s, and 90s and are in fair to average condition.  Maintenance and refurbishments are planned for assets needing improvements.	raci	IIIY Name: Valley Creek WWYF
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Residential Minimum \$15.00 Plus rate 6.02; 9.36; 10.69 /1,000 gal.  Industrial Minimum \$15.00 Plus rate \$10.51 /1,000 gal.  Monthly residential rate based on 6,000 gallons usage \$56.04 (includes 15% credit for residential)  *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 are available to pay for the wastewater improvements and/or reconstruction needs?  In 2013, Jefferson County issued Series 2013 Sewer Warrants that fund capital improvements  through 2023 at an annual average rate of \$71.9 million over the 10-year period.  Part 10: Subjective Evaluation  A. Describe briefly the physical and structural conditions of the wastewater treatment facility.  Most of the WWTP was upgraded or newly constructed in 2005 and is in good condition. Some  equipment and processes were constructed in the 1970s, 80s, and 90s and are in fair to average condition.  Maintenance and refurbishments are planned for assets needing improvements.  B. Describe the general condition of the sewer system (sewer lines, manholes, lift stations).  The Valley system includes roughly 7,600,000° of pipe and 80 pump stations. The system's performance	A.	· · · · · · · · · · · · · · · · · · ·
Residential Minimum    Plus rate   6.02; 9.36; 10.68   /1,000 gal.		Revenues are sufficient. The below values are based on a 5/8" meter and 6,000 gallons water use. Jefferson
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The Valley system includes roughly 7,600,000' of pipe and 80 pump stations. The system's performance		Maintenance and refurbishments are planned for assets needing improvements.
	B.	Describe the general condition of the sewer system (sewer lines, manholes, lift stations).
is below the expectations of the County. Repairs, replacements, and improvements are underway		The Valley system includes roughly 7,600,000' of pipe and 80 pump stations. The system's performance
		is below the expectations of the County. Repairs, replacements, and improvements are underway
and planned.		and planned.

s	ee attachment
_	
_	
_	
	hat is the theoretical design life of the plant, and what is the estimated remaining usefu the wastewater treatment facility?
s	ee attachment
_	
_	
	nat problems, if any, over the last year have threatened treatment or conveyance within stem?
S	see attachment
_	
_	
_	
Ie 1	the community presently involved in formal planning for treatment facility upgrading?
_	
_	
	ow many days in the last year were there residential backups at any point in the collectem for any reason other than clogging of the lateral connection? 47
	es the plant have a written plan for preventive maintenance on major equipment items, describe.
Υ	es. We have a comprehensive maintenance plan that schedules all preventive

#### Valley Creek

#### Part 10.C

The County has plans to bid an estimated \$14,000,000 worth of sewer line rehabilitation and repairs primarily located in the Valley Creek collection system in the summer of 2014. Design is underway for the Lincoln Ave sewer replacement that will increase capacity along a section with multiple wet-weather overflows. The County has plans to commence collection system modeling work in Valley in the summer of 2014. The results of the model will used to develop improvement strategies for sites with past wet-weather overflows identified in Part 4.8&C of this MWPP. Headworks screen refurbishment, clarifier floor grout repairs, and significant painting efforts are all planned for the Valley Creek WWTP in the next 24 months.

Backup power generators are planned for the following pump stations: Chapel Drive #2, Moss Lane, Oakwood Drive, Trace Ridge, and Walker Avenue. Wet-well rehabilitation and pump and pipe improvements are planned for the Halls Branch pump station.

#### Part 10.E

Prolonged weather patterns producing saturated ground conditions prior to a storm have been identified as the primary cause of most I/I related SSOs observed in the last few years. The mini-system areas that have repeat overflows attributed to excessive I/I were included in a SSES project that included television inspection (TVI), manhole inspections, and smoke testing of all sewers. Defects and/or deficiencies have been identified and designs are being developed for rehabilitation and replacement construction projects that will bid in the summer of 2014. Several collapsed sections of sewer discovered through the TVI have already been repaired. Engineering capacity analysis of the sewers will also be performed.

While very small in volume, the Eastern Valley Road force main broke 12 times in 2013 contributing to 12 separate SSO events. A construction contract for replacement commenced on 2/5/2014 and the original scope was completed on 4/16/2014 eliminating the potential for future overflows from pipe failure. Additional replacement work is planned after more corroded pipe was identified through the construction work.

#### Part 10.L

Jefferson County's bankruptcy impacted the County's ability to fund needed system improvements. Specific to Valley, the hydraulic model proposed in the 2013 MWPP Resolution Form and response to Part 10.C was delayed. Design of the WWTP work described Part 10.C (digester mixing, headworks screen refurbishment, energy optimization, SCADA replacement) was also delayed. The County exited bankruptcy on December 3, 2013. The County has completed a QBS process and selected a consultant to perform the modeling work. The County is in contract negotiations and plans to commence modeling work in the summer of 2014. The County now post-bankruptcy has capital funding through 2023 at an

annual average rate of \$71.9 million over the 10-year period. This capital funding will be adequate to provide for needed improvements and system renewal. The County is committed to improving the performance of the Valley Creek complete waste treatment system.

The elimination of the Eastern Valley Force Main was listed in the 2013 MWPP Resolution Form. Through the design process is was determined to be more cost effective to replace the corroded portions of the force main than to eliminate through line extensions and capacity upgrades to a nearby gravity line. The construction to replace the force main began on 2/5/2014 and was completed on 4/16/2014 eliminating the potential for future overflows from pipe failure.

I.	Does this preventive maintenance program depict frequency of intervals, types of lubrication, and other preventive maintenance tasks necessary for each piece of equipment? (Check the appropriate response.) Yes No
J.	Are these preventive maintenance tasks, as well as equipment problems, being recorded and filed so future maintenance problems can be assessed properly? (Check the appropriate response.)  Yes  No
K.	Describe any major repairs or mechanical equipment replacement made in the last year and include the approximate cost for those repairs. Do not include major treatment plant construction or upgrading programs.
	Trojan UV Components - \$335, 850.00
	Dewatering Communications Repairs - \$118,900.00
	Hy-Bon Gas Compressor Parts - \$22,400.00
	Dewatering Filter Press Belts - \$36,400.00
	Trojan UV Communications Boards - \$15,850.00
	Blower Touchscreen & Programming - \$12,500.00
	Dewatering Press Parts & Cylinders - \$12,100.00
L.	List any additional comments. (Attach additional sheets if necessary.)

Facility Name: Valley Creek WWTP		
Part 11: Summary Sheet		
1. Enter in the values from Parts 1 through 8 in the left column below. Add the nu left column to determine the MWPP Report point total the wastewater system g the previous calendar year.		
Actual Values	Maximum Possible	
Part 1 <u>5</u> points	80 points	
Part 2 o points	121 points	
Part 3 16 points	40 points	
Part 4 100 points	200 points	
Part 5 o points	50 points	
Part 6 20 points	50 points	
Part 7 o points	121 points	
Part 8 o points	121 points	
Total 141 points	783 points	
2. Check the facility type that best descri	ribes the plant's treatment and disposal of wastewater.	
Mechanical plant with surface water	r discharge	
Aerated Lagoon or stabilization por	<u> </u>	
Mechanical plant using land disposa	•	
Aerated Lagoon or stabilization por	nd using land disposal of liquid wastes	
0 - 70 pts. Actions as A		
71 - 120 pts. Departmental 121 - 783 Municipality		
*Other actions may be required by NPD		

Complete the Municipal Water Pollution Prevention Resolution Form, ADEM Form 418.

4.

In Question 1, do any of the actual point values in the left column possible points in the right column? (Check the appropriate response)	equal Yes	the maximum No
If yes, provide a written explanation for this situation in the space below.  See attached response for Part 11.5		

#### Valley - Part 11.5

Eliminating wet-weather and repeat sanitary sewer overflows in the Valley Creek system is one of the Environmental Services Department's highest priorities, and the County has dedicated significant resources to correcting the problem. In 2013, the County completed SSES investigations in 14 minisystems in the Valley system that had recurring (2 or more) I/I related SSOs. The results of the TVI and smoke testing are being utilized to prepare rehabilitation and replacement designs. The construction work is planned to bid in the summer of 2014. The 49 SSOs noted in Part 4.D as uncorrected and potentially anticipated future SSOs are from five localized areas out of the 14 mini-systems noted above. Nearly half (24 of the 49) of the SSOs are from mini-system 1029 in Hueytown. This grouping of SSOs includes overflows from 230 Wabash Ave, 231 Dexter Court, 406 Wickstead Rd, and 612 Fairlawn Ct. Rehabilitation and sewer replacement work are included in the design plans scheduled to bid this year. Downstream capacity improvement work will likely be required to eliminate the potential for future overflows. The County has plans to commence collection system modeling work in Valley in the summer of 2014. The results of the model will be used to develop improvement strategies at this site and any other capacity limited locations identified in the collection system.

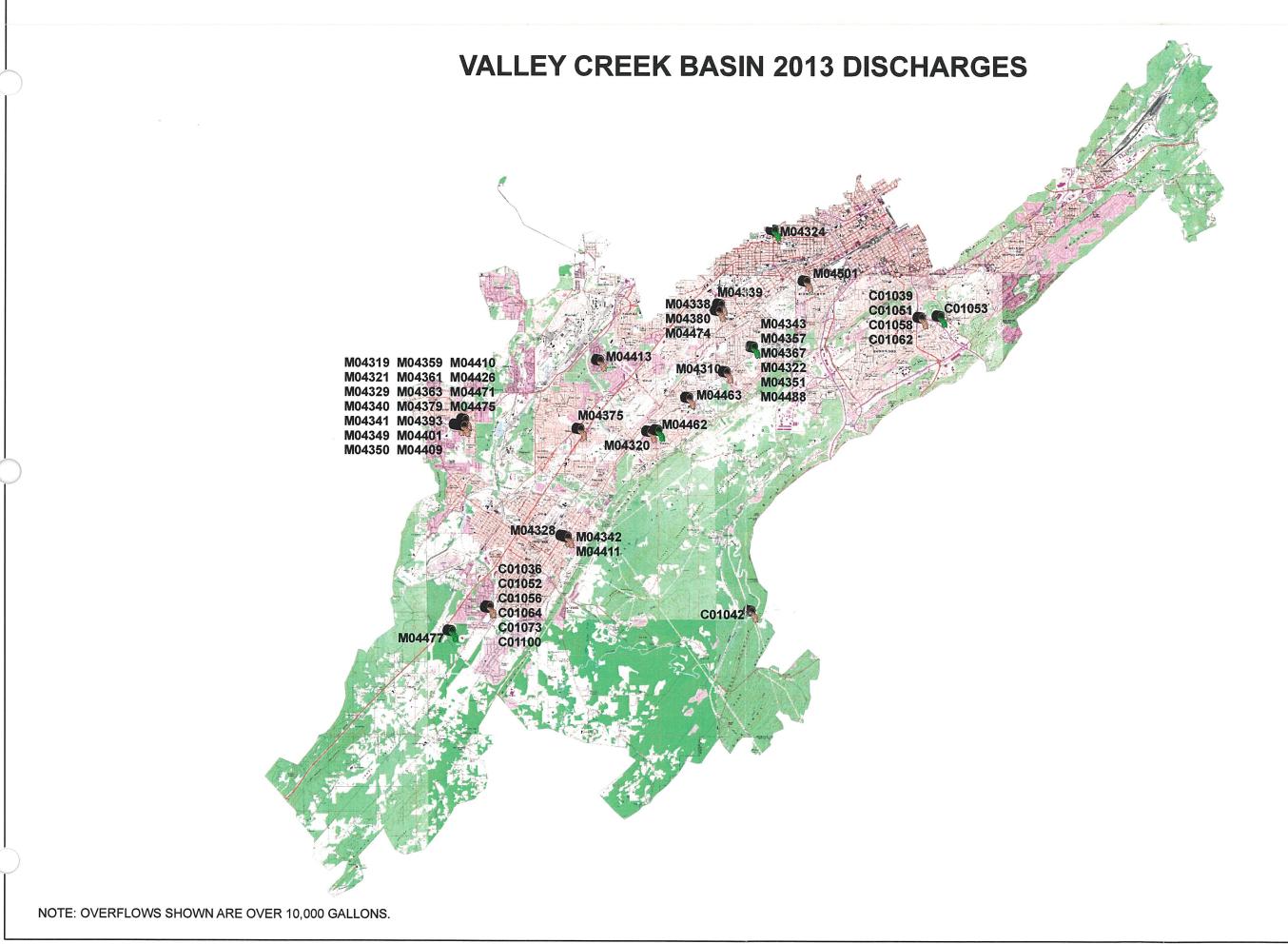
A second area with reoccurring SSOs includes 1624, 1625, and 1628 17<sup>th</sup> ST SW Birmingham in minisystem 1069. The Lincoln Ave Sewer Relocation project is under design and also planned to bid in the summer of 2014. This project will relocate the sewer to eliminate multiple siphons and increase the capacity of the sewer.

The other areas include 306 4<sup>th</sup> Ave SW Bessemer, 2122 Fulton Ave Birmingham, and 2405 Berkley Ave Bessemer. The County is committed to identifying and correcting all wet-weather related SSOs and all repetitive SSOs in the collection system.

The County has already replaced significant portions of a force main that had corrosion damage and failed 12 times in 2013 causing 12 different SSO events.

## Valley Creek Wastewater Treatment Plant <u>ATTACHMENT 2</u> – Raw Sewage Bypass and <u>SUMMARY</u>









# Summary of Unpermitted Discharges - Valley Creek

January 01, 2013 through December 31, 2013

NOTE: Quantities shown in the column "Est. Volume" are ESTIMATED ONLY. These estimates are the County's best determination of the discharge volume, based upon site-determinable information and accepted estimating methods. However, such estimates are subject to a high number of variables which are completely beyond the County's control and which can have a significant effect upon the calculated amount. Therefore, these estimates are to be used for relative comparison only, not as actual discharge volumes.

Event No.	Date Reported	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
C01033	1/2/13 Notes:	5034 Eastern Valley Road	Valley	Ground Absorbed	2,500	Pipe	Force Main Break	Moderate Rain	Line Repaired	Brian Champion	Sewer Maintenance Supervisor
C01034	1/2/13 Notes:	306 4th Ave SW	Valley	Feeder Creek to Valley Creek	1,200	Manhole	Grease/ Debris/ Surcharge from Rain	Moderate Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
C01035	1/2/13 otes: #1 pum	1,080  Greenwood #2 PS)  Greenwad Absorbed 1,080  Greenwood #2 PS)  Notes: #1 pump was clogged causing it to not pump incoming flow. #2 pump was put on line and the overflow was stopped.	Valley ming flow. #2 pump was put u	Ground Absorbed	1,080 was stopped.	Pump Station	P.S. Equipment Failure	Moderate Rain	Pump Station Repaired	Brian Champion	Sewer Maintenance Supervisor
C01036	1/14/13 Notes:	306 4th Ave SW	Valley	Storm Drain/ Feeder Creek to Valley Creek	1,437,200	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Don Goodwin	Sewer Video Operations Supervisor
C01039	1/15/13 Notes:	1/15/13 101 Hermosa Drive	Valley	Ground Absorbed/ Storm Drain/ Shades Creek	1,867,502	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
C01042	1/15/13 Notes:	260 Shades Crest Road (Ross Bridge Pkwy)	Valley	Shades Creek	250,000	Manhole	Surcharge from Rain	Moderate Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor

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Event No.	Date Reported	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
C01043	1/16/13 Notes:	1/16/13 5082 Eastern Valley Road	Valley	Ground Absorbed	1,740	Pipe	Force Main Break	Heavy Rain	Line Repaired	Don Goodwin	Sewer Video Operations Supervisor
C01044	1/18/13 Notes:	C01044 1/18/13 5082 Eastern Valley Road  Notes:	Valley	Ground Absorbed	2,990	Pipe	Force Main Break	Light Rain	Line Repaired	Don Goodwin	Sewer Video Operations Supervisor
C01045 1/1 Notes:	1/18/13 otes:	5082 Eastern Valley Road	Valley	Ground Absorbed	1,725	Pipe	Force Main Break	Light Rain	Line Repaired	Don Goodwin	Sewer Video Operations Supervisor
C01046	1/25/13 Notes:	5082 Eastern Valley Rd	Valley	Ground Absorbed	206	Pipe	Force Main Break	No Rain	Line Repaired	Brian Champion	Sewer Maintenance Supervisor
C01047	1/25/13	1/25/13 101 Hermosa Drive Valley S	Valley ions, sewage contained within	Storm Drain n the hose was released.	1,028	Bypass Pump Hose	Bypass Pumping	No Rain	Area Cleaned	Brian Champion	Sewer Maintenance Supervisor
C01049	1/29/13 otes: Manho	1/29/13 1923 21st Ave S Valley Ground Absorbe Notes: Manhole was not overflowing upon crew arrival. Evidence of an overflow found around manhole.	Valley Svidence of an overflow found	Ground Absorbed around manhole.		Manhole	Unknown	No Rain	Sent to TVI	Brian Champion	Sewer Maintenance Supervisor
C01051	1/30/13 Notes:	1/30/13 101 Hermosa Drive	Valley	Storm Drain/ Shades Creek	57,486	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
C01052	1/30/13 Notes:	306 4th Ave SW	Valley	Drainage Ditch/ Valley Creek	487,400	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor

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Event No.	Date Reported	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
C01053	1/30/13 Notes:	Cahaba Rd & 20th Place S	Valley	Drainage Ditch/ Storm Drain/ Shades Creek	33,825	Manhole	Grease	Moderate Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
C01054	1/30/13	G&H Road and Eastern Valley Rd	Valley	Ground Absorbed	915	Pipe	Force Main Break	Moderate Rain	Line Repaired	Brian Champion	Sewer Maintenance Supervisor
C01055	1/31/13 Notes:	5082 Eastern Valley Road	Valley	Ground Absorbed	920	Pipe	Force Main Break	Moderate Rain	Line Repaired	Brian Champion	Sewer Maintenance Supervisor
C01056	2/11/13 Notes:	306 4th Ave SW	Valley	Drainage Ditch/ Feeder Creek to Valley Creek	1,274,000	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
C01057	ő,	2/11/13 5016 Eastern Valley Road	Valley	Ground Absorbed	874	Pipe	Force Main Break	Moderate Rain	Line Repaired	Brian Champion	Sewer Maintenance Supervisor
C01058	2/11/13	2/11/13 101 Hermosa Dr Valley Storm Drain/ 164,484 Manhole Broken Water Heavy Shades Creek Main Rain Rain Discharging into Sanitary Sewer Notes: Large diameter water main was broken discharging approximately .5 MGD into sanitary sewer line. Broken small diameter water line also discharging into sanitary sewer line.	Valley g approximately .5 MGD into	Storm Drain/ Shades Creek to sanitary sewer line. Br	164,484	Manhole eter water line als	Broken Water Main Discharging into Sanitary Sewer	Heavy Rain itary sewer line.	Water Main Repaired	Brian Champion	Sewer Maintenance Supervisor
C01059	2/11/13 Notes:	4939 Bessemer Johns Rd	Valley	Ground Absorbed	3	Manhole	Roots	Moderate Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor

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Event No.	Date Reported	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
C01060	2/12/13 Notes:	2/12/13 Eastern Valley Rd & Ave G	Valley	Ground Absorbed	948	Pipe	Force Main Break	Moderate Rain	Line Repaired	Brian Champion	Sewer Maintenance Supervisor
C01061	2/22/13	2/22/13 2017 Mississippi Ave Notes: Level control fault caused pumps to run on air.	Valley	Drainage Ditch/ Valley Creek	785	Manhole	P.S. Equipment Failure	Moderate Rain	Pump Station Repaired	Brian Champion	Sewer Maintenance Supervisor
C01062	2/22/13	2/22/13 101 Hermosa Drive Valley Storm Drain/ 252,870 Manhole Broken Water Heavy Shades Creek Main Rain Discharging into Sanitary Sewer Notes: Large diameter water main was broken discharging approximately .3 MGD into sanitary sewer line. Broken small diameter water line also discharging into sanitary sewer line.	Valley g approximately .5 MGD in	Storm Drain/ Shades Creek to sanitary sewer line. Br	252,870 oken small diam	Manhole eter water line als	Broken Water Main Discharging into Sanitary Sewer	Heavy Rain tary sewer line.	Water Main Repaired	Brian Champion	Sewer Maintenance Supervisor
C01063	2/22/13	2/22/13 3696 Hilltop Rd SE  Notes: Pump station pumps became clogged with rags.	Valley	Ground Absorbed	639	Manhole	P.S. Equipment Failure	Moderate Rain	Pump Station Repaired	Brian Champion	Sewer Maintenance Supervisor
C01064	2/23/13 Notes:	306 4th Ave SW	Valley	Drainage Ditch/ Feeder Creek to Valley Creek	117,182	Manhole	Surcharge from Rain	Heavy Rain	Line Montiored	Brian Champion	Sewer Maintenance Supervisor
C01067	2/27/13 Notes:	4954 Eastern Vailey Rd	Valley	Ground Absorbed	770	Pipe	Force Main Break	No Rain	Line Repaired	Brian Champion	Sewer Maintenance Supervisor
C01068	3/6/13	3/6/13 101 Hermosa Dr. Valley Gro Notes: When bypass pumping operation was disassembled there was an amount of sewage	Valley I there was an amount of sev	Ground Absorbed/879 Bypass Pump Removing Storm Drain Hose Bypass Pum; wage that could not be contained. The affected area was washed and cleaned.	879 vained. The aff	Bypass Pump Hose ected area was wa	Removing Bypass Pumps shed and cleaned.	No Rain	Cleaned Areas	Brian Champion	Sewer Maintenance Supervisor

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5	Collection System	Destination	(gal)	Source	Cause	Weather	Action Taken	rerson Reporting	Title
rival, but th	3/23/13 2 Country Club Rd Valley S W Manhole not overflowing upon crew arrival, but there was evidence on the ground.	Storm Drain/ Watkins Branch ward.		Manhole	Surcharge from Rain	Heavy Rain	Cleaned Area	Brian Champion	Sewer Maintenance Supervisor
	Valley	Valley Creek	2,704	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
rival, but th	3/23/13 1923 21st Ave S Valley Gro Feo Notes: Manhole not overflowing upon crew arrival, but there was evidence on the ground.	Ground Absorbed/ Feeder to Shades Creek		Manhole	Surcharge from Rain	Heavy Rain	Cleaned Area	Brian Champion	Sewer Maintenance Supervisor
	Valley	Drainage Ditch/ Feeder Creek to Valley Creek	14,355	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
	Valley	Shades Creek	882	Manhole	Roots/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
	Valley	Drainage Ditch/ Feeder Creek to Valley Creek	6,924	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
:	Valley	Storm Drain	93	Manhole	Grease/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
N.	Valley	Ground Absorbed	006	Pipe	Force Main Break	No Rain	Line Repaired	Brian Champion	Sewer Maintenance Supervisor

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Event No.	Date Reported	Date Reported Location	Collection System	Ultimate Est. Vol. Destination (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
C01089	8/30/13	8/30/13 320 Kenilworth Dr Notes: Volume was not determinable.	Valley	Shades Creek	Pipe	Gravity Main Break/ Contractors Bypass Operations	No Rain	Contractor Adjusted the Bypass Operation/ Project Planned to Replace/ Repair Line	Brian Champion	Sewer Maintenance Supervisor
C01090	9/5/13	9/5/13 168 Lucerne Blvd Valley Storm Drain Notes: Contractor working on storm sewer for City of Homewood broke sanitary sewer line. Volume was not determinable.	Valley mewood broke sanitary sewer	Storm Drain line. Volume was not determinable.	Pipe	Construction Damage/ Gravity Main Break	No Rain	Line Repaired	Brian Champion	Sewer Maintenance Supervisor
C01091	9/9/13	9/9/13 320 Kenilworth Dr Valley Shades Creek Pip. Notes: Contractor performing rehabilitation work for the County had a plug failure while bypassing flow. Volume was not determinable.	Valley County had a plug failure whi	Shades Creek the bypassing flow. Volume was not de	Pipe eterminable.	Gravity Main Break/ Plug Failure	No Rain	Plug Replaced	Brian Champion	Sewer Maintenance Supervisor
C01092	9/23/13	9/23/13 306 4th Ave SW Valley Drainage Ditch/ Manhole Surcharge from Feeder to Valley Rain Creek  Notes: Overflow occurred on 9/21/13 but was not called in until 9/23/13. County crew responded and did not find manhole overflowing. Volume was not determinable.	Valley in until 9/23/13. County crew 1	Drainage Ditch/ Feeder to Valley Creek responded and did not find manhole o	Manhole werflowing. Volume	Surcharge from Rain was not determinable.	Moderate Rain	Crew Responded	Brian Champion	Sewer Maintenance Supervisor
C01093	9/23/13	9/23/13 320 Kenilworth Dr Valley Shades Creek Pipe Notes: Contractor performing rehabilitation work for the County had a pump failure while bypassing flow. Volume was not determinable.	Valley County had a pump failure wh	Shades Creek iile bypassing flow. Volume was not d	Pipe leterminable.	Gravity Main Break/ Pump Failure	No Rain	Pumps Back Online	Brian Champion	Sewer Maintenance Supervisor
C01094	9/24/13 Notes:	9/24/13 2169 Headrick Rd	Valley	Ground Absorbed/ 675 Shades Creek	Air Release Valve in Manhole	Cracked Air Release Valve	No Rain	Repaired Air Release Valve	Brian Champion	Sewer Maintenance Supervisor
C01095	9/25/13 otes: Contra	9/25/13 320 Kenilworth Dr Valley Shades Creek Piț. Notes: Contractor performing rehabilitation work for the County had a plug failure while bypassing flow. Volume was not determinable.	Valley County had a plug failure whi	Shades Creek ie bypassing flow. Volume was not de	Pipe eterminable.	Gravity Main Break/ Plug Failure	No Rain	Plug Replaced	Brian Champion	Sewer Maintenance Supervisor

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Event No.	Date Reported	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
C01096	9/29/13 Votes: Contra	9/29/13 320 Kenilworth Dr Valley Storm Drain/ Discharge Hose D Shades Creek Hose D Notes: Contractor performing rehabilitation work for the County had a hole develop in the hose while bypassing flow. Volume was not determinable.	Valley County had a hole develop ir	Storm Drain/ Shades Creek n the hose while bypassin,	g flow. Volume v	Discharge Hose was not determing	Hole in Discharge Hose	No Rain	Hose Repaired	Brian Champion	Sewer Maintenance Supervisor
C01097	9/30/13	9/30/13 323 Edgewood Blvd Valley Ground Absorbed Cleanout Bypass Pump No Rain Cleaned and Adjusted Brian Pumps and Plugs Champion Notes: Contractor performing rehabilitation work for the County caused a cleanout to overflow while bypassing flow. Evidence of a cleanout overflow was not discovered until the following morning. Volume was not determinable.	Valley County caused a cleanout to	Ground Absorbed	g flow. Evidence	Cleanout of a cleanout ove	Bypass Pump	No Rain ed until the foll.	Cleaned and Adjusted Pumps and Plugs owing morning. Volume was no	Brian Champion t determinable.	Sewer Maintenance Supervisor
C01100	12/9/13 Notes:	306 4th Ave SW	Valley	Feeder to Valley Creek	27,848	Manhole	Surcharge from Rain	Moderate Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
C01101	12/10/13 Notes:	12/10/13 5034 Eastern Valley Rd	Valley	Ground Absorbed	2,520	Pipe	Force Main Break	No Rain	Line Repaired	Brian Champion	Sewer Maintenance Supervisor
C01102	12/25/13	12/25/13 Orchard Ave & Southhampton Cir Valley Notes: Level control failure. Electricians repaired and restarted pump station.	Valley started pump station.	Storm Drain	324	Manhole	P.S. Equipment Failure	No Rain	Pump Station Repaired	Brian Champion	Sewer Maintenance Supervisor
M04309	1/1/13 Notes:	529 Flint Road	Valley	Ground Absorbed	5,000	Manhole	Grease/ Rags	Heavy Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04310	1/2/13 Notes:	2227 21st St SW	Valley	Storm Drain/ Drainage Ditch/ Valley Creek	66,001	Cleanout/ Manhole	Grease/ Debris/ Rags	Heavy Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04311	1/2/13	1/2/13 2227 21st Street SW Valley  Notes: ALAGASCO drilled through sanitary sewer line. Volume was not determinable.	Valley olume was not deterninable.	Ground Absorded		Pipe	Construction Damage	Heavy Rain	Line Repaired	Brian Champion	Sewer Maintenance Supervisor

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Person Cause Weather Action Taken Reporting Title	Debris/ Small No Rain Blockage Removed Brian Sewer Botttles Champion Maintenance Supervisor	Unknown No Rain Lines Cleaned Brian Sewer Champion Maintenance Supervisor	Grease No Rain Blockage Removed Brian Sewer Champion Maintenance Supervisor	Grease/ Debris/ Light Blockage Removed Brian Sewer Rags Rain Maintenance Supervisor	Surcharge from Moderate Line Monitored Brian Sewer Rain Rain Champion Maintenance Supervisor	Surcharge from Moderate Line Monitored Don Sewer Video Rain Rain Goodwin Operations Supervisor	
No Rain		Commission of Company State State of the State of the State of the State of State of State of the State of th		Light Rain	Moderate Rain	Moderate Rain	1 Moderate Line Monitored Rain
Manhole Debris/ Small Botttles		Manhole Unknown	Manhole Grease	Cleanout Grease/ Debris Rags	Manhole Surcharge from Rain	Cleanout Surcharge from Rain	Cleanout Surcharge from Rain
2,000 Ma			79 Ma	1,386	285,525 Ma	260,820 Cle	424,260 Cle
	Storm Drain/ Shades Creek	Ground Absorbed sorbing lines in the area.	Storm Drain	Ground Absorbed	Drainage Ditch/ Feeder Creek to Valley Creek	Feeder Creek to Valley Creek	Drainage Ditch/ Feeder Creek to
•	Valley	Valley round manhole while jew	Valley	Valley	Valley	Valley	Valley
Location	Green Springs Hwy & Raleigh Ave	1/8/13 5331 Woodward Road Valley Ground Absorbe Notes: Volume not determinable. Evidence was found around manhole while jetwashing lines in the area.	1860 Russet Hill Cir	132 17th St SW	612 Fairlawn Ct	920 Fairdale Rd	406 Wickstead Rd
Reported Location	1/6/13 Notes:	1/8/13	1/9/13 Notes:	3 1/10/13 Notes:	) 1/13/13 Notes:	) 1/14/13 Notes:	1/14/13
No.	M04314	M04316	M04317	M04318	M04319	M04320	M04321

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Event No.	Date Reported	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
M04324	. 1/14/13 Notes:	735 9th Ave W	Valley	Ground Absorbed	22,000	Manhole	Grease	Moderate Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04327	1/14/13 Notes:	2122 Fulton Ave SW & St. Charles Valley Ave		Drainage Ditch/ Storm Drain/ Valley Creek	5,158	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04328	1/15/13	1/15/13 2405 Berkley Ave Notes: Manholes 1014-026/024/019/0144/014	Valley	Storm Drain/ Feeder Creek to Valley Creek	1,189,890	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04329	1/15/13 Notes:	230 Wabash Ave	Valley	Storm Drain/ Valley Creek	302,994	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04330	1/15/13 Notes:	5320 Central Ave	Valley	Drainage Ditch/ Valley Creek	3,391	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04334	1/22/13	1/22/13 2905 Carlisle Rd	Valley	Drainage Ditch/ Watkins Brook	18	Pipe	Grease/ Gravity Main Break	No Rain	Blockage Removed/ Project Planned to Replacc/Repair Line	Brian Champion	Sewer Maintenance Supervisor
104335 No	M04335 1/23/13 Notes:	6633 Ave N	Valley	Ground Absorbed	e.	Manhole	Grease/ Roots/ Debris	No Rain	Biockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04338	3 1/30/13 Notes:	2122 Fulton Ave	Valley	Storm Drain/ Valley Creek	87,426	Manhole	Surcharge from Rain	Light Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor

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NOTE: Quantities shown i	and accepted estimating me	calculated amount. Therefor

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Event No.	Date Reported	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
M04339	1/30/13	St. Charles Ave & 21st St SW	Valley	Drainage Ditch/ Valley Creek	230,040	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04340	1/30/13	231 Dexter Court	Valley	Drainage Ditch/ Valley Creek	75,846	Manhole	Surcharge from Rain	Light Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
<b>V</b>	Notes:		the second secon	days — problem to a sold per common to the control described described and the control of the co	And professional terms of the section of	managed and the same and an extension of	a des de Nesses de la comp * - deset de la comp de la computación de la computación de la computación de la comp	ANDRONACI NOM ANDROVA DOMA, NY MITEM		and a supplying a supplying supplying to the contract of the c	TOOL TOOLS
M04341	1/30/13	406 Wickstead Rd	Valley	Drainage Ditch/ Valley Creek	296,192	Cleanout	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
<	Notes:	The second section is the second section of the second section in the second section section is the second section of the second section secti		and the second s	No. 16 and o'Complete State of the Communication and the State of the co.	to define when he is not as the second to the second		ATTACH SECURITY SECUR	And the contract of the contra	P. March A. (Strade Co.). The advisor of the P. Michael Colombia (St.).	ACTIVITATION CONTRACTOR ACTIVITATION OF THE PROPERTY OF THE PR
M04342	: 1/30/13 Notes:	2405 Berkley Ave & 317 25th St S	Valley	Storm Drain/ Feeder Creek to Valley Creek	172,141	Manhole	Surcharge from Rain	Light/ Moderate Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04343	1/31/13 Notes:	1/31/13 1624 17th St SW	Valley	Storm Drain/ Feeder Creek to Valley Creek	115,978	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
							THE THE PERSON OF THE PERSON O		And a second control of the second control o	t and destinations there exists a sound do to appear to top.	de applica de composito de constante de cons
M04344	2/1/13 lotes:	1521 Valley View Cir	Valley	Ground Absorbed	∞	Manhole	Grease/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04345	5 2/1/13 Notes:	2905 Carlisle Rd	Valley	Ground Absorbed	2	Manhole	Debris	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04346	5 2/4/13 Notes:	Old Montgomery Hwy downstream of Foxcroft St	Valley	Ground Absorbed	936	Manhole	Grease/ Roots	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor

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Event No.	Date Reported	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
M04347	2/6/13	2/6/13 5229 Ross Bridge Parkway Valley Storm Drain Bypass Discl Ho Notes: Bypass hose coupling being utilized by a Contractor performing a sanitary sewer repair was run over by a vehicle and damaged.	Valley or performing a sanitary sew	Storm Drain er repair was run over by	a vehicle and a	Bypass Pump Discharge Hose	Ruptured Hose	No Rain	Hose Repaired	Brian Champion	Sewer Maintenance Supervisor
M04348	2/10/13 Notes:	Alley between 1900 & 2000 Rev Abraham Woods Jr Blvd	Valley	Ground Absorbed		Manhole	Grease	Moderate Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04349	) 2/11/13 Notes:	2/11/13 406 Wickstead Rd	Valley	Drainage Ditch/ Feeder Creek to Valley Creek	537,848	Cleanout	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04350	2/11/13 Notes:	231 Dexter Court	Valley	Drainage Ditch/ Valley Creek	29,147	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04351	2/11/13 Notes:	1625 & 1628 17th St SW	Valley	Storm Drain/ Valley Creek	31,335	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04352	2/11/13 Notes:	3arclay Dr & 660 9th Ave SW	Valley	Drainage Ditch/ Storm Drain	6,711	Manhole	Grease/ Debris/ Rags	Heavy Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04353	2/13/13 Notes:	401 Woodland Village	Valley	Ground Absorbed	99	Manhole	Grease/ Debris/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04355	2/15/13	2/15/13 5420 Stadium Trace Pkwy Valley Ground Absorbed Manhole Jee Notes: While Jetwashing the sanitary sewer line the debris trap became hung when the pump station started causing a partial blockage in the manhole.	Valley s trap became hung when the	Ground Absorbed pump station started cause	ing a partial bl	Manhole lockage in the man	Jetwashing trap	No Rain	Removed trap	Brian Champion	Sewer Maintenance Supervisor

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and acco	epted estin ed amount	and accepted estimating methods. However, such estimates are subject to a high number of variables which are completely beyond the County's control and which can have a significant effect upon the calculated amount. Therefore, these estimates are to be used for relative comparison only, not as actual discharge volumes.	estimates are subject to a obe used for relative co	thigh number of vamparison only, not	ariables which as actual disc	are complete harge volume	ely beyond the Coues.	nty's control a	nd which can have a	significant effec	t upon the
Event No.	Date Reported	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
M04356	2/22/13 Notes:	2405 Berkley Ave	Valley	Storm Drain	1,572	Manhole	Surcharge from Rain	Heavy Rain	Line Montiored	Brian Champion	Sewer Maintenance Supervisor
M04357	2/22/13 Notes:	1625 & 1628 17th St SW	Valley	Storm Drain/ Valley Creek	36,954	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04358	2/22/13 Jotes: While	2/22/13 5400 Stadium Trace Pkwy Valley Drainage Ditch/ Storm Drain Notes: While jetwashing the sanitary sewer line the debris trap became hung when the pump station started causing a partial blockage in the manhole.	Valley ris trap became hung when the	Drainage Ditch/ Storm Drain pump station started can	using a partial blo	Manhole ockage in the man	Jetwashing trap	No Rain	Removed trap	Brian Champion	Sewer Maintenance Supervisor
M04359	2/22/13 Notes:	231 Dexter Court	Valley	Drainage Ditch/ Feeder Creek to Valley Creek	139,630	Manhole	Surcharge from Rain	Light Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04360	2/22/13	612 Fairlawn Cir	Valley	Drainage Ditch/ Feeder Creek to Valley Creek	145	Manhole	Surcharge from Rain	Light Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04361	2/22/13 Notes:	406 Wickstead Rd	Valley	Drainage Ditch/ Feeder Creek to Valley Creek	103,880	Cleanout	Surcharge from Rain	Light Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04363	2/26/13 Notes:	406 Wickstead Rd	Valley	Drainage Ditch/ Feeder Creek to Valley Creek	126,300	Cleanout	Surcharge from Rain	Light Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04364	2/26/13 Notes:	231 Dexter Court	Valley	Drainage Ditch/ Feeder Creek to Valley Creek	3,000	Manhole	Surcharge from Rain	Moderate Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor

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Event No.	Date Reported	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
M04366	5 2/27/13 Notes:	1501 Arthur Shores Dr SW	Valley	Ground Absorbed	74	Manhole	Grease	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04367	2/27/13 Notes:	2/27/13 1625 17th St SW otes:	Valley	Storm Drain/ Feeder to Valley Creek	80,940	Manhole	Grease	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04368	3/7/13 Notes:	113 Stratford Road	Valley	Ground Absorbed	235	Manhole	Roots	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04369	3/9/13 Notes:	301 Beacon Drive	Valley	Ground Absorbed	<i>TT</i>	Cleanout	Grease/ Bed Sheets/ Towels	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04371	3/12/13 Notes:	2905 Carlisle Rd	Valley	Watkins Brook		Manhole	Gravity Main Break	Light Rain	Manhole Repaired	Brian Champion	Sewer Maintenance Supervisor
M04372	3/12/13 Notes:	3209 Lee Ave SW	Valley	Ground Absorbed	6,020	Cleanout	Grease/ Roots/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04375	3/19/13	3/19/13 Int. of Rose Ave & Isabel St Valley Feeder to Valley 13,114 N Creek Notes: Contractor's bypass pump shut down and caused overflow. Company returned and restarted pump and the overflow stopped.	Valley werflow. Company returned	Feeder to Valley Creek I and restarted pump and t	13,114 the overflow stop	Manhole	Construction Damage	No Rain	Bypass Pump Restarted	Brian Champion	Sewer Maintenance Supervisor
M04377	3/21/13 Notes:	1023 Princeton Ave SW	Valley	Drainage Ditch	92	Manhole	Grease	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor

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nt	Date		: :	Ultimate	Est. Vol.	t	Ç	÷		Person	į
	reported	neported Location	Collection System	Desimation	(6)	Source	Cause	Weather	Action Taken	veporung	Title
M04378	3/23/13	231 Dexter Court	Valley	Storm Drain/ Feeder to Valley Creek	926	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
No	Notes:	Copper to the Co	Constitution of the second section of the second	and and stated about the same analysis of the constraint and the same	and the state of t	Control May consiste the Control Section Section (Control	Confidence and the second of t	and the second s	destables additional des Mandelles Mandelles de la constant de la constant de la constant de la constant de la	AND COME TO A RECEIVED BY CO. CARD AND A ROUND AND A	en ette sente et openskette et de sente oktor et de sente oktore.
M04379	3/23/13	406 Wickstead Road	Valley	Drainage Ditch/ Feeder to Valley Creek	19,950	Cleanout	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
NO.	Notes:	A CONTRACT OF THE PROPERTY OF	Comments and the second of the	And personal in the supply constitute for the second contract of the			AND THE REPORT OF THE PARTY OF	de describing personal region in a single of constant scanner as	the second commence of the second contract of	on desired and the second seco	A SECONDARY CONTRACTOR AND A SECOND CONTRACTOR OF THE SECOND CONTRACTOR
M04380	3/23/13	2122 Fulton Ave	Valley	Storm Drain/ Valley Creek	84,992	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
				the same was an expensive and the same of		the second secon	paper of the profit of the state of the stat	ALTERNATION CONTRACTOR CONTRACTOR CONTRACTOR	en traditional and the south the south the south trades and the south the so	Marie Marie Marie Carlo Company (1985) (1985	and a section of the
M04381	3/23/13	3/23/13 1301 Lincoln St SW	Valley	Ground Absorbed	289	Manhole	Grease/ Rags	Heavy Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
No	Notes:		The second secon	Comments of the comments of th							and debt field of the control from the debt and the control of the
M04384	4/1/13	1901 6th Ave S	Valley	Storm Drain	1,326	Manhole	Grease	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
JAO'	Notes.			and the second s				and the second s	en en de spire de entre des estados en estados de paracela de paracela de entre de entre de entre de entre des		
M04386	4/4/13 / A/Votes:	4369 Mountaindale Rd	Valley	Storm Drain	163	Manhole	Grease/ Debris	Moderate Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
			A DECEMBER OF THE PROPERTY OF	April 1990 - San Artista de Cara del Cara cadado de la casa del	to the control of the second of the control of the control	THE COLUMN TWO CONTRACTOR OF THE COLUMN TWO	en en en en de de mando en mandones de mando de de mando en mando	e de la desta de la companya de la c	AND THE THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY.	A TOTAL CONTRACTOR OF THE CONT	Office American Strategical Community or a second service
M04388	4/7/13	135 Robertson Ave	Valley	Feeder to Lick Creek	2,511	Manhole	Grease/ Roots	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
No	Notes:	der Nydels englische Abertan od date. Ab de ondere delte Abb et en englische Englische Gestellt eine der eine	erene america frez esta di sambi cara translabel da ad distantiva de loca e frez e	en e	Andrewson a condensible commence for the constitution	Orașe destruir de disconnecte de la companio del companio de la companio del companio de la companio del la companio de la com		THE CANADA CO. T. C. SAME CO. C. S. SECTION CO. S.			
M04389 4	4/8/13	3817 Montevallo Rd	Valley	Ground Absorbed/ Drainage Ditch	113	Manhole	Grease/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
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M04390	4/8/13 Notes:	509 & 511 35th St	Valley	Ground Absorbed	288	Cleanout	Grease/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04391	4/10/13	4/10/13 1650 28th Crt S Valley Gr Notes: Manhole not overflowing upon crew arrival, but there was evidence on the asphalt.	Valley there was evidence on the asp	Ground Absorbed	to the control of the	Manhole	Grease/ Debris/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04392	4/11/13 <i>Notes:</i>	4/11/13 1625 & 1628 17th St SW	Vailey	Storm Drain/ Valley Creek	9,418	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04393	4/11/13 Notes:	4/11/13 406 Wickstead Rd	Valley	Feeder Creek to Valley Creek	70,348	Cleanout	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04397	4/15/13 Notes:	801 Golf Course Rd	Valley	Storm Drain	2,625	Manhòle	Grease/ Debris/ Rags	Light Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04398	4/19/13 <i>Notes:</i>	2122 Fulton Ave	Valley	Storm Drain/ Valley Creek	110	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04399	4/19/13 Notes:	2820 Commerce Blvd	Vailey	Ground Absorbed	3,357	Manhole	Roots	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04400	0 4/19/13 Notes:	231 Dexter Ct	Valley	Drainage Ditch/ Feeder to Valey Creek	1,380	Manhole	Surcharge from Rain	Moderate Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor

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Event No.	Date Reported	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
M04401	4/19/13 Notes:	4/19/13 406 Wickstead Rd	Valley	Drainage Ditch/ Valley Creek	18,830	Cleanout	Surcharge from Rain	Moderate Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04406 4/29/13	4/29/13	4/29/13 3845 South Cove Dr Valley  Notes: Gravity sewer line damaged by Birmingham Water Works crew.	Valley r Works crew.	Drainage Ditch/ Storm Drain/ Drainage to Shades Creek		Pipe	Construction Damage/ Gravity Main Break	No Rain	Line Repaired	Brian Champion	Sewer Maintenance Supervisor
	4/29/13 Notes:	6701 Forest Drive	Valley	Ground Absorbed	<b>.</b>	Pipe	Grease	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04409	5/4/13 Notes:	406 Wickstead Rd	Valley	Drainage Ditch/ Valley Creek	235,468	Cleanout	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04410	5/4/13 Notes:	231 Dexter Court	Valley	Storm Drain/ Valley Creek	73,440	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04411	5/4/13 Notes:	2405 Berkley Ave	Valley	Storm Drain/ Valley Creek	25,881	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04413 5,	5/9/13 tes:	409 Ridgewood Ave	Valley	Ground Absorbed	11,360	Cleanout	Grease/ Roots/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor

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M04414 5/12/13  Notes:  M04415 5/15/13  Notes:  Notes:	5/12/13 104 Woodland Village Dr 20es: 5/15/13 2909 Overhill Rd	Valley	Storm Drain	183		Cuase			,	Office A
	3 2909 Overhill Rd	The second secon			Manhole	Grease	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
		Valley	Storm Drain	107	Manhole	Roots	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
Notes:	13 407 Rosewood St	Valley	Shades Creek	4,551	Manhole	Grease/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04420 5/24/13	*	Valley	Feeder Creek to Shades Creek	To the continues of the	Pipe	Gravity Main Break	No Rain	Project Planned to Replace/Repair Line	Brian Champion	Sewer Maintenance Supervisor
M04421 5/25/13	5320 E	Valley	Storm Drain	3,968	Manhole	Grease/ Debris/ Rags/ Rocks	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
425 6/10	3 231 Dexter Court	Valley	Ground Absorbed/ Valley Creek	115	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04426 6/10/1	M04426 6/10/13 406 Wickstead Rd Notes:	Valley	Ground Absorbed/ Drainage Ditch/ Valley Creek	27,520	Cleanout	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04427 6/11/13	3 30 Laverne Ave	Vailey	Drainage Ditch	42	Manhole	Grease/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor

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Date eported	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
•••	6/20/13 2305 Granville Ave	Valley	Ground Absorbed	16	Cleanout	Grease/ Rags	No Rain	Blockage Removed	Brian	Sewer Maintenance Supervisor
<u></u>	6/22/13 2801 Wilson Rd SW	Valley	Ground Absorbed	270	Cleanout	Grease/ Debris/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
7/1/13	7/1/13 517 21st Ave S Valley Gr Notes: Manhole not overflowing upon crew arrival, but there was evidence on the ground.	Valley here was evidence on the gro	Ground Absorbed		Manhole	Grease/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
7/11/13	529 Flint Hill Road	Valley	Ground Absorbed	162	Manhole	Grease/ Rags	Moderate Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
7/18/13	921 Medical Center Dr	Valley	Storm Drain	720	Manhole	Grease/ Debris	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
7/22/13 tes:	3103 Ensley Avenue	Valley	Storm Drain	260	Cleanout	Grease	Moderate Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
8/12/13	204 St Charles St	Vailey	Ground Absorbed/ Drainage Ditch	96	Manhole	Roots/ Debris/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
8/17/13	2828 Linden Ave	Valley	Storm Drain	6,000	Manhole	Grease	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor

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Event Do No. Rep	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
M04438 8/1:	8/19/13 3212 Country Club Rd	Valley	Drainage Ditch/ Watkins Brook	294	Manhole	Grease/ Roots/ Debris/ Rags	No Rain	Blockage Removed	Brian	Sewer Maintenance Supervisor
M04439 8/2.	9 8/23/13 504 Brookwood Blvd Notes: Volume was not determinable.	Valley	Storm Drain/ Shades Creek		Pipe	Gravity Main Break	No Rain	Line Repaired	Brian Champion	Sewer Maintenance Supervisor
Note	8/30/13 7780 Ludington Ln	Valley	Storm Drain	63	Manhole	Grease/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04443 9/10/13	6637 Semino	Valley	Ground Absorbed	96	Manhole	Grease/ Roots	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04445 9/1'	9/17/13 1025 Woodward Rd	Valley	Storm Drain	1,370	Manhole	Grease/ Debris	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
4446 9/18	M04446 9/18/13 1144 Daniel Dr Notes:	Valley	Ground Absorbed	The second secon	Manhole	Jetwashing a Line and Had a Blowback	No Rain	Stopped Jetwashing	Brian Champion	Sewer Maintenance Supervisor
M04447 9/19	9/19/13 1100 Medical Center Dr	Valley	Ground Absorbed	9	Manhole	Grease	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04448 9/20	9/20/13 3325 Country Club Rd	Valley	Drainage Ditch	5,684	Cleanout	Grease	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor

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Event No.	Date Reported	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
M04449	9/20/13 Notes:	Between 4212 & 4216 Terrace S	Valley	Drainage Ditch	2,675	Pipe	Gravity Main Break/ Rags/ Rocks	No Rain	Blockage Removed/ Line Repaired	Brian Champion	Sewer Maintenance Supervisor
M04450	M04450 9/26/13 Notes:	2305 Granville Ave	Valley	Ground Absorbed	<i>L</i> 9	Manhole	Grease/ Rags	No Rain	Blockage Replaced	Brian Champion	Sewer Maintenance Supervisor
M04451	10/9/13 Notes:	5012 5th Ave N	Valley	Ground Absorbed	93	Manhole	Grease/ Debris/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04452	10/10/13 Notes:	M04452 10/10/13 103 Creel St  Notes:	Valley	Ground Absorbed	e	Manhole	Grease/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04453	M04453 10/13/13 Notes:	301 Beacon Crest Ln	Valley	Ground Absorbed	504	Cleanout	Grease/ Debris/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04454	1 10/15/13 Notes:	M04454 10/15/13 7205 Pine Tree Ln Notes:	Valley	Ground Absorbed	330	Cleanout	Grease/Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04456	M04456 10/18/13 Notes:	5240 Dresden Rd	Valley	Ground Absorbed	354	Manhole	Grease/ Roots/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04457	7 10/18/13 Notes:	5012 5th Ave N	Valley	Drainage Ditch/ Valley Creek	1,350	Manhole	Grease/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor

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Sewer Maintenance Supervisor

Brian Champion

Line Monitored

Heavy Rain

Surcharge from

Manhole

12,420

Drainage Ditch/ Feeder to Valley

Valley

Notes: Volume was not determinable.

M04471 11/26/13 231 Dexter Court

Notes:

Maintenance Supervisor

Sewer Maintenance Supervisor Sewer Maintenance Supervisor Maintenance Supervisor Maintenance Supervisor Maintenance Supervisor Maintenance Supervisor NOTE: Quantities shown in the column "Est. Volume" are ESTIMATED ONLY. These estimates are the County's best determination of the discharge volume, based upon site-determinable information and accepted estimating methods. However, such estimates are subject to a high number of variables which are completely beyond the County's control and which can have a significant effect upon the calculated amount. Therefore, these estimates are to be used for relative comparison only, not as actual discharge volumes. Sewer Sewer TitleSewer Sewer Sewer Reporting Brian Champion Brian Champion Brian Champion Brian Champion Brian Champion Champion Champion Person Brian No Rain Blockage Removed/ Line Blockage Removed Blockage Removed Blockage Removed Blockage Removed Blockage Removed Blockage Removed Action Taken No Rain No Rain No Rain No Rain Weather No Rain No Rain Grease/ Asphalt Gravity Main Break Grease/ Rags Grease/ Roots/ Debris/ Rags Grease Cause Grease Pipe/ Holes in Ground Manhole Manhole Source Manhole Cleanout Manhole Pipe 1,456 Est. Vol. 1,350 \$ 26,400 25,168 (gal) Ground Absorbed Storm Drain/ Watkins Brook Drainage Ditch Destination Storm Drain Storm Drain Valley Creek Storm Drain UltimateCollection System Valley Valley Valley Valley Valley Valley M04467 11/20/13 9218 Country Club Blvd M04464 11/14/13 1477 Milner Crescent Notes: Volume was not determinable. M04459 10/29/13 2177 11th Crt S M04462 11/8/13 3345 45th St SW M04463 11/8/13 2800 Wilson Rd M04461 11/5/13 1001 17th St S M04458 10/21/13 143 Oak Ave Reported Location Notes: Notes: Notes: Notes: Notes: Event No.

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n in the column "Est. Volume" are ESTIMATED ONLY. These estimates are the County's best determination of the discharge volume, based upon site-determinable information	ting methods. However, such estimates are subject to a high number of variables which are completely beyond the County's control and which can have a significant effect upon the	herefore, these estimates are to be used for relative comparison only, not as actual discharge volumes.
NOTE: Quantities shown in the column "Est."	and accepted estimating methods. However, s	calculated amount. Therefore, these estimates

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Event No.	Date Reported	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
M04472	2 11/26/13 Notes:	11/26/13 5600 Oporto Madrid Blvd	Valley	Drainage Ditch	69	Manhole	Rags	Heavy Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04473	M04473 11/26/13 Notes:	St. Charles Ave & 21st St SW	Valley	Drainage Ditch/ Valley Creek	6,750	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04474	M04474 11/26/13 Notes:	2122 Fulton Ave	Valley	Storm Drain/ Valley Creek	12,789	Manhole	Surcharge from Rain	Heavy Rain	Line Montiored	Brian Champion	Sewer Maintenance Supervisor
M04475	11/26/13 Notes:	M04475 11/26/13 406 Wickstead Rd Notes:	Valley	Drainage Ditch/ Feeder to Valley Creek	18,158	Cleanout	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04476	5 11/27/13 Notes:	M04476 11/27/13 913 Cotton Ave SW  Notes:	Valley	Ground Absorbed	. 12	Cleanout	Grease/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04477	11/27/13 Notes:	M04477 11/27/13 801 Golf Course Rd Notes:	Valley	Storm Drain	13,500	Manhole	Grease	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04484	4 12/6/13 Notes:	249 Graymont Ave W	Valley	Ground Absorbed	4	Manhole	Grease/ Rags	Light Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04485	i 12/7/13	2613 Cherokee Rd	Valley	Drainage Ditch	09	Manhole	Grease/ Rags	Light Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor

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M04488	3 12/9/13 Notes:	1625 & 1628 17th St SW	Valley	Storm Drain	38,640	Manhole	Surcharge from Rain	Moderate Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04489	12/9/13	12/9/13 406 Wickstead Rd Valley Fe Notes: Cleanout not overflowing upon crew arrival, but there was evidence on the ground.	Valley here was evidence on the groi	Feeder to Valley Creek und.	404	Cleanout	Surcharge from Rain	Moderate Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04491	12/13/13 Notes:	521 Fair Oaks Dr	Valley	Ground Absorbed	864	Manhole	Grease/ Debris	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04492	12/13/13 Notes:	M04492 12/13/13 1044 Sunset Blvd Notes:	Valley	Storm Drain	246	Manhole	Grease/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04493	\$ 12/15/13 Notes:	12/15/13 101 Peachtree Rd otes:	Valley	Ground Absorbed	103	Manhole	Grease	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04494	1 12/16/13 Notes:	M04494 12/16/13 2330 Highland Ave S	Valley	Ground Absorbed	24	Manhole	Gravity Main Break	No Rain	Line Repaired	Brian Champion	Sewer Maintenance Supervisor
M04495	12/17/13	12/17/13 705 19th St SW Notes: Volume was not determinable.	Valley	Storm Drain	at the second of	Pipe	Grease/ Leaking Joints	No Rain	Blockage Removed/ Pumped Siphon	Brian Champion	Sewer Maintenance Supervisor
M04498	12/19/13 Notes:	803 Green Springs Hwy	Valley	Storm Drain	336	Cleanout	Grease/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor

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M04501	12/26/13 Notes:	M04501 12/26/13 Goldwire St SW & 1st Ave SW Notes:	Valley	Drainage Ditch	44,750	Manhole	Grease/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04502	12/30/13 Notes:	M04502 12/30/13 5103 7th Ave Wylam Notes:	Valley	Storm Drain	481	Manhole	Grease/ Debris	Moderate Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04503	12/30/13 Notes:	M04503 12/30/13 6500 Cherokee Dr	Valley	Ground Absorbed	968	Cleanout	Grease/ Debris/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04504	12/31/13 otes: Volume	M04504 12/31/13 1108 1st St N Notes: Volume was not determinable.	Valley	Ground Absorbed		Pipe	Grease/ Debris/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04522	1/31/13 Notes:	M04522 1/31/13 501 Palisades Blvd Notes:	Valley	Drainage Ditch	2,641	Cleanout/ Manhole	Grease/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor

# Valley Creek Wastewater Treatment Plant <u>ATTACHMENT 3</u> – MWPP Sewage Sludge <u>SURVEY</u>



# MWPP SEWAGE SLUDGE SURVEY

Facility Bac	kground Information:				
1. Facility I	nformation		Permit Numb	oer:	AL0023655
	Name:	Valley Creek	WWTP		
	Street Address:		ater Drive Besse	mer. AL (	35023
	County:	Jefferson			
2. Facility C	Contact	•			
	Name:	Robby Benne	<b>4</b> ††		
	Title:	Plant Manage			
	Telephone:	(205) 428-26	*****		
	Permittee Name:		unty Commission		
	Mailing Address:		300 716 Richard		Jr. Blvd. N
		Birmingham,			
Facility Flow	v Information			•	
•	Vastewater Treatment Capa	acity			
1. I acinty v	Avg. Daily Flow for 2000:	·	51.1 M	1GD	
	Facility Design Capacity:	<del></del>		1GD	
			d d		
2. Estimate	d Septage Quantity Handle	•	•	•	•
	Average Domestic Septag			allons per n	
	Average Commercial Sep	tage:	N/A ga	allons per n	nonth
3. Method o	of Septage Processing				
0, 11,00,.00	Mixed with Influent W	astewater for Trea	tment		
	Mixed with Sewage S	ludge			
	Mixed with influer	<del></del>	r treatment		
					<del>*************************************</del>
4. Estimate	d Percentage Contributing				•
	Residential: 85	%			
	Industrial: 7	%	_		
	Other: 8	% Des	cribe: <u>Commer</u>	<u>cial</u>	
5. List type	of wastewater treatment pro	ocess(es) utilized a	at this facility:		
٠.	Screening, Grit Remo	, ,	•	ated Slude	ge.
	Clarification, & U.V. [				<del>7 </del>
6. Estimate	d sewage sludge wasting ra	ite at this facility:			lb/day dry weight
			or 197,44	<u>3</u>	gallons per day
7. Estimate	d untreated sludge received	from off site:			lb/day dry weight
			or9,926		gallons per day
	•			<u>-</u>	
8. Estimate	d percent solids of combine	d sewage sludge p	prior to treatment:		<u>0.1</u> %

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9. List the s	sewage sludge treatment pro	cesses used in pr	eparing sludg	ge for final use or	disposal:
					Sludge Quantity
Thickenin	~		•	(untrea	ited pounds per day)
	Digestion				
	al Dewatering (Belt Filte	r Presses)		<del></del>	
Lime Stat		111033037	<u>.</u>		
<u>Limo Otac</u>	mzaton		<del></del>		
10. Estimat	e the total volume of sludge	generated:			4111
				(dry l	U.S. tons per year)
Sludge Disp	osal Methods				
1. Which of	the following describes the	current method of	sewage slud	ge disposal for th	nis facility:
		Cur	rent Practice	es	Proposed Practices
		Approved by AD		Quantity	Approved by ADEM
a.	Land Application, Bulk	<u>Yes</u> <u>1</u>	<u>lo (dry</u>	U.S. tons/year)	<u>Yes</u> <u>No</u>
۵.	Shipped			4111	
	Agriculture				
	Forest				
•	Public Contact				·
	Lawn/Home Garden				•
ъ. b.	Land Application,				
₩.	Bagged/Other Container				
•	Agriculture				
	Forest				
	Public Contact				
	Lawn/Home Garden				
c.	Incineration				
d.	Subtitle D Landfill	•			
	(Disposal Only)				
<b>e</b> .	Lined Treatment Lagoon or Stabilization Pond				
f.	Unlined Lagoon or				
	Stabilization Pond				
g.	Other (Please Describe)				
_					
_					
	selected above and sludge i		· .	nter the distance	between the
surface disp	osal site and the property lin	e: <u>N/</u>	feet		

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## **Pollutant Concentrations**

1. Enter the total concentrations of the following analytes using existing data. Do not enter TCLP results.

	Concentration	Sample	Sample	Detection Level of
Analyte	(mg/kg or ppm)	Туре	Date	Analysis
Arsenic	<pql< td=""><td>Grab</td><td>Yearly Average</td><td>11</td></pql<>	Grab	Yearly Average	11
Cadmium	<pql< td=""><td>Grab</td><td>Yearly Average</td><td>8.0</td></pql<>	Grab	Yearly Average	8.0
Chromium	48	Grab	Yearly Average	8.0
Copper	450	Grab	Yearly Average	8.0
Lead	40	Grab	Yearly Average	15
Mercury	1.3	Grab	Yearly Average	0.6
Molybdenum	11	Grab	Yearly Average	5.0
Nickel	37	Grab	Yearly Average	6.0
Selenium	<pql< td=""><td>Grab</td><td>Yearly Average</td><td>15</td></pql<>	Grab	Yearly Average	15
Zinc	1280	Grab	Yearly Average	18
Ammonium- Nitrogen		:		
Nitrate-				
Nitrogen				
Total Kjeldahl Nitrogen	37,167	Grab	Yearly Average	

2. Enter the estimated or determined percent solid analysis:	is of the sewage sludge when samp	oled for the above
Treatment Provided for Sewage Sludge at the Faci 1. Which class of pathogen reduction does the set 40 CFR Part 503) Class A Alternative A1 - Time and Tempera Alternative A2 - Alkaline Treatment Alternative A3 - Analysis and Opera Alternative A4 - Analysis Only	wage sludge meet at the facility? (A ature t	As defined in
Alternative A5 - Processes to Furth Heat Drying Pasteurization Composting Alternative A6 - PFRP Equivalent	ner Reduce Pathogens (PFRP) Thermophilic Aerobic Digestion Gamma Ray Irradiation	Heat Treatment Beta Ray Irradiation
Class B  X Alternative B1 - Fecal Coliform Council Alternative B2 - Process to Signification Aerobic Digestion Composting  Alternative B3 - PSRP Equivalent	antly Reduce Pathogens (PSRP)	X Anaerobic Digestion

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Neither or Unknown

Option 2 Option 3 Option 4 Option 5 Option 6 Option 7 Option 8 Option 9 X Option 10	- Minimum 38% Reduction in Volatile Solids - Anaerobic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction - Aerobic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction - Specific Oxygen Uptake Rate (SOUR) for Aerobically Digested Sludge - Aerobic Processes plus Elevated Temperature - Raised pH to 12 and Retained at 11.5 - 75% Solids with no Unstabilized Solids - 90% Solids with Unstabilized Solids - Injection Below Land Surface - Incorporation into Soil within 6 or 8 Hours - Covering Active Sewage Sludge Unit Daily
Groundwater Monitorin	g
at the site?	s surface disposal or land application, is groundwater monitoring required or performed
Yes X No	(If yes, please submit a copy of the groundwater monitoring reports along with this survey. Also please provide the approximate depth to groundwater and the groundwater monitoring procedures used to obtain the data.)
Land Application of Sev	vage Sludge
If sewage sludge is	nestions if sewage sludge is applied to land. and applied in bulk form, what type of crop or other vegetation is grown on this site? Grass and Ryegrass
	and applied in bulk form, what is the nitrogen requirement for this crop or vegetation?

**Note:** Permittees that submitted the "Annual Report Review Form" for sludge to the EPA may submitt a copy with the MWPP in lieu of this Attachment.

3. If sewage sludge is land applied in bulk form, briefly describe the nature of any complaints filed from

neighbors?

No complaints have been received

# Valley Creek Wastewater Treatment Plant <u>ATTACHMENT 4</u> – Plant and Collection System Personnel Inventory



	R: AL00236	eek WWTP				PLANT G		IV
PERMIT NUMBER								
PLANT SUPERIN		Robby Ber				· · · · · · · · · · · · · · · · · · ·	TEL.#	(205) 428-2614
SYSTEM MANAG		David Den	ard				TEL.#	(205) 325-5979
PLANT OPERATO	ORS:		GR	ADE OR				
	NAME			EE STATUS	OPERA	ATOR NO.	EXP.	. DATE
Robby Bennett			IV		C001594		9/30/2015	· · · · · ·
David Humphryes			IV		C000819		12/31/2014	
3. Luelliot Maneice			IV .		C000819		8/31/20	15
Kevin Waters	S		IV		C002962		11/30/2	015
Warren Good	den		IV		C000519		3/31/20	
Glenda Wald	drop		IV	•	C003017		11/30/2	
Brigitte Akins			IV	<del></del>	C001557		11/30/2	
Jason Bates			liv		C006032		11/30/2	<del></del>
Warren Burn	*		IV		C006163	·	5/31/20	
Larry Cleckle			IV	<del></del>	C002038		11/30/2	
COLLECTION SYS			1.,		10002000		111/00/2	
				·				
MANAGEMENT/SU OPERATOR(S):  DESIGNATED TRA LABORATORY MAINTENANCE OTHER PLANT WO	UPERVISOR  GRADE I-  GRADE I  GRADE I  GRADE I	240 C 160	HRS./WK	NUMBER 6 4 18 19 1 8 1	AVE	RAGE NUMBER C 1ST 4 2ND 27 3RD 5	7	ES PER SHIFT: START TIME 0 800 1600
DESIGNATED TRA LABORATORY MAINTENANCE OTHER PLANT WO	UPERVISOR  GRADE I- GRADE I GRADE I AINEE(S)  DRKERS IS NORMALLY N MON	240 C 160 III V 720 760 40 320 40 WORKED EA	CH DAY:	18 19 1 1 8 1	FRI S	1ST 4 2ND 27	7	TART TIME 0 800
DESIGNATED TRA LABORATORY MAINTENANCE OTHER PLANT WO	GRADE I- GRADE GRADE I GRADE I GRADE I AINEE(S)  ORKERS	240 C 160 III V 720 760 40 320 40 WORKED EA	CH DAY:	18 19 1 1 8		1ST 4 2ND 27 3RD 5	7	TART TIME 0 800

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

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

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PLANT AND COLLECTION SYSTEM PERSONNEL INVENTORY

	valley Cre	ek WWTP					PLANT GR	ADE:	IV	
PERMIT NUMBER:	AL002365	5			*					
PLANT SUPERINTEND	ENT:	Robby Ben	nett					TEL.#	(205) 428-	-2614
SYSTEM MANAGER:		David Dena	ard					- TEL.#	(205) 325-	5979
PLANT OPERATORS:								_		
N.A	AME			ADE OR E STATUS	l OPE	RATOR N	in	l EYR	. DATE	
William Doss		·	IV		C005868			5/30/2013		
Michael Gaines			IV		C000725	-		11/30/201	5	-
Mary Hardisty			IV		C000374			8/31/20		-
Heath Hinch			IV		C001149			8/31/20		_
Robert Myers			IV	· · · · · ·	C005721			9/30/20		-
Neal Poole	· · · · · · · · · · · · · · · · · · ·		IV		C006958			7/31/20		-
James Rogers			IV	······	C002364		<u> </u>	11/30/2		-
Joel Waldrop			IV		C003020			11/30/2		-
			Trainee	<del></del>	300000			100/2		-
Kenneth Bush			Trainee			<del></del>				-
						<del></del>	<del></del> -			-
										- -
MANAGEMENT/SUPER OPERATOR(S):  DESIGNATED TRAINEE	VISOR GRADE I-C GRADE I GRADE III GRADE IVI	MAN H 240 160 720 760	RS./WK	NUMBER 6 4 18 19 1	AV	ERAGE I 1ST 2ND 3RD	4 27	ī	EES PER SH	
MANAGEMENT/SUPER OPERATOR(S):	VISOR GRADE I-C GRADE I GRADE III GRADE IVI	MAN H 240 160	RS.AWK	4	AV	1ST 2ND	4 27	ī		0 800
MANAGEMENT/SUPER OPERATOR(S):  DESIGNATED TRAINEE LABORATORY	GRADE I-C GRADE I GRADE II GRADE III GRADE IV	MAN H 240 160 720 760 40	RS./WK	18 19	AV	1ST 2ND	4 27	ī		0 800
MANAGEMENT/SUPER OPERATOR(S):  DESIGNATED TRAINEE LABORATORY MAINTENANCE	VISOR GRADE I-C GRADE II GRADE III GRADE IV E(S)	720 760 40 320 40	CH DAY:	18 19 1 8		1ST 2ND 3RD	4 27	ī		0 800
MANAGEMENT/SUPER OPERATOR(S):  DESIGNATED TRAINEE LABORATORY MAINTENANCE OTHER PLANT WORKE  OPERATOR SHIFTS NO	CVISOR  GRADE I-C  GRADE II  GRADE III  GRADE IV  E(S)	720 760 40 320 40 VORKED EAR		18 19 1 8	FRI X X	1ST 2ND	4 27	ī		0 800
MANAGEMENT/SUPER OPERATOR(S):  DESIGNATED TRAINEE LABORATORY MAINTENANCE OTHER PLANT WORKE  OPERATOR SHIFTS NO SUN 1ST X	GRADE I-C GRADE I GRADE II GRADE IV E(S)	720 760 40 320 40 VORKED EAR	CH DAY:	18 19 1 8 1	FRI	1ST 2ND 3RD	4 27	ī		0 800

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

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

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PLANT AND COLLECTION SYSTEM PERSONNEL INVENTORY

FACILITY NAME:	Valley Cre	ek WWTP				P	LANT GRAI	DE:	IV	
PERMIT NUMBER:	AL002365	i5				<del></del>				
PLANT SUPERINTE	NDENT:	Robby Ben	nett			<del>_</del>		TEL.#	(205) 428-	2614
SYSTEM MANAGER	<b>l</b> :	David Dena	ard					TEL.#	(205) 325-5	5979
PLANT OPERATORS	S:									
	NAME			ADE OR E STATUS	1	OPERATOR NO	1	FXP	DATE	
1. Doug Carter			Trainee						DATE	
2. Ed Crumley			Trainee					<del></del>		-
3. John Ellard			Traine	<del></del>	<del>                                     </del>					-
Keith Frederick	ζ		Traine	Э					7	_
Malcolm Glass			Traine	9						-
Earl Harper			Traine					·		-
Jeff Hill			Traine							-
Danny Hill			Trainee					<u> </u>		-
Joshua Hughe	s		Traine					····		-
Donald Kelly	<u> </u>		Traine							-
COLLECTION SYSTE	EM ODERATO		I						·	•
					I					
I										
<u></u>										
3. <u> </u>		<del></del>								_
•										
MANAGEMENT/SUPI OPERATOR(S):	GRADE I-C GRADE	240 160	RS.AWK	NUMBER 6 4		AVERAGE NU	MBER OF E	MPLOYE	ES PER SH	IFT:
	GRADE I GRADE II			-		1ST 4			TART TIME	<u></u>
				18	1	2ND 27	,	3	TART TIME	800
	GRADE IV	/ /20		10 .	I	21411/27				1000
DESIGNATED TRAIN		760		19		3RD 5				1600
LABORATORY		760 40		19						
	EE(S)	760		19						<u> </u>
LABORATORY MAINTENANCE	EE(S)	760 40 320		19 1 8						
LABORATORY MAINTENANCE OTHER PLANT WOR OPERATOR SHIFTS	EE(S) KERS NORMALLY V	760 40 320 40 WORKED EA	•	19 1 8 1		3RD 5				
LABORATORY MAINTENANCE OTHER PLANT WOR OPERATOR SHIFTS SUN	EE(S) KERS NORMALLY V MON	760 40 320 40 WORKED EAR TUES	WED	19 1 8 1	FRI	3RD 5				
LABORATORY MAINTENANCE OTHER PLANT WOR	EE(S) KERS NORMALLY V	760 40 320 40 WORKED EAR TUES	•	19 1 8 1	FRI X	3RD 5				<b>-</b>

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

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

YES

ADEM FORM 441 8/02

PLANT AND COLLECTION SYSTEM PERSONNEL INVENTORY

FACILITY NAME:	Valley Cree					PLANT G	KADE:	IV	
PERMIT NUMBER:	AL0023655	5			<del></del>				
PLANT SUPERINTEN	DENT:	Robby Ber	nett				TEL.#	(205) 428-2	2614
SYSTEM MANAGER:		David Den	ard				TEL.#	(205) 325-5	979
PLANT OPERATORS:									
N	AME			ADE OR EE STATUS	l opera	TOR NO.	FXP	DATE	
Vince Leroy			Trainee						•
Herman McClain			Trainee					<del></del>	•
Percy Mims	· · · · · · · · · · · · · · · · · · ·		Traine	<del></del>				<del></del> .	•
Emma Pleasant			Traine	<del></del>					•
John Rockett			Traine	<del></del>					•
Belinda Sexton			Traine				1	· · · · · · · · · · · · · · · · · · ·	•
Jason Sims			Traine						•
			Traine				<u> </u>		•
***************************************		·						··	•
		·	1:	······································					
			<u> </u>		<u> </u>			·	
COLLECTION SYSTEM	OPERATO	RS:							
Brian Champion			l(c)		C002094		6/30/20	15	
Don Goodwin			l(c)		C005423		6/30/20	15	
Lavon Evans			l(c)		C004631		12/31/2	014	•
Brian Rohling			I(c)		C005418		6/30/20		
	•						<b></b>		
MANAGEMENT/SUPER	RVISOR	240	RS./WK	NUMBER 6	1				
OPERATOR(S):									
	GŖADE I-C	160		4					
	GRADE I				AVER	AGE NUMBER (	OF EMPLOYE	ES PER SHI	FT:
	GRADE III			_		1ST 4	٦ -	TART TIME	0
	GRADE IV			18		2ND 27	┪	h	800
DESIGNATED TRAINE	E(S)	760		19	]	3RD 5		ŀ	1600
LABORATORY		40		1			•	L	
MAINTENANCE		320		8					
OTHER PLANT WORKE	ERS	40		1					
	ORMALI Y M	ORKED FA	CH DAY						
OPERATOR SHIFTS NO	that ( VI	TUES	WED	THURS	FRI SA	τ			
OPERATOR SHIFTS NO	MON				x x				
SUN		Х	Х	X	^  ^	4			
SUN		X X	X	X X	X X	-			

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

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		PLANT A	ND COLL	ECTION S	SYSTEM F	ERSO	NNEL INV	ENTORY		
FACILITY N	IMBER:	Sewer Line M	laintenance				!	PLANT GRAD		<u>IV</u>
	PERINTENDEN	T:	David David							40-7585
SYSTEM M.	ANAGER:		David Denard	1				16	L.# (205) 3	<u> 25-5979</u>
PLANT OPE	ERATORS:			CDAI	DE OR					
	N.A	\ME		1	STATUS	l o	PERATOR NO	. l =	XP. DATE	i l
1. Brian Cham				1(c)		C002094		·	6/30/2018	5
2. Don Goodw	in			l(c)		C005423			6/30/201	- 1
3. Lavon Evan	s			I(c)		C00463	1		12/31/2014	1
4. Brian Rohlin	g	***		l(c)		C005418	8		6/30/2018	5
5.										
6.									-	
7.										
8.				ļ						_
9.		<del></del>								]
10.										]
COLLECTIO	ON SYSTEM OF	PERATORS:							,	
				<u> </u>	··.					4
1.							-			4
2.	<del></del> -		<del></del> .							4
3.		*					·			-
4.				L		l	·		<del>.</del>	J
			MAN H	RS./WK	NUMBER					
MANAGEMI	ENT/SUPERVIS	SOR			THOMBER.	]				
OPERATOR	R(S):									
	•	GRADE I-C				1				
•		GRADE I				1	AVERAGE NU	IMBER OF EM	PLOYEES PE	R SHIFT:
		GRADE II				1				
		GRADE III					1ST		START TIME	Ε
		GRADE IV					2ND			
DESIGNATI	ED TRAINEE(S	)					3RD[			
LABORATO	RY									
MAINTENAI	NCE									
OTHER PLA	ANT WORKERS	3								
OPERATOR	R SHIFTS NOR!	MALLY WORK	ED EACH DA	<b>Y</b> :						
	SUN	MON	TUES	WED	THURS	FRI	SAT			
1ST										
2ND										
3RD										
ADEM USE ONI	_Y									
									YES	NO
	NT OPERATOR S								<u> </u>	
2. DOES COL	LECTION SYSTE	M OPERATOR	STAFFING COM	MPLY WITH DIV	SION 10 OF AD	EM ADMI	NISTRATIVE COI	DE?		1
									ADEM FO	RM 441 8/02

## Municipal Water Pollution Prevention (MWPP) Annual Report Calendar Year 2013

For the

#### Village Creek WWTP

as required by the Alabama Department of Environmental Management NPDES Program



Prepared by Jefferson County Commission Environmental Services Department

May 31, 2014

#### JEFFERSON COUNTY COMMISSION



DAVID CARRINGTON - PRESIDENT GEORGE F. BOWMAN SANDRA LITTLE BROWN - PRESIDENT PRO TEMPORE T. JOE KNIGHT JAMES A."JIMMIE" STEPHENS

May 31, 2014

Mr. Nic Caraway
Alabama Department of Environmental Management
Water Division – Municipal Branch
P.O. Box 301463
Montgomery, AL 36130-1463

RE: Municipal Water Pollution Prevention (MWPP)
Annual Report Calendar Year 2013

Mr. Caraway:

The Jefferson County Environmental Services Department submits the above referenced report for the Village Creek Wastewater Treatment Facility, NPDES Permit No. AL0023647. Included is information as required in ADEM Form 41701/06ml, bypass/overflow event reports, MWPP Sewage Sludge Survey, and the Plant & Collection System Personnel Inventory.

If you have any questions regarding this information, please contact me at 205.325.5979 or Celeste Brown at Jefferson County Barton Laboratory at 205.238.3859.

Sincerely,

David Denard, Director

Environmental Services Department

DAVID CARRINGTON - COMMISSIONER

TONY PETELOS, COUNTY MANAGER

Office of

**ENVIRONMENTAL SERVICES** 

Director of Environmental Services

716 Richard Arrington, Jr. Blvd. N.

Birmingham, Alabama 35203 Telephone (205) 325-5496 Fax (205) 325-5981

DAVID DENARD

Suite A-300

pc: Celeste Brown, JCESD Barton Laboratory
Daniel White, JCESD Deputy Director
Greg James, Village Creek WWTP

## MUNICIPAL WATER POLLUTION PREVENTION (MWPP) ANNUAL REPORT

#### SUBMITTED BY:

TREATMENT FACI	LITY: Village Creek WWTP	NPDES #:_AL0023647
MUNICIPALITY: Jef	ferson County	COUNTY:Jefferson
CONTACT PERSON	David Denard	
	Municipal Official	
	Director, Environmental Services Department	
	Title	
	Telephone #: 205-327-8232	Fax #: 205-325-5981
	Email Address: denardd@jccal.org	
CHIEF OPERATOR:	Greg James	
	Name	
	Telephone #: 205-791-6405	Fax #: 205-791-3030
	Email Address: jamesgr@jccal.org	· .
	Date: May 14, 2014	
REVIEWED BY:	Daniel White P.E., ESD Engineer	
Ō	Consulting Engineer	
]	Γelephone #: 205-214-8610	_Fax #: 205-325-5239
ī	Date: May 14, 2014	

#### MWPP Annual Report Information Source List

The following information will be needed to complete the compliance maintenance report that covers the calendar year of 2013 (due May 31, 2014 ).

- Part 1 A. The average plant influent flow for each month (million gallons per day/MGD) during the year.
  - B. The average plant influent BOD (CBOD) for each month (mg/l and lb/day) in the year.
  - C. The 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 the year
  - B. The monthly average effluent limits and DMR loading for BOD, TSS, NH3-N, and/or TKN in lbs/day for the year
- Part 3 The age of the 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 minus the year the new construction was brought on-line.
- Part 4 Bypass and overflow information. This is the number of bypass or overflow events of untreated wastewater due to heavy rain or equipment failure whether intentional or inadvertent from all collection systems tributary to the treatment facility.
- Part 5 A. Describe the characteristics and quantity of sludge generated.
  - B. If sludge is landspread, how many months of sludge storage does the plant have? This should include on-site and off-site storage from the treatment plant. The digestor capacity may be used in the calculation.
- Part 6 A. Sludge Disposal Method
  - B. The number of approved land disposal sites for sludge available, and how many months or years these disposal sites will these be available for use.
- Part 7 The number of sewer extensions installed in the community last year--the design population, design flow, and design BOD for each sewer extension.
- Part 8 Operator Certification
- Part 9 Financial Status
- Part 10 Subjective Evaluation
- Part 11 Summary Sheet

State of Alabama MWPP Annual Report Department of Environmental Management

#### 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 the actions necessary to prevent effluent violations. Enter the point totals from Parts 1 through 8 on Part 11: Summary Sheet.
- 3. Add the point totals on Part 11: Summary Sheet.
- 4. Submit the MWPP Report to the governing body and the consulting engineer and owner for review and approval.
- 5. The governing body should pass a resolution which contains the following points:
  - a. The resolution should acknowledge the governing body or owner has reviewed the MWPP Report.
  - b. The resolution should indicate what actions will be taken to prevent effluent violations.
  - c. The resolution should provide any other information the governing body or owner deems appropriate.
- 6. The MWPP Report and the resolution must be submitted by May 31<sup>st</sup> to Municipal Section, Water Division, ADEM, P.O. Box 301463, Montgomery, AL 36130-1463.

Facility Name: Village Creek WWTP

#### Part 1: Influent Loading/Flows

A. List the average monthly volumetric flows and BOD<sub>5</sub> (CBOD<sub>5</sub>) loadings received at your facility during the last calendar year.

<u>Month</u>		rage ithly rate	Average BOD <sub>5</sub> ( Conce	umn 2 e Monthly (CBOD <sub>5</sub> ) entration ng/l)	Ave Loadin (CB	erage g BOD <sub>5</sub> OD <sub>5</sub> ) lay**)
January	33	25	37	18	8548	3773
February	34	25	33	15	8850	3382
March	23	18	48	27	7420	4166
April	21	17	35	25	5928	3877
May	24	15	59	22	8616	2659
June	28	12	72	26	16830	2746
July	20	12	58	24	10691	2514
August	22	8.3	53	17	10003	1240
September	19	8.7	78	46	12244	3456
October	17	8.5	110	56	15441	4222
November	18	9.9	110	57	15305	4855
December	24	15	41	19	6862	2757
Annual Avg.	24	14	61	29	10562	3304

<sup>\*\*</sup>As reported on NPDES Discharge Monitoring Reports (DMRs) and as required by EPA's NPDES Self-Monitoring System, User Guide, March 1985.

B. List the average design flow and average design BOD<sub>5</sub> loading for the facility below. If you are not aware of these design quantities, contact your consulting engineer or the Alabama Department of Environmental Management.

	Average I	Design Flow	Average Design BOD <sub>5</sub> Loading (lbs/day)		
Design Criteria	60.0	60.0	70056	70056	
90% of the Design Criteria	54.0	54.0	63050	63050	

C. How many times did the monthly flow (Column 1) to the WWTP exceed 90% of design flow?

(Check the appropriate point total)

$$0 - 4 = 0$$
 points 5 or more  $= \overline{5}$  points

D. How many times did the monthly flow (Column 1) to the WWTP exceed the design flow?

(Check the appropriate point total)

(enter the appropriate point total)
$$0 = 0 \text{ points} \quad 1 - 2 = 5 \text{ points} \quad 3 - 4 = 10 \text{ points} \quad 5 \text{ or more} = 15 \text{ points}$$

E. How many times did the monthly BOD<sub>5</sub> (or CBOD<sub>5</sub>)\* loading (lbs/day) (Column 3) to the WWTP exceed 90% of the design loading? \_\_\_\_ (Check the appropriate point total)

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

F. How many times did the monthly BOD<sub>5</sub> (or CBOD<sub>5</sub>)\* loading (lbs/day) (Column 3) to the WWTP exceed the design loading? \_\_\_\_ (Check the appropriate point total)

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

G. Enter each point value marked for Cthrough F and enter the sum in the appropriate blank below.

C points = 
$$0$$

D points = 
$$0$$

E points = 
$$0$$

TOTAL POINTS VALUE OR PART 1 º

Enter this value on Part 11: Summary Sheet.

<sup>\*</sup>To obtain equivalent BOD<sub>5</sub> loading for comparison with design loading for those permittees using influent CBOD<sub>5</sub>, divide annual average CBOD<sub>5</sub>, 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 BOD<sub>5</sub>, (CBOD<sub>5</sub>) TSS, NH<sub>3</sub>-N and/or TKN concentration produced by the facility during the last calendar year.

#### (1) NPDES Permit Concentration

D	<u>Months</u>	$(CBOD_5)$ $(mg/l)$	TSS (mg/l)	NH <sub>3</sub> -N (mg/l)	TKN (mg/l)
Permit Limit	May-Nov.	4.0	24.0	1.0	Report
	DecApr.	6.0	24.0	1.0	Report

#### (2) DMR Concentration

<u>Qtr</u>	<u>Month</u>	(CB	$\mathrm{OD}_5$ $\mathrm{OD}_5$ ) $\mathrm{g/l}$ )		SS g/l)		I <sub>3</sub> -N (g/l)		KN g/l)
1	January	0.95	0.56	1.5	0.67	0.01	0.003	0.60	0.15
	February	1.0	0.58	1.5	0.33	0.01	0.00	0.51	0.25
	March	0.95	0.70	1.9	0.40	0.02	0.002	0.47	0.30
2	April	0.66	0.57	2.2	0.57	0.01	0.01	0.56	0.19
	May	0.55	0.51	3.0	0.94	0.01	0.01	0.71	0.32
	June	0.84	0.46	2.5	0.79	0.02	0.02	0.45	0.40
3	July	0.83	0.64	2.4	0.46	0.05	0.08	0.26	0.19
	August	0.68	0.56	2.0	0.31	0.01	0.004	1.00	0.3
	September	0.79	0.46	2.2	0.39	0.08	0.08	0.85	0.37
4	October	0.95	0.49	2.0	0.67	0.05	0.04	0.76	0.41
	November	1.2	1.1	2.9	1.3	0.03	0.01	1.10	0.4
	December	0.93	0.65	2.2	0.56	0.03	0.03	0.42	0.22
	Annual Avg.	0.86	0.61	2.2	0.61	0.03	0.02	0.64	0.29

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

#### (1) NPDES Permit Loading

Permit	<u>Months</u>	BOD <sub>5</sub> (CBOD <sub>5</sub> ) (lbs/day)	TSS (lbs/day)	NH <sub>3</sub> -N (lbs/day)	TKN (lbs/day)
Limit	May-Nov.	2001	12009	500	Report
	DecApr.	3002	12009	500	Report
(2) DMI	R Loading	BOD₅			
<u>Qtr</u>	<u>Month</u>	$(CBOD_5)$ $(lbs/day)$	TSS (lbs/day)	NH <sub>3</sub> -N (lbs/day)	TKN (lbs/day)
1	January	389	648	3.2	419
	February	424	462	2.2	133
	March	288	537	2.8	81
2	April	197	438	2.8	101
	May	153	620	1.9	140
	June	244	690	7.1	215
3	July	220	495	17.2	56
	August	163	397	1.7	178
	September	166	397	18.6	156
4	October	170	330	10.1	134
	November	313	607	6.0	162
	December	280	548	11.3	94
	Annual Avg.	251	514	7.1	156

C. During the past year did the BOD<sub>5</sub> 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? (Check the appropriate point total.)

No = 
$$0$$
 points  $Yes = 121$  points

D.	During the past year did the BOD <sub>5</sub> concentration (mg/l) and/or loading (lbs/day), exceed the
	monthly average permit limit during four months of any two consecutive quarters? (Check
	the appropriate point total.)

No = 0 points 
$$Yes = 121 \text{ points}$$

No = 
$$\overline{0}$$
 points  $\overline{11}$  Yes =  $\overline{12}$ 1 points

No = 
$$0$$
 points  $Yes = 121$  points

No = 0 points 
$$Yes = 121$$
 points

## H. During the past year did either the NH<sub>3</sub>-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? (Check the appropriate point total.)

No = 0 points 
$$Yes = 121 points$$

I. Enter each point value checked for C through H in the blanks below.

C Points = 
$$\frac{0}{0}$$
D Points =  $\frac{0}{0}$ 
E Points =  $\frac{0}{0}$ 
G Points =  $\frac{0}{0}$ 

H Points = 0

HIGHEST INDIVIDUAL POINT VALUE FOR PART 2 (C-H) (HIGHEST POINT = 121) Enter this value on Part 11: Summary Sheet.

Par	t 3: Age of the Wastewater Treatment Facility		
A.	What year was the wastewater treatment plan	t constructed or last reconstructed? 2004	
	Subtract the above answer from the report year	ar to determine age:	
	Age = (Last Calendar year) - (Answer t	to A)	
	Age $\frac{9}{}$ = $(2013)$ - $(200)$	04)	
	Enter Age in Part C below.		
B.	Check the type of treatment facility employe	ed.	
		Factor	
	× Mechanical Treatment Plant	2.0	
	Aerated Lagoon	1.5	
	Stabilization Pond	1.0	
	Other (Specify:	) 1.0	

$$\frac{2.0}{\text{(Factor)}}$$
 x  $\frac{9}{\text{(Age)}}$  =  $\frac{18}{\text{1}}$  TOTAL POINT VALUE FOR PART 3

Enter the above value on Part 11: Summary Sheet. If the total point value exceeds 40, enter 40 on Part 11: Summary Sheet.

Facilit	ty Name: Village Creek WWTP
Part 4	: Bypassing and Overflows
	How many bypass or overflow events of untreated wastewater occurred in the last year at the WWTP due to heavy rain? _0
	How many bypass or overflow events of untreated wastewater occurred in the last year prior to the headworks of the WWTP due to heavy rain? 2
	How many of the bypass or overflow events listed in Parts A and B have been corrected such that future bypass or overflow events at the same location due to heavy rain are not anticipated? 2
	Add together Answers A and B and subtract Answer C from that total. A + B - C = (Check the appropriate point total.)
	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
	How many bypass or overflow events of untreated wastewater occurred in the last year at the WWTP due to equipment failure? (This includes clogged/broken lines or manholes.) 0
	How many bypass or overflow events of untreated wastewater occurred in the last year due to equipment failure prior to the headworks of the WWTP? (This includes clogged/broken lines or manholes.) 40
	How many of the bypass or overflow events listed in Parts E and F have been corrected such that future bypass or overflow events at the same location due to the same equipment failure are not anticipated? 40
	Add together Answers E and F and subtract Answer G from that total. E + F - G = (Check the appropriate point total.)
	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 point values circled in D and H and enter the total in the blank below.
	AL POINT VALUE FOR PART 4 10 this value on Part 11: Summary Sheet.

All bypass or overflow events that have occurred in the last year (for any reason) must

ADEM FORM 417 01/09 m2

be individually reported with this MWPP report.

Facil	ity Name: Village Creek W	VTP	
Part :	5: Sludge Quantity and	Storage	
A.		nation concerning sludge quantity, chas as requested on the MWPP Sewage	
B.		f sludge storage capacity does the value or off-site? (i.e., How many montoosing of sludge?) >4	
	Less than 3 months,	to 4 months but greater than or equal to 3 months but greater than or equal to 2 months but greater than or equal to 1 month	= 0 points
	AL POINT VALUE FO this value on Part 11:	· · · · · · · · · · · · · · · · · · ·	
Part 6	6: Sludge Disposal Prac	tices and Sites	<u>.</u>
A.		udge disposal practices and site info	
B.	_	or years does the facility have access ide proper land disposal? (Check the	* *
	36 or more months 24 - 35 months 12 - 23 months 6 - 11 months Less than 6 months	= 0 points	
	AL POINT VALUE FO		

Facility Name: Village Creek WWTP		_		
Part 7: New Development			· 	
Are there any major new d calendar year or anticipated the sewage system could sign	in the next 2-3 years su	ich that eith	er flow or BOD5	loadings to
Design Population: Equivalent (PE)	Design Flow:	MGD	Design BOD <sub>5</sub> :	lbs/day
List industrial and/or reside	ntial developments.			
No major new developments planned	I.			
·				
Will the additional loading $No = 0$ points $\boxed{\checkmark}$ Enter the point total in the bloom	Yes = 121 points	eck the appro	priate point total	.)
TOTAL POINT VALUE FOR PAR Enter this value on Part 11: Summa	` ` ` ` ` ` `	oint total = 1	21)	
Part 8: Operator Certification				
Complete the Plant and Collection	System Personnel Inven	tory, ADEM	Form 441.	
Do both the plant operator as Code; Division 10, Operator				
Yes = 0 points	No = $\frac{121}{1}$ points			
TOTAL POINT VALUE FOR PAIEnter this value on Part 11: Summa		t point total	= 121)	

Faci	lity Name: Village Creek WWTP				
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? <i>Include user charge rates</i> .				
	Revenues are sufficient. The below values are based on a 5/8" meter and 6,000 gallons water use. Jefferson				
	County has a three tier block rate structure for residential users for 0-3, 4-6, and 7+ ccf water use.				
	Residential Minimum 15.00 Plus rate 6.02; 9.36; 10.69 /1,000 gal.				
	Industrial Minimum 15.00 Plus rate 10.51 /1,000 gal.				
	Monthly residential rate based on 6,000 gallons usage \$_56.04 (includes 15% credit for residential)				
	ease complete the above information based on your user charge rates for the report year. You attach a sample water and sewer bill for clarity.				
В.	What financial resources are available to pay for the wastewater improvements and/or reconstruction needs?				
	In 2013, Jefferson County issued Series 2013 Sewer Warrants that fund capital improvements				
	through 2023 at an annual average rate of \$71.9 million over the 10-year period.				
Part	10: Subjective Evaluation				
A.	Describe briefly the physical and structural conditions of the wastewater treatment facility.				
	The 002 WWTP was constructed in 2004 and is in good condition. Some equipment and processes				
	were constructed or upgraded in the 1970s, 80s, and 90s and are in fair to average condition.				
	Maintenance and refurbishments are planned for assets needing improvements.				
B.	Describe the general condition of the sewer system (sewer lines, manholes, lift stations).				
	The Village system includes roughly 3,460,000' of pipe and 24 pump stations. The system's rate of				
	SSO's/100 miles of sewer is above the department's goal. There are no known capacity deficiencies.				
	The general condition of the system is fair.				

Construction work began in October 2013 to rehab 001 Plant bar screens , final settling
tanks, dewatering building improvements, and 002 plant U.V. disinfection system upgrades. This
project will end in October 2014. See attachment for additional planned work
What is the theoretical design life of the plant, and what is the estimated remaining useful life of the wastewater treatment facility?
Calculated remaining useful life of the structures is 50 years - years age of facility.
Calculated remaining useful life of the equipment is 25 years - years age of equipment.
Based on EPA's 2002 Clean Water and Drinking Water Infrastructure Gap Analysis Report.
What problems, if any, over the last year have threatened treatment or conveyance within the system?
The primary cause of SSO's was blockage from grease. These occured in residential areas.
Is the community presently involved in formal planning for treatment facility upgrading?
NO.
· ·
How many days in the last year were there residential backups at any point in the collection system for any reason other than clogging of the lateral connection? 16
Does the plant have a written plan for preventive maintenance on major equipment items? I yes, describe.
Yes. O & M Manuals are used for all equipment maintenance schedules. Preventive maintenance schedules are input into
the INFOR maintenance system and PM work orders are automatically generated. All equipment PM
schedules and records are maintained in the INFOR system.

#### Village Creek

#### Part 10.C

Planned improvements at the Fairmont and Harrimon pump stations include wetwell rehabilitation, increased pumping capacity, piping repairs, updated electrical components and control panels. Pump replacement is planned for the Lewisburg #1 pump station.

and othe	s preventive maintenance program depict frequency of intervals, types of lubrication, r preventive maintenance tasks necessary for each piece of equipment? (Check the ate response.) Yes No
	e preventive maintenance tasks, as well as equipment problems, being recorded and future maintenance problems can be assessed properly? (Check the appropriate .) Yes No
include	any major repairs or mechanical equipment replacement made in the last year and the approximate cost for those repairs. Do not include major treatment plant tion or upgrading programs.
Rebuild o	f Dewatering cake pumps - \$299,760
Lightning	Protection for emergency generators- \$31,368
Generato	r Controls Upgrade - \$28,125
List any	additional comments. (Attach additional sheets if necessary.)
_	
·	

Facility Name: Village Creek WWTP	
Part 11: Summary Sheet	
	ugh 8 in the left column below. Add the numbers in the Report point total the wastewater system generated for
Actual Values	Maximum Possible
Part 1 o points	80 points
Part 2 o points	121 points
Part 3 18 points	40 points
Part 4 10 points	200 points
Part 5 o points	50 points
Part 6 20 points	50 points
Part 7 o points	121 points
Part 8 opoints	121 points
Total 48 points	783 points
2. Check the facility type that best descri	bes the plant's treatment and disposal of wastewater.
Mechanical plant with surface water	
Aerated Lagoon or stabilization pond Mechanical plant using land disposal	_
Aerated Lagoon or stabilization pond	•
✓ 0 - 70 pts. Actions as Ap	Recommendation Range* Action Range*

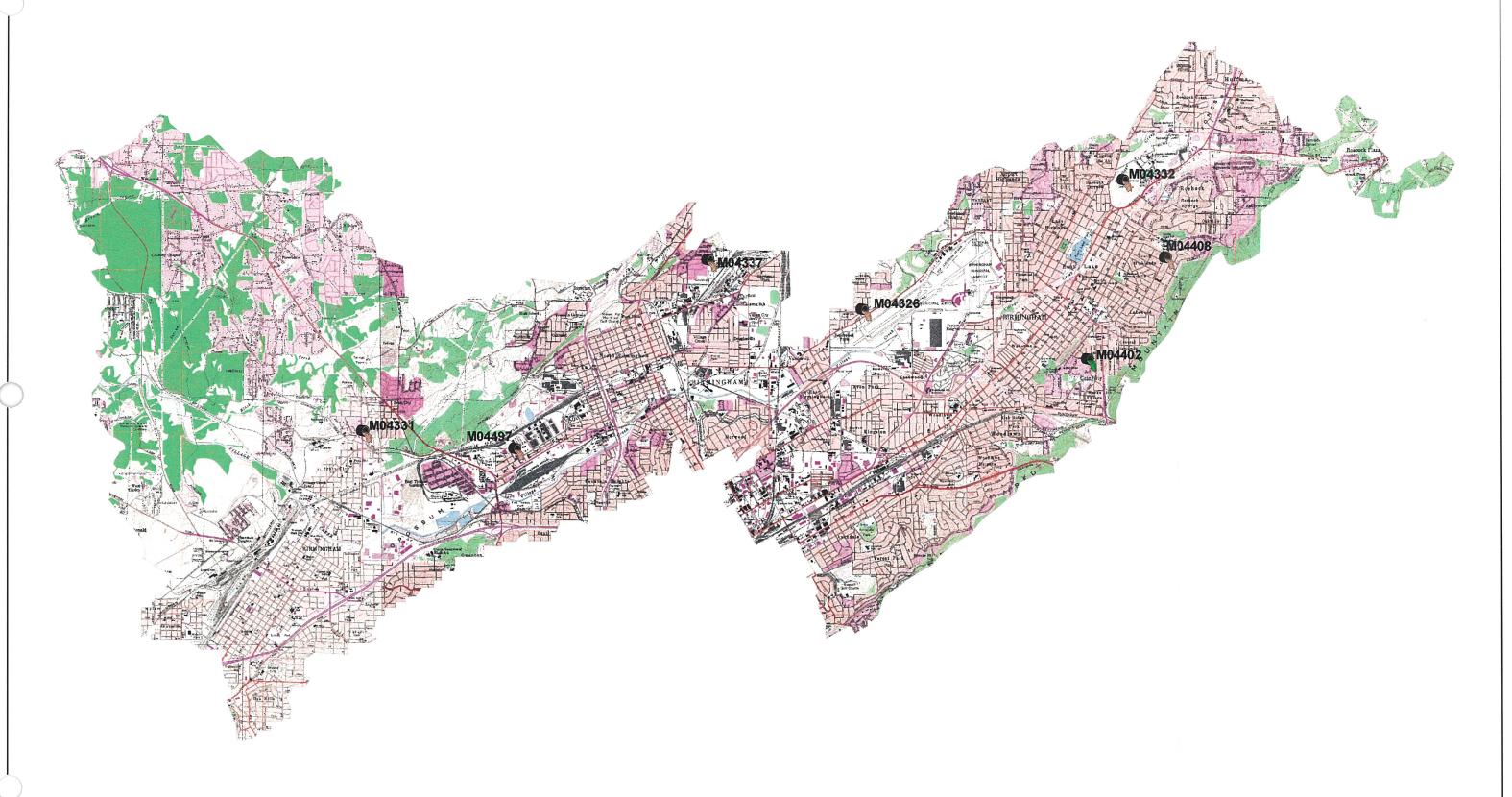
4. Complete the Municipal Water Pollution Prevention Resolution Form, ADEM Form 418.

In Question 1, do any of the actual point values in the left column equal the maxim possible points in the right column? (Check the appropriate response) Yes No
possible points in the right column? (Check the appropriate response)  Yes  Vo
If yes, provide a written explanation for this situation in the space below.

# Village Creek Wastewater Treatment Plant <u>ATTACHMENT 2</u> – Raw Sewage Bypass and <u>SUMMARY</u>



#### **VILLAGE CREEK BASIN 2013 DISCHARGES**







# Summary of Unpermitted Discharges - Village Creek

January 01, 2013 through December 31, 2013

NOTE: Quantities shown in the column "Est. Volume" are ESTIMATED ONLY. These estimates are the County's best determination of the discharge volume, based upon site-determinable information and accepted estimating methods. However, such estimates are subject to a high number of variables which are completely beyond the County's control and which can have a significant effect upon the calculated amount. Therefore, these estimates are to be used for relative comparison only, not as actual discharge volumes.

Event No.	Date Reported	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
C01082	6/12/13 Notes:	6/12/13 3999 14th Ave N	Village - East of WWTP	Storm Drain	6	Hose on back of Combo Truck	Hose came out of manhole while decanting	No Rain	Closed the Valve	Brian Champion	Sewer Maintenance Supervisor
C01099	10/24/13	C01099 10/24/13 2430 Minor Parkway Village - West of WWTP (Remainde of System)  Notes: Maintenance crews clearing ROW broke cleanout with cutting equipment.	Village - West of WWTP (Remainder of System) with cuting equipment.	Ground Absorbed/ Corbet Branch	1,400	Cleanout for Force Main	Cleanout on Force Main	No Rain	Line Repaired	Brian Champion	Sewer Maintenance Supervisor
M04312	1/4/13 Notes:	1208 HibernianStreet	Village - West of WWTP (Remainder of System)	Ground Absorbed	367	Cleanout	Grease/ Debris	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04313	1/5/13 Notes:	316 Half Moon Bend	Vilage - East of WWTP	Ground Absorbed	5,100	Manhole	Grease/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04323	M04323 1/14/13	4304 43rd Ave N	Village - East of WWTP	Ground Absorbed	708	Cleanout	Grease/ Debris	Light Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04326	M04326 1/14/13	43rd St & 38th Ave N Village - East c	Village - East of WWTP	Storm Drain/ Feeder Creek to Village Creek	125,112	Manhole	Surcharge from Rain	Heavy Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor

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NOTE: Quantities shown in the column "Est. Volume" are ESTIMATED ONLY. These estimates are the County's best determination of the discharge volume, based upon site-determinable information and accepted estimating methods. However, such estimates are subject to a high number of variables which are completely beyond the County's control and which can have a significant effect upon the calculated amount. Therefore, these estimates are to be used for relative comparison only, not as actual discharge volumes.

Event No.	Date Reported	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
M04331	1/15/13 Notes:	1/15/13 #1 Ave W	Village - West of WWTP (Remainder of System)	Ground Absorbed	11,952	Cleanout	Surcharge from Rain	Moderate Rain	Line Monitored	Brian Champion	Sewer Maintenance Supervisor
M04332	1/16/13 Notes:	8920 Roebuck Blvd	Village - East of WWTP	Ground Absorbed/ Village Creek	12,206	Manhole/ Pipe	Grease/ Rags/ Gravity Main Break	Moderate Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04333	1/18/13 Notes:	540 Gadsden Hwy	Village - East of WWTP	Ground Absorbed	160	Manhole	Grease	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04337	M04337 1/28/13 Notes:	3171 44th Ave N	Village - East of WWTP	Storm Drain	13,824	Cleanout	Grease/ Debris	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04354	2/13/13 Notes:	500 Oakmont St	Village - West of WWTP (Remainder of System)	Storm Drain	2,025	Manhole	Grease/ Rags/ Spray rock	Moderate Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04362	2/26/13 Notes:	2/26/13 7 41st St N es:	Village - East of WWTP	Ground Absorbed	395	Drain	Debris	No Rain	Biockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04365	2/26/13 Notes:	912 Five Mile Road	Village - East of WWTP	Ground Absorbed	12	Cleanout	Grease/ Roots/ Rags	Light Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04373	3/15/13 Notes:	564 Antwerp Court S	Village - East of WWTP	Storm Drain	1,168	Manhole	Grease/ Rags	No Rain	Blockage Removed	Brian Rohling	Chief Civil Engineer

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NOTE: Quantities shown in the column "Est. Volume" are ESTIMATED ONLY. These estimates are the County's best determination of the discharge volume, based upon site-determinable information and accepted estimating methods. However, such estimates are subject to a high number of variables which are completely beyond the County's control and which can have a significant effect upon the calculated amount. Therefore, these estimates are to be used for relative comparison only, not as actual discharge volumes.

Event No.	Date Reportea	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
M04376	3/20/13 Notes:	925 52nd St N	Village - East of WWTP	Ground Absorbed	2	Cleanout	Roots	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04382	3/25/13 3/0tes:	2733 16th Court	Village - East of WWTP	Ground Absorbed	4,075	Manhole	Grease/ Roots/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04383	3/26/13 Notes:	700 8th St S	Village - East of WWTP	Storm Drain	2,052	Manhole	Grease/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04385	4/1/13 Notes:	714 Gene Reed Rd	Village - East of WWTP	Storm Drain	1,184	Manhole	Grease/ Roots/ Debris/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04394	4/12/13 Notes:	433 Blount St	Village - West of WWTP (Remainder of System)	Ground Absorbed	144	Manhole	Grease/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04395	4/12/13 Notes:	4140 Messer Airport Hwy	Village - East of WWTP	Storm Drain	1,428	Manhole	Grease/ Roots/ Debris	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04402	4/19/13 Notes:	756 71st Pl S	Village - East of WWTP	Ground Absorbed	16,856	Cleanout	Grease	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04403	4/23/13 otes: Clean	Village - East of Grandth Drawing upon crew arrival, but there was evidence on the ground.	Village - East of WWTP there was evidence on the gro	Ground Absorbed	The state of the s	Cleanout	Grease/ Roots/ Debris/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor

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NOTE: Quantities shown in the column "Est. Volume" are ESTIMATED ONLY. These estimates are the County's best determination of the discharge volume, based upon site-determinable information and accepted estimating methods. However, such estimates are subject to a high number of variables which are completely beyond the County's control and which can have a significant effect upon the calculated amount. Therefore, these estimates are to be used for relative comparison only, not as actual discharge volumes.

Event No.	Date Reported	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
M04404	4/26/13 Notes:	9248 Brookhurst Dr	Village - East of WWTP	Ground Absorbed	252	Cleanout	Grease/ Roots/ Debris/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04405 4/29/13 Notes:	4/29/13 Notes:	600 Biscayne Dr	Village - East of WWTP	Storm Drain	164	Cleanout	Roots	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04408	5/3/13. Notes:	812 85th St South	Village - East of WWTP	Storm Drain	13,392	Cleanout	Grease/ Roots/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04417	5/18/13 Notes:	1116 Barnisdale Rd	Village - East of WWTP	Ground Absorbed	4,018	Cleanout	Grease	Heavy Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04418	5/19/13 Notes:	5712 5th Crt S	Village - East of WWTP	Storm Drain	38	Manhole	Grease/ Roots/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04423	6/3/13 Notes:	7525 Marks Drive	Village - East of WWTP	Storm Drain	513	Manhole	Grease/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04431	1 7/9/13 Notes:	7525 Marks Dr	Village - East of WWTP	Storm Drain	2,430	Manhole	Grease/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04441	1 9/1/13 Notes:	3040 44th Ave N	Village - East of WWTP	Ground Absorbed/ Storm Drain	6,949	Manhole	Grease	No Rain	Blockage Repaired	Brian Champion	Sewer Maintenance Supervisor

Page 5 of 6

and accepted estimating memors, nowever, such estimates are subject to a nign number of variables which are county scoured and which can have a significant effect upon the calculated amount. Therefore, these estimates are to be used for relative comparison only, not as actual discharge volumes.

				•		)					
Event No.	Date Reported	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
M04444	9/13/13 Notes:	540 Gadsden Hwy	Village - East of WWTP	Storm Drain	230	Manhole	Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04460	) 11/4/13 Notes:	548 & 552 Gadsden Hwy	Village - East of WWTP	Ground Absorbed/ Storm Drain	232	Manhole	Grease/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04465	11/16/13 Notes:	749	Village - East of WWTP	Storm Drain	70	Manhole	Grease	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04466	, 11/19/13 Notes:	M04466 11/19/13 6421 Joppa Court Notes:	Village - East of WWTP	Ground Absorbed	184	Manhole	Grease/Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04468	11/22/13	11/22/13 1163 6th St W	Village - East of WWTP	Ground Absorbed	133	Manhole	Grease/Rags	Light Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04469	) 11/22/13 Notes:	M04469 11/22/13 13 Avenue W  Notes:	Village - West of WWTP (Remainder of System)	Ground Absorbed	129	Cleanout	Grease/ Debris	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04482	12/3/13 Notes:	4020 Messer Airport Hwy	Village - East of WWTP	Storm Drain	115	Manhole	Grease/ Debris	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04483	\$ 12/4/13 Notes:	444 23rd Ave	Village - East of WWTP	Ground Absorbed	270	Cleanout	Grease/ Rags/ Rocks	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor

NOTE: Quantities shown in the column "Est. Volume" are ESTIMATED ONLY. These estimates are the County's best determination of the discharge volume, based upon site-determinable information and accepted estimating methods. However, such estimates are subject to a high number of variables which are completely beyond the County's control and which can have a significant effect upon the calculated amount. Therefore, these estimates are to be used for relative comparison only, not as actual discharge volumes.

Event No.	Date Reported	Date Reported Location	Collection System	Ultimate Destination	Est. Vol. (gal)	Source	Cause	Weather	Action Taken	Person Reporting	Title
M04486	12/7/13 Notes:	M04486 12/7/13 1009 & 1021 Brie St Notes:	Village - West of WWTP (Remainder of System)	Drainage Ditch	1,152	Manhole	Grease/ Rags	Light Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04487	12/9/13 Notes:	M04487 12/9/13 661 Ave W Notes:	Village - East of WWTP	Storm Drain	103	Manhole	Grease	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04496	12/18/13 Notes:	M04496 12/18/13 1153 2nd St N Notes:	Village - East of WWTP	Drainage Ditch	294	Manhole	Grease/ Rags	No Rain	Blockage Removed	Brian Champion	Sewer Maintenance Supervisor
M04497	12/18/13 Notes:	M04497 12/18/13 444 23rd Ave W	Village - East of WWTP	Storm Drain	10,200	Cleanout	Gravity Main Break/ Gravel	No Rain	Blockage Removed/Line Repaired	Brian Champion	Sewer Maintenance Supervisor

# Village Creek Wastewater Treatment Plant <u>ATTACHMENT 3</u> – MWPP Sewage Sludge <u>SURVEY</u>



#### **MWPP SEWAGE SLUDGE SURVEY**

Facility Background Information:			
1. Facility Information		Permit Number:	AL0023647
Name:	Village Creek WWT	P	
Street Address:	1440 Pleasant Hill F		
County:	Jefferson		
2. Facility Contact			
Name:	Greg James		
Title:	Plant Manager		
Telephone:	205-791-6405		
Permittee Name:	Jefferson County Co		
Mailing Address:		hard Arrington Jr. Blvd N	l.
	Birmingham, Al 352	03	
Facility Flow Information			
•			
Facility Wastewater Treatment Ca		04.00.6.7.000.44.5	MOD
Avg. Daily Flow for 201:		01-23.6 / 002-14.5	MGD
Facility Design Capacity	y: C	01-60 / 002-60	MGD
2. Estimated Septage Quantity Hand	dled (Residuals Remov	ed from Sentic Tank Sys	stems)
Average Domestic Sept	•	,	er month
Average Commercial S		<del></del>	er month (GREASE)
, wordgo commordial c	<u> </u>	94110110 p	or month (Ortertor)
<ol> <li>Method of Septage Processing</li> <li>X Mixed with Influent</li> </ol>	Wastewater for Treatn	nent	
Mixed with Sewage	Sludge		
			,
4. Estimated Percentage Contributing	ng Wastewater Flow		
Residential: 87	%		
Industrial: 8	%		
Other: 5	% Descri	be: Commer	cial
			_
5. List type of wastewater treatment	. , ,	•	
Screening, Grit Remova		· · · · · · · · · · · · · · · · · · ·	
Chlorination, Dechlorina	ation, Sand filtration, U	v Disinfeciton	_
C. Fatimated assume aludes westing	v vota ot this facility.		المامية
6. Estimated sewage sludge wasting	rate at this facility:	444000	_ lb/day dry weight
		or <u>144000</u>	_ gallons per day
7 Estimated untreated sludge receive	ved from off site:	NI/Δ	lh/day dry weight
7. Estimated untreated sludge received	ved from off site:	N/A	_ lb/day dry weight
7. Estimated untreated sludge received	ved from off site:	N/A or	_ lb/day dry weight _ gallons per day

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Cravity Thinks win				ludge Quanti ted pounds p	•
Gravity Thickenir	<u>ig</u>				
Mesophyllic Anaerobic Digestion  Mechanical Dewatering (Centrifuge) an	d Lime Sta	hlization			
The state of the s		511 <u>2</u> 4(1511			
10. Estimate the total volume of sludge	e generated	:		3,231	<del>,</del>
			(dry C	J.S. tons per	year)
Sludge Disposal Methods					
1. Which of the following describes the	current me	ethod of sew Current F		this facility: Proposed	Practices
	Approved	by ADEM	Quantity	Approved	
a ard and Anglication B. II	<u>Yes</u>	<u>No</u>	(dry U.S. tons/year)	<u>Yes</u>	<u>No</u>
a. X Land Application, Bulk Shipped			3,231		
☐ Agriculture	0		0,201		
☐ Forest					
Public Contact					
☐ Lawn/Home Garden					
b. 🛘 Land Application,					
Bagged/Other Container					
Agriculture					
☐ Forest					
☐ Public Contact					
Lawn/Home Garden					
c. 🏻 Incineration					
c. I momeration	-	u		<b>-</b>	
d. 🛘 Subtitle D Landfill	_	_		_	_
(Disposal Only)					
e. 🛘 Lined Treatment Lagoon or Stabilization Pond					
f. Dunlined Lagoon or	_	<b>u</b>		<b>-</b>	
Stabilization Pond					
g. DOther (Please Describe)					
			_		
•			<u>-</u> '		
			-		
<ol><li>If "f" was selected above and sludge</li></ol>			*	e between th	ne
surface disposal site and the property li	ne:	N/A	feet		

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1. Enter the total concentrations of the following analytes using existing data. Do not enter TCLP results.

	Concentration	Sample	Sample	Detection Level of
Analyte	(mg/kg or ppm)	Type	Date	Analysis
Arsenic	<pql< td=""><td>Grab</td><td>Yearly Average</td><td>11</td></pql<>	Grab	Yearly Average	11
Cadmium	<pql< td=""><td>Grab</td><td>Yearly Average</td><td>8</td></pql<>	Grab	Yearly Average	8
Chromium	39.00	Grab	Yearly Average	8
Copper	400.00	Grab	Yearly Average	8
Lead	55.00	Grab	Yearly Average	. 15
Mercury	1.90	Grab	Yearly Average	0.6
Molybdenum	8.30	Grab	Yearly Average	5
Nickel	38.00	Grab	Yearly Average	6
Selenium	<pql< td=""><td>Grab</td><td>Yearly Average</td><td>15</td></pql<>	Grab	Yearly Average	15
Zinc	1,013.00	Grab	Yearly Average	18
Ammonium- Nitrogen	N/A	N/A	N/A	N/A
Nitrate-				
Nitrogen	N/A	N/A	N/A	N/A
Total Kjeldahl Nitrogen	14,642.00	N/A	N/A	N/A

2. Enter the analysis:	e estimated or 30	determined percent soli _%	ids of the sewage sludge when sam	ipled for the above
		ewage Sludge at the Fa	•	
		en reduction does the se	ewage sludge meet at the facility?	(As defined in
40 CFR Pai				
l	Class A	A4 Time and Tananan	-4	
		A1 - Time and Temper		
	_	A2 - Alkaline Treatmen		
		A3 - Analysis and Oper	ration	
		A4 - Analysis Only	han Dadoos Dathanna (DEDD)	
			her Reduce Pathogens (PFRP)	П. и
	_	Heat Drying	Thermophilic Aerobic Digestion	_
		Pasteurization	☐ Gamma Ray Irradiation	Beta Ray Irradiation
		Composting	П	П
	□ Alternative	A6 - PFRP Equivalent		
•	X Class B			
4		B1 - Fecal Coliform Co	unt	
			cantly Reduce Pathogens (PSRP)	П. А
		Aerobic Digestion	Air Drying	Anaerobic Digestion
		Composting	Lime Stabilization	
	u Aiternative	B3 - PSRP Equivalent		

**Vector Attraction Control** 

Neither or Unknown

☐ Option 1 - Minimum 38% Reduction in Volatile Solids

☐ Option 2 - Anaerobic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction

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🛚 Option 4 -	Specific Oxygen Uptake Rate (SOUR) for Aerobically Digested Sludge
	Aerobic Processes plus Elevated Temperature
	Raised pH to 12 and Retained at 11.5
	75% Solids with no Unstabilized Solids
	90% Solids with Unstabilized Solids
	Injection Below Land Surface - Incorporation into Soil within 6 or 8 Hours
	Covering Active Sewage Sludge Unit Daily
☐ None of th	
l None of the	ie Above
Groundwater Monitoring	g
1. If disposal practice is performed at the site?	s surface disposal or land application, is groundwater monitoring required or
□ Yes	(If yes, please submit a copy of the groundwater monitoring reports along with this
X No	survey. Also please provide the approximate depth to groundwater and the
	groundwater monitoring procedures used to obtain the data.)
Land Application of Sev	vage Sludge
	uestions if sewage sludge is applied to land. land applied in bulk form, what type of crop or other vegetation is grown on this site?
Tifton Bermuda Grass,	
-	land applied in bulk form, what is the nitrogen requirement for this crop or vegetation?
600 lbs/acre/year (Recl	amation Site)
3. If sewage sludge is ineighbors?	land applied in bulk form, briefly describe the nature of any complaints filed from
No complaints have be	en received.

**Note:** Permittees that submitted the "Annual Report Review Form" for sludge to the EPA may submitt a copy with the MWPP in lieu of this Attachment.

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# Village Creek Wastewater Treatment Plant <u>ATTACHMENT 4</u> – Plant and Collection System Personnel Inventory



								North Control of the		W19-11-11-11-11-11-11-11-11-11-11-11-11-1	TO ATTA CONTROL KANDOLINA NO DE CANDO
PLA	NT PERSONNEL INVENTORY										
	ACILITY NAME	Village Creek WWTP				PLANT GRADE	IV				
	PERMIT NUMBER	AL0023647									
	PLANT MANAGER	Greg James				TEL#	205-793				
	DEPARTMENT DIRECTOR	David Denard				TEL#	205-327	7-8232			
	PLANT OPERATORS:										
	NAME	GRADE		OPERATO	OR NO.	EXP. DATE					
1	Gregory James	IV		C0009	89	3/31/2015	1				
2	Terrence Lane	IV		C0034	137	3/31/2015	1				
3	Frederick Deamues	IV	***************************************	C0018	885	3/31/2015	1				
4	Paul Hardisty	IV		C0010	001	2/28/2015	1				
5	Linda Jackson	IV		C0009	952	12/31/2014	1				
6	Ryan Tyler	IV		C0029	23	6/30/2015	1				
7	Tim Gilliland	IV	14.5	C0048	366	9/30/2014	1				
8	Corey Bates	IV		C0015	83	2/28/2013	]				
9	Rickie Hogeland	IV		C0008	355	11/30/2015	]				
10	Orlando Walker	IV		C0005	36	11/30/2015					
11	Brenda Scott	IV		C0025	69	6/30/2015					
12	Fred Cooper	IV		C0017	44	11/30/2015					
13	Kim Passmore	IV		C0053	868	8/31/2013					
	COLLECTION SYSTEM	M OPERATORS:									
1	Brian Champion	1(C)		C002094		6/30/2015					
2	Don Goodwin	1(C)		C005423		6/30/2015					
	Lavon Evans	1(C)		C004631		12/31/2014					
4	Brian Rohling	1(C)		C005418		6/30/2015					
		<u> </u>									
						1					
		MAN HRS/W		NUME	BER						
	MANAGEMENT/SUPERVISOR		320		8		AVERAG			OYEES PER SH. 1	IFT:
	OPERATORS:							1ST	29	START TIME	8:00 AM
	GRADE IV		200		5	1		2ND	4		4:00 PM
	MAINTENANCE		200		7	1		3RD	4		12:00 AM
	OTHER PLANT WORKERS	L	960	<u> </u>	22	]		4th	4		12:00 AM
1	OPERATOR SHIFTS NORMALLY WO	Color of the company of the Mathematical Color						5gh	4		12:00 PM
	Shift	Hours	Mon	Tues	Wed	Thu	Fri	Sat	Sun		
	1st	12 am to 8 am	Χ	Х	Х	Х	Χ				
	2nd	8 am to 4 pm	Х	Х	Х	Х	Χ				
	3rd	4 pm to 12 am	Χ	X	Х	Х	Χ				
	4th	12 am to 12 pm						Χ	Х		
	5th	12 pm to 12 am						Х	Х		
	\									YES	NO
	. DOES PLANT OPERATOR STAFFING O	COMPLY WITH DIVISION :	10 OF AD	EM ADMINISTE	RATIVE CO	DE?					

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

FACILITY NAME:	Sewer Line M	laintenance	_			. <u>j</u>	PLANT GRA	ADE:	IV
PERMIT NUMBER:			-						
PLANT SUPERINTENDE	ENT:							TEL.#	(205) 540-
SYSTEM MANAGER:		David Denard	<u> </u>					TEL.#	(205) 325-
PLANT OPERATORS:									
				DE OR			,		
	NAME		TRAINE	E STATUS		PERATOR NO	١.	EXP. D	ATE
Brian Champion			I(c)		C002094	!			/30/2015
Don Goodwin			I(c)		C005423	3		6	/30/2015
Lavon Evans			I(c)		C004631			12	/31/2014
Brian Rohling			l(c)		C005418	3		6	/30/2015
					-	•			
		<del>.</del>			ļ	<u> </u>			
					1				
					1				
MANAGEMENT/SUPER	VISOR	MAN H	IRS./WK	NUMBER					
MANAGEMENT/SUPER'	VISOR	MAN H	IRS./WK	NUMBER					
	VISOR GRADE I-C	MAN H	IRS./WK	NUMBER					
			IRS./WK	NUMBER		AVERAGE NU	JMBER OF I	EMPLOYI	EES PER SI
	GRADE I-C		irs./wk	NUMBER		AVERAGE NU	IMBER OF I	EMPLOYI	EES PER S
	GRADE I-C GRADE I		IRS./WK	NUMBER		AVERAGE NU	JMBER OF I		EES PER SI
	GRADE I-C GRADE I GRADE II		IRS./WK	NUMBER		_	JMBER OF I		
	GRADE I-C GRADE I GRADE II GRADE III GRADE IV		IRS./WK	NUMBER		1ST	JMBER OF I		
OPERATOR(S):	GRADE I-C GRADE I GRADE II GRADE III GRADE IV		IRS./WK	NUMBER		1ST 2ND	IMBER OF I		
OPERATOR(S):  DESIGNATED TRAINEE  LABORATORY  MAINTENANCE	GRADE I-C GRADE I GRADE III GRADE IV		IRS./WK	NUMBER		1ST 2ND	IMBER OF I		
OPERATOR(S):  DESIGNATED TRAINEE  LABORATORY	GRADE I-C GRADE I GRADE III GRADE IV		IRS./WK	NUMBER		1ST 2ND	JMBER OF I		
OPERATOR(S):  DESIGNATED TRAINEE  LABORATORY  MAINTENANCE	GRADE I-C GRADE II GRADE III GRADE IV E(S)			NUMBER		1ST 2ND	JMBER OF I		
OPERATOR(S):  DESIGNATED TRAINEE LABORATORY MAINTENANCE OTHER PLANT WORKE	GRADE I-C GRADE II GRADE III GRADE IV E(S)			NUMBER	FRI	1ST 2ND	IMBER OF I		
OPERATOR(S):  DESIGNATED TRAINEE LABORATORY MAINTENANCE OTHER PLANT WORKE	GRADE I-C GRADE II GRADE III GRADE IV E(S)	ED EACH DA	Y:			1ST 2ND 3RD	IMBER OF I		
OPERATOR(S):  DESIGNATED TRAINEE LABORATORY MAINTENANCE OTHER PLANT WORKE  OPERATOR SHIFTS NO	GRADE I-C GRADE II GRADE III GRADE IV E(S)	ED EACH DA	Y:			1ST 2ND 3RD	IMBER OF I		
OPERATOR(S):  DESIGNATED TRAINEE LABORATORY MAINTENANCE OTHER PLANT WORKE  OPERATOR SHIFTS NO SUN 1ST	GRADE I-C GRADE II GRADE III GRADE IV E(S)	ED EACH DA	Y:			1ST 2ND 3RD	JMBER OF I		
DESIGNATED TRAINEE LABORATORY MAINTENANCE OTHER PLANT WORKE OPERATOR SHIFTS NO SUN 1ST 2ND	GRADE I-C GRADE II GRADE III GRADE IV E(S)	ED EACH DA	Y:			1ST 2ND 3RD	JMBER OF I		
DESIGNATED TRAINEE LABORATORY MAINTENANCE OTHER PLANT WORKE OPERATOR SHIFTS NO SUN 1ST 2ND	GRADE I-C GRADE II GRADE III GRADE IV E(S)	ED EACH DA	Y:			1ST 2ND 3RD	JMBER OF I		
DESIGNATED TRAINEE LABORATORY MAINTENANCE OTHER PLANT WORKE  OPERATOR SHIFTS NO SUN 1ST 2ND 3RD	GRADE I-C GRADE II GRADE III GRADE IV E(S)	ED EACH DA TUES	Y: WED	THURS	FRI	1ST 2ND 3RD	JMBER OF I		

#### Municipal Water Pollution Prevention (MWPP) Annual Report Calendar Year 2013

For the

#### **Warrior WWTP**

as required by the Alabama Department of Environmental Management NPDES Program



Prepared by Jefferson County Commission Environmental Services Department

May 31, 2014

#### JEFFERSON COUNTY COMMISSION



DAVID CARRINGTON - PRESIDENT GEORGE F. BOWMAN SANDRA LITTLE BROWN - PRESIDENT PRO TEMPORE T. JOE KNIGHT JAMES A."JIMMIE" STEPHENS

May 31, 2014

Mr. Nic Caraway Alabama Department of Environmental Management Water Division – Municipal Branch P.O. Box 301463 Montgomery, AL 36130-1463

RE: Municipal Water Pollution Prevention (MWPP) Annual Report Calendar Year 2013

Mr. Caraway:

The Jefferson County Environmental Services Department submits the above referenced report for the Warrior Wastewater Treatment Facility, NPDES Permit No. AL0050881. Included is information as required in ADEM Form 41701/06ml, bypass/overflow event reports, MWPP Sewage Sludge Survey, and the Plant & Collection System Personnel Inventory.

If you have any questions regarding this information, please contact me at 205.325.5979 or Celeste Brown at Jefferson County Barton Laboratory at 205.238.3859.

Sincerely,

David Denard, Director
Environmental Services Department

**DAVID CARRINGTON - COMMISSIONER** 

TONY PETELOS, COUNTY MANAGER

Office of

**ENVIRONMENTAL SERVICES** 

Director of Environmental Services

716 Richard Arrington, Jr. Blvd. N. Birmingham, Alabama 35203 Telephone (205) 325-5496

DAVID DENARD

Fax (205) 325-5981

Suite A-300

pc: Celeste Brown, JCESD Barton Laboratory
Daniel White, JCESD Deputy Director
Chad Quick, Warrior WWTP

#### MUNICIPAL WATER POLLUTION PREVENTION (MWPP) ANNUAL REPORT

#### SUBMITTED BY:

TREATMENT FACIL	LITY: Warrior WWTP	NPDES #:_AL0050881		
MUNICIPALITY: Jef	ferson County	COUNTY:Jefferson		
CONTACT PERSON	. David Denard			
	Municipal Official			
	Director of Environmental Services			
	Title	·		
	Telephone #: (205)325-5806	_ Fax #:		
	Email Address: denardd@jccal.org			
CHIEF OPERATOR:	Chad Quick			
	Name			
	Telephone #: (205)681-7971	_ Fax #:_(205)680-8139		
	Email Address: quickc@jccal.org			
	Date:			
REVIEWED BY:	Daniel White P.E. ESD Engineer			
	Consulting Engineer			
ו	Γelephone #: (205) 214-8610	_Fax #: (205)325-5688		
ĭ	Date: May 14, 2014			

#### MWPP Annual Report Information Source List

The following information will be needed to complete the compliance maintenance report that covers the calendar year of 2013 (due May 31, 2014 ).

- Part 1 A. The average plant influent flow for each month (million gallons per day/MGD) during the year.
  - B. The average plant influent BOD (CBOD) for each month (mg/l and lb/day) in the year.
  - C. The 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 the year
  - B. The monthly average effluent limits and DMR loading for BOD, TSS, NH3-N, and/or TKN in lbs/day for the year
- Part 3 The age of the 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 minus the year the new construction was brought on-line.
- Part 4 Bypass and overflow information. This is the number of bypass or overflow events of untreated wastewater due to heavy rain or equipment failure whether intentional or inadvertent from all collection systems tributary to the treatment facility.
- Part 5 A. Describe the characteristics and quantity of sludge generated.
  - B. If sludge is landspread, how many months of sludge storage does the plant have? This should include on-site and off-site storage from the treatment plant. The digestor capacity may be used in the calculation.
- Part 6 A. Sludge Disposal Method
  - B. The number of approved land disposal sites for sludge available, and how many months or years these disposal sites will these be available for use.
- Part 7 The number of sewer extensions installed in the community last year--the design population, design flow, and design BOD for each sewer extension.
- Part 8 Operator Certification
- Part 9 Financial Status
- Part 10 Subjective Evaluation
- Part 11 Summary Sheet

State of Alabama MWPP Annual Report Department of Environmental Management

#### 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 the actions necessary to prevent effluent violations. Enter the point totals from Parts 1 through 8 on Part 11: Summary Sheet.
- 3. Add the point totals on Part 11: Summary Sheet.
- 4. Submit the MWPP Report to the governing body and the consulting engineer and owner for review and approval.
- 5. The governing body should pass a resolution which contains the following points:
  - a. The resolution should acknowledge the governing body or owner has reviewed the MWPP Report.
  - b. The resolution should indicate what actions will be taken to prevent effluent violations.
  - c. The resolution should provide any other information the governing body or owner deems appropriate.
- 6. The MWPP Report and the resolution must be submitted by May 31<sup>st</sup> to Municipal Section, Water Division, ADEM, P.O. Box 301463, Montgomery, AL 36130-1463.

Facility Name:	Warrior WWTP			
-			 	
Part 1: Influen	t Loading/Flows			

A. List the average monthly volumetric flows and BOD<sub>5</sub> (CBOD<sub>5</sub>) loadings received at your facility during the last calendar year.

<u>Month</u>	Column 1 Average Monthly Flowrate (MGD)	Column 2 Average Monthly BOD <sub>5</sub> (CBOD <sub>5</sub> ) Concentration (mg/l)	Column 3 Average Loading BOD <sub>5</sub> (CBOD <sub>5</sub> ) (lbs/day**)
January	0.13	178	166
February	0.12	254	264
March	0.11	177	163
April	0.15	261	303
May	0.14	257	282
June	0.11	251	226
July	0.11	324	296
August	0.12	248	253
September	0.07	345	222
October	0.04	476	169
November	0.05	294	95
December	0.10	247	192
Annual Avg.	0.10	276	219

<sup>\*\*</sup>As reported on NPDES Discharge Monitoring Reports (DMRs) and as required by EPA's NPDES Self-Monitoring System, User Guide, March 1985.

B. List the average design flow and average design BOD<sub>5</sub> loading for the facility below. If you are not aware of these design quantities, contact your consulting engineer or the Alabama Department of Environmental Management.

	Average Design Flow	Average Design BOD <sub>5</sub> Loading (lbs/day)
Design Criteria	0.20 mgd	475.0
90% of the Design Criteria	0.18 mgd	427.5

C.	How many times did	the monthly flow (Column 1) to the WWTP exceed 90% of design flow?
	(Check the ap	ppropriate point total)
	<b>✓</b>	
	0 - 4 = 0 points	5 or more $=$ 5 points

D.	How many tin	nes did the monthl	y flow (Column 1)	to the WWTP exceed the	e design flow?
	(Check t	he appropriate po	int total)		C
	<b>~</b>				
	0 = 0 points	1 - 2 = 5 points	$3 - 4 = \overline{10}$ points	5 or more = $\frac{\Box}{15}$ points	

E.	How many times did	l the monthly $\mathrm{BOD}_5$ (c	or CBOD <sub>5</sub> )* loading (lbs/day) (Column 3) to the	he
	WWTP exceed 90%	of the design loading	?(Check the appropriate point total)	
	0 - 1 = 0 points	2 - 4 = 5 points	5 or more = $10$ points	

F.	How many times did the monthly BOD <sub>5</sub> (or CBOD <sub>5</sub> )* loading (lbs/day) (Column 3) to the WWTP exceed the design loading? (Check the appropriate point total)					
	0 = 0 points	1 = 10 points	2 = 20 points	3 = 30 points	4 = 40 points	5 or more = $50$ points

G.	Enter each point value marked for Cthrough F and enter the sum in the appropriate blank
	below.

C points = 
$$\frac{0}{0}$$
D points =  $\frac{0}{0}$ 
E points =  $\frac{0}{0}$ 
F points =  $\frac{0}{0}$ 

TOTAL POINTS VALUE OR PART 1 0 Enter this value on Part 11: Summary Sheet.

<sup>\*</sup>To obtain equivalent  $BOD_5$  loading for comparison with design loading for those permittees using influent  $CBOD_5$ , divide annual average  $CBOD_5$ , 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 BOD<sub>5</sub>, (CBOD<sub>5</sub>) TSS, NH<sub>3</sub>-N and/or TKN concentration produced by the facility during the last calendar year.

#### (1) NPDES Permit Concentration

D	<u>Months</u>	$(CBOD_5)$ $(mg/l)$	TSS (mg/l)	NH <sub>3</sub> -N (mg/l)	TKN (mg/l)
Permit Limit	April- Oct	18.0	24.0	1.2	Report
	Nov- March	25.0	24.0	2.1	Report

#### (2) DMR Concentration

<u>Qtr</u>	<u>Month</u>	BOD <sub>5</sub> (CBOD <sub>5</sub> ) (mg/l)	TSS (mg/l)	NH <sub>3</sub> -N (mg/l)	TKN (mg/l)
1	January	0.93	1.7	0.01	n/a
	February	0.81	4.2	0.02	n/a
	March	0.96	0.59	0.00	n/a
2	April	1.5	0.83	0.03	0.33
	May	1.6	2.0	0.01	0.59
	June	1.2	2.3	0.02	0.80
3	July	1.2	3.4	0.02	0.31
	August	1.8	3.3	0.00	0.67
	September	2.0	2.4	0.00	0.66
4	October	0.75	1.3	0.00	1.4
	November	1.1	2.4	0.03	n/a
	December	1.6	2.4	0.03	n/a
	Annual Avg.	1.3	2.2	0.01	0.68

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

#### (1) NPDES Permit Loading

Permit	<u>Months</u>	BOD <sub>5</sub> (CBOD <sub>5</sub> ) (lbs/day)	TSS (lbs/day)	NH3-N (lbs/day)	TKN (lbs/day)
Limit	April-Oct	15.0	20.0	1.0	Report
	Nov-March	20.8	20.0	1.7	Report
(2) DM	R Loading				
<u>Qtr</u>	<u>Month</u>	BOD <sub>5</sub> (CBOD <sub>5</sub> ) (lbs/day)	TSS (lbs/day)	NH <sub>3</sub> -N (lbs/day)	TKN (lbs/day)
1	January	1.2	2.9	0.003	n/a
	February	0.90	4.2	0.01	n/a
	March	0.91	0.50	0.0	n/a
2	April	1.7	0.96	0.03	0.19
	May	1.9	2.5	0.0	0.59
	June	0.94	2.2	0.02	1.0
3	July	1.2	3.4	0.02	0.25
	August	1.9	3.4	0.0	1.2
	September	1.3	1.9	0.0	0.28
4	October	0.27	0.56	0.0	0.46
	November	0.47	1.1	0.03	n/a
	December	1.6	1.9	0.04	n/a
	Annual Avg.	1.2	2.1	0.01	0.57

C. During the past year did the BOD<sub>5</sub> 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? (Check the appropriate point total.)

No = 
$$0$$
 points  $Yes = 121$  points

D.	During the past year did the $BOD_5$ concentration (mg/l) and/or loading (lbs/day), exceed the monthly average permit limit during four months of any two consecutive quarters? (Check the appropriate point total.)  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? (Check the appropriate point total.)  No = 0 points  Yes = $121$ points
F.	During the past year did the TSS concentration (mg/l) and/or loading (lbs/day) exceed the monthly average permit limit during four months of any two consecutive quarters? (Check the appropriate point total.)  No = $0$ points  Yes = $121$ points
G.	During the past year did the NH <sub>3</sub> -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? (Check the appropriate point total.)  No = 0 points  Yes = $121$ points
Н.	During the past year did either the $NH_3$ -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? (Check the appropriate point total.)  V $\square$ No = 0 points $\square$ Yes = 121 points
I.	Enter each point value checkedfor C through H in the blanks below.
	C Points = 0 $D Points = 0$
	E Points = 0
	F Points = 0

HIGHEST INDIVIDUAL POINT VALUE FOR PART 2 (C-H)  $\underline{\circ}$  (HIGHEST POINT = 121) Enter this value on Part 11: Summary Sheet.

G Points =  $\frac{0}{0}$ H Points =  $\frac{0}{0}$ 

	lity Name: Warrior WWTP	
<u>Pari</u>	3: Age of the Wastewater Treatment Facility	
A.	What year was the wastewater treatment plant const	ructed or last reconstructed?
	Subtract the above answer from the report year to de	etermine age:
	Age = (Last Calendar year) - (Answer to A)	
	Age $\frac{7}{}$ = $(2013)$ - $(2006)$	_) -
	Enter Age in Part C below.	
B.	Check the type of treatment facility employed.	
		Factor
	2.0 Mechanical Treatment Plant	2.0
	Aerated Lagoon	1.5
	Stabilization Pond	1.0
	Other (Specify:)	1.0
C.	Multiply the factor listed next to the type of the factor facility to determine the total point value for	
	2.0   x 7.0 = 14   TOTAL POINT VA	ALUE FOR PART 3

$$\frac{2.0}{\text{(Factor)}}$$
 x  $\frac{7.0}{\text{(Age)}}$  =  $\frac{14}{\text{TOTAL POINT VALUE FOR PART 3}}$ 

Enter the above value on Part 11: Summary Sheet. If the total point value exceeds 40, enter 40 on Part 11: Summary Sheet.

Faci	lity Name: Warrior WWTP
Part	4: Bypassing and Overflows
A.	How many bypass or overflow events of untreated wastewater occurred in the last year at the WWTP due to heavy rain? 0
В.	How many bypass or overflow events of untreated wastewater occurred in the last year prior to the headworks of the WWTP due to heavy rain? 0
C.	How many of the bypass or overflow events listed in Parts A and B have been corrected such that future bypass or overflow events at the same location due to heavy rain are not anticipated?   Output
D.	Add together Answers A and B and subtract Answer C from that total. A + B - C = (Check the appropriate point total.) 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 WWTP due to equipment failure? (This includes clogged/broken lines or manholes.) o
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 WWTP? (This includes clogged/broken lines or manholes.) 0
G.	How many of the bypass or overflow events listed in Parts E and F have been corrected such that future bypass or overflow events at the same location due to the same equipment failure are not anticipated? 0
Н.	Add together Answers E and F and subtract Answer G from that total. E + F - G = (Check the appropriate point total.) $0 = 0$ 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 point values circled in D and H and enter the total in the blank below.
	AL POINT VALUE FOR PART 4 0 r this value on Part 11: Summary Sheet.
	All bypass or overflow events that have occurred in the last year (for any reason) must

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be individually reported with this MWPP report.

Faci	lity Name: Warrior WWTP
Part	5: Sludge Quantity and Storage
A.	Please provide information concerning sludge quantity, characteristics, and storage practice based on available data as requested on the MWPP Sewage Sludge Survey, ADEM Form 419.
B.	How many months of sludge storage capacity does the wastewater treatment facility have available, either on-site or off-site? (i.e., How many months can the facility operate without land spreading or disposing of sludge?) 4
	(Check the appropriate point total.)  Greater than or equal to 4 months  Less than 4 months, but greater than or equal to 3 months  Less than 3 months, but greater than or equal to 2 months  Less than 2 months, but greater than or equal to 1 month  Less than one month  ■ 20 points  ■ 30 points  ■ 50 points
Ente	TAL POINT VALUE FOR PART 5 _0 r this value on Part 11: Summary Sheet.  6: Sludge Disposal Practices and Sites
A.	Please provide the sludge disposal practices and site information based on available data as requested on the MWPP Sewage Sludge Survey, ADEM Form 419.
В.	How many months or years does the facility have access to and approval for sufficient land disposal sites to provide proper land disposal? (Check the appropriate point total.)
	36 or more months = 0 points ☐ 24 - 35 months = 10 points ☐ 12 - 23 months = 20 points ✓ 6 - 11 months = 30 points ☐ Less than 6 months = 50 points ☐
	AL POINT VALUE FOR PART 6 20

Facility Name: Warrior WWTP		_		
Part 7: New Development				·
Are there any major new calendar year or anticipated the sewage system could sign	d in the next 2-3 years s	uch that eith	er flow or BOD	loadings to
Design Population: Equivalent (PE)	Design Flow:	MGD	Design BOD <sub>5</sub> :	lbs/day
List industrial and/or resid	ential developments.			
No major new developments are pla	anned.	·		
		<del>.</del>		
Will the additional loading	g overload the plant? (Cho	eck the appro	ppriate point total	.)
No = 0 points $\boxed{\checkmark}$ Enter the point total in the b				
TOTAL POINT VALUE FOR PA Enter this value on Part 11: Summ		oint total = 1	21)	
	·			
Part 8: Operator Certification				
Complete the <i>Plant and Collection</i>	n System Personnel Inven	tory, ADEM	I Form 441.	
Do both the plant operator a Code; Division 10, Operator	and collection system state r Certification Program?	ffing comply (Check the a	with ADEM Adpropriate point t	ministrative otal.)
Yes = 0  points	No = $121$ points			
TOTAL POINT VALUE FOR PA Enter this value on Part 11: Summ		t point total	= 121)	

Faci	lity Name: Warrior WWTP
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? <i>Include user charge rates</i> .
	Revenues are sufficient. The below values are based on a 5/8" meter and 6000 gallons of water use.
	Jefferson County has a three tier block rate structure for residential users for 0-3, 4-6, and 7+ccf water use.
	Residential Minimum 15.00 Plus rate 6.02, 9.36, 10.69 /1,000 gal.
	Industrial Minimum 15.00 Plus rate 10.51 /1,000 gal.
	Monthly residential rate based on 6,000 gallons usage \$_56.04 (includes 15% credit for residential)
	ase complete the above information based on your user charge rates for the report year. You attach a sample water and sewer bill for clarity.
B.	What financial resources are available to pay for the wastewater improvements and/or reconstruction needs?
	In 2013, Jefferson County issued Series 2013 Sewer Warrants that fund capital improvements
	through 2023 at an annual average rate of \$71.9 million over the 10-year period.
Part	10: Subjective Evaluation
A.	Describe briefly the physical and structural conditions of the wastewater treatment facility.
	The WWTP was newly constructed in 2006 and is in excellent condition.
В.	Describe the general condition of the sewer system (sewer lines, manholes, lift stations).
	The Warrior system includes roughly 50,000' of pipe and 2 pump stations. The system's historical rate of
	SSO's/100 miles of sewer is exceptional. There are no known capacity deficiencies.
	The general condition of the system is good.

What i	is the theoretical design life of the plant, and what is the estimated remaining useful litwastewater treatment facility?
Calcula	ated remaining useful life of the structures is 42 years (50 years - 8 years age of facility).
Calcula	ated remaining useful life of the equipment is 17 years (25 years - 8 years of equipment).
Based	on EPA's 2002 Clean Water and Drinking Water Infrastructure Gap Analysis Report.
What ր system	problems, if any, over the last year have threatened treatment or conveyance within the
None	
Is the d	community presently involved in formal planning for treatment facility upgrading?
No No	ommunity presently involved in formal planning for treatment facility upgrading?
-	
How n	nany days in the last year were there residential backups at any point in the collection for any reason other than clogging of the lateral connection? 1
system Does tl	hany days in the last year were there residential backups at any point in the collection for any reason other than clogging of the lateral connection? 1
system Does tl yes, de	for any reason other than clogging of the lateral connection? 1  he plant have a written plan for preventive maintenance on major equipment items? I

Does this preventive maintenance program depict frequency of intervals, types of lubricatio and other preventive maintenance tasks necessary for each piece of equipment? (Check the appropriate response.) Yes No
Are these preventive maintenance tasks, as well as equipment problems, being recorded ar
filed so future maintenance problems can be assessed properly? (Check the appropria response.)  Yes  V    No
Describe any major repairs or mechanical equipment replacement made in the last year ar include the approximate cost for those repairs. Do not include major treatment placenstruction or upgrading programs.
None
· · · · · · · · · · · · · · · · · · ·
List any additional comments. (Attach additional sheets if necessary.)

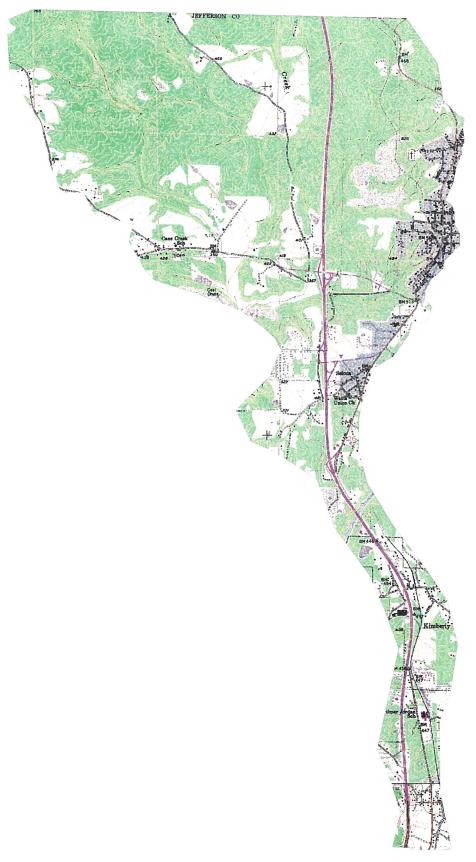
Facility Name: Warrior WWTP	<del></del>
Part 11: Summary Sheet	
1. Enter in the values from Parts 1 throleft column to determine the MWPI the previous calendar year.	ough 8 in the left column below. Add the numbers in the P Report point total the wastewater system generated for
Actual Values	Maximum Possible
Part 1 o points	80 points
Part 2 o points	121 points
Part 3 14 points	40 points
Part 4points	200 points
Part 5 opoints	50 points
Part 6 20 points	50 points
Part 7 opoints	121 points
Part 8 o points	121 points
Total 34 points	783 points
2. Check the facility type that best descri	ibes the plant's treatment and disposal of wastewater.
✓ Mechanical plant with surface water	discharge
Aerated Lagoon or stabilization pond	
Mechanical plant using land disposa  Aerated Lagoon or stabilization none	l of liquid wastes d using land disposal of liquid wastes
	a using mile disposar of inquite wastes
3. Check the range that describes the action of the following of the second of the following of the following as Applications as Applications as Applications of the following	ion needed to address problems identified in the report.
71 - 120 pts. Departmental	Recommendation Range*
*Other actions may be required by NPDE	
, <u>,</u>	and topolis
4. Complete the Municipal Water Pollut.	ion Prevention Resolution Form, ADEM Form 418.

]	In Question 1, do any of the actual point values in the left column equal the maximu possible points in the right column? (Check the appropriate response)  Yes  No					
]	If yes, provide a written explanation for this situation in the space below.					

## Warrior Wastewater Treatment Plant <u>ATTACHMENT 2</u> – Raw Sewage Bypass and <u>SUMMARY</u>



#### **WARRIOR BASIN 2013 DISCHARGES**



NOTE: OVERFLOWS SHOWN ARE OVER 10,000 GALLONS NONE REPORTED FOR WARRIOR BASIN.

JEFFERSON COUNTY ENVIRONMENTAL SERVICES PLOTTED: 2-11-14





# Summary of Unpermitted Discharges - Warrior

January 01, 2013 through December 31, 2013

NOTE: Quantities shown in the column "Est. Volume" are ESTIMATED ONLY. These estimates are the County's best determination of the discharge volume, based upon site-determinable information and accepted estimating methods. However, such estimates are subject to a high number of variables which are completely beyond the County's control and which can have a significant effect upon the calculated amount. Therefore, these estimates are to be used for relative comparison only, not as actual discharge volumes.

Title	
Person Reporting	
Action Taken	
Weather	
Cause	
Source	
Est. Vol. (gal)	
Ultimate Destination	
Collection System	
Date Reported Location	
Event No.	

Notes:

## No Unpermitted Discharges for 2013

## Warrior Wastewater Treatment Plant <u>ATTACHMENT 3</u> – MWPP Sewage Sludge <u>SURVEY</u>



#### **MWPP SEWAGE SLUDGE SURVEY**

Facility Ba	ckground Information:				
1. Facility	Information		Perm	nit Number:	AL005081
-	Name:	Warrior WWTP	•		
	Street Address:	700 Blackburn	Drive		
	County:	Jefferson			
2. Facility	Contact				
z. r domey	Name:	Chad Quick			
	Title:	Plant Supervis	or		
	Telephone:	(205) 681-7971			
	Permittee Name:	Jefferson Cou	nty Commiss	ion- Warrior V	VWTP
	Mailing Address:	Suite A-300, 71		*******	
	•	Birmingham A			
Facility Flo	w Information				
-	Wastewater Treatment C	apacity			
,	Avg. Daily Flow for 201		0.105	MGD	•
	Facility Design Capacit	ty:	0.2	MGD	
2. Estimat	ed Septage Quantity Han Average Domestic Sep Average Commercial S	otage:	emoved from S N/A N/A	Septic Tank Sys gallons po gallons po	er month
3. Method	of Septage Processing  Mixed with Influent  Mixed with Sewage	e Sludge	eatment N/A		
4. Estimat	ed Percentage Contributi	<del>-</del>	W		
	Residential: 95 Industrial: 0	— <u>%</u>			
	Industrial: 0 Other: 5	<del></del>	escribe:	Commerc	oial
	Other. 3			Commen	<u>Ciai</u>
5. List type	e of wastewater treatment	t process(es) utilize	ed at this facilit	:y:	
	Bar Screening, Grit R				
	Clarification, Travelin	g Bridge Sand Fil	tration, UV D	isinfection, St	ep Aeration
6. Estimat	ed sewage sludge wastin	g rate at this facility	<i>(</i> :		lb/day dry weight
	gg	J	or	1858	gallons per day
7. Estimat	ed untreated sludge rece	ived from off site:		N/A	lb/day dry weight
			or		_ gallons per day
8 Estimat	ed percent solids of comb	nined sewago sluda	e prior to trac	tment:	<b>2</b> %
, Louilidi	ea percent sonas of collic	JITTU SEWAYE SIUUU	10 01101 10 1169	unchi.	<b>∠</b> 70

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					udge Quant ed pounds p	•
Aerobic Digestion, Drying Be	ds (Air Dry	/ing)				
			<del>-</del> · · · · · · · · · · · · · · · · · · ·			
Estimate the total volume of sludge	e generated	<b>1</b> :		(dry U	25 J.S. tons per	year)
Sludge Disposal Methods						
. Which of the following describes the	current me			posal for	•	
	Annroved	Current F by ADEM	Practices Quanti	tv	•	l Practices I by ADEM
	Yes	No No	(dry U.S. tor	•	Yes	No
a. X Land Application, Bulk Shipped			25	•		
X Agriculture	Х				0	
						_
Public Contact						_
I Lawn/Home Garden		0				
b. I Land Application,						
Bagged/Other Container	п	п			п	п
☐ Agriculture					0	
☐ Forest		0				0
☐ Public Contact ☐ Lawn/Home Garden		0			D	0 0
ii Lawii/Home Garden	Ц	u .			Ц	ш
c. Incineration		0				
d. 🛘 Subtitle D Landfill						
(Disposal Only)						
e. 🛘 Lined Treatment Lagoon	П	-			п	-
or Stabilization Pond f. 🏻 Unlined Lagoon or						
Stabilization Pond						
g. [] Other (Please Describe)		0				
			- -			
			_			
. If "f" was selected above and sludge						

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<ol> <li>Enter the total concentrations of the following analytes using existing data. Do no</li> </ol>	t enter TCLP results.
---	-----------------------

	Concentration	Sample	Sample	Detection Level of
Analyte	(mg/kg or ppm)	Туре	Date	Analysis
Arsenic	<pql< td=""><td>Grab</td><td>*</td><td>11.0</td></pql<>	Grab	*	11.0
Cadmium	<pql< td=""><td>Grab</td><td>*</td><td>5.0</td></pql<>	Grab	*	5.0
Chromium	36	Grab	*	6.0
Copper	170	Grab	*	5.0
Lead	19	Grab	*	12.0
Mercury	8	Grab	*	0.0
Molybdenum	<pql< td=""><td>Grab</td><td>*</td><td>6.0</td></pql<>	Grab	*	6.0
Nickel	23	Grab	*	6.0
Selenium	<pql< td=""><td>Grab</td><td>*</td><td>12.0</td></pql<>	Grab	*	12.0
Zinc	653	Grab	*	8.0
Ammonium-				
Nitrogen	***************************************	N/A	N/A	N/A
Nitrate-				
Nitrogen	1111111111111111	N/A	N/A	N/A
Total Kjeldahl				
Nitrogen	37,000	Grab	*	0.09

	PQL=Practical Quantitative Limit	*= Yearly Average	
2.	Enter the estimated or determined percent solids	of the sewage sludge when sampled for the abo	ve

Neither or Unknown

analysis:	86	%		
Treatment	Provided for	Sewage Sludge at the Fa	acility	
			sewage sludge meet at the facility?(	(As defined in
40 CFR Pa				`
	☐ Class A			
	☐ Alternat	ive A1 - Time and Tempe	erature	
	_	ive A2 - Alkaline Treatme		
	☐ Alternat	ive A3 - Analysis and Ope	eration	
		ive A4 - Analysis Only		
			ther Reduce Pathogens (PFRP)	
		Heat Drying	Thermophilic Aerobic Digestion	Heat Treatment
		☐ Pasteurization	☐ Gamma Ray Irradiation	☐ Beta Ray Irradiation
		☐ Composting		
	Alternat	ive A6 - PFRP Equivalent	t	
	<b>X</b> Class B			
		ive B1 - Fecal Coliform C		
	☐ Alternat	ive B2 - Process to Signif	icantly Reduce Pathogens (PSRP)	
		Aerobic Digestion		Anaerobic Digestion
		Composting	Lime Stabilization	
	Alternat	ive B3 - PSRP Equivalent	t	

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<sup>\*=</sup> Yearly Average

Vector Attraction Control	
	num 38% Reduction in Volatile Solids
	robic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction
	pic Processes, with Bench-Scale Demonstration of Volatile Solids Reduction
	ific Oxygen Uptake Rate (SOUR) for Aerobically Digested Sludge
	pic Processes plus Elevated Temperature
	ed pH to 12 and Retained at 11.5
☐ Option 7 - 75%	Solids with no Unstabilized Solids
☐ Option 8 - 90%	Solids with Unstabilized Solids
🛮 Option 9 - Inject	ion Below Land Surface
X Option 10 - Inco	rporation into Soil within 6 or 8 Hours
	ering Active Sewage Sludge Unit Daily
☐ None of the Abo	
Groundwater Monitoring	
<b>3</b>	
1. If disposal practice is surfa	ace disposal or land application, is groundwater monitoring required or
performed at the site?	to an experience of taken approached, to grown a traction from to this form of the
·	yes, please submit a copy of the groundwater monitoring reports along with this
	rvey. Also please provide the approximate depth to groundwater and the
	bundwater monitoring procedures used to obtain the data.)
910	randwater monitoring procedures ased to obtain the data.)
Land Application of Sewage S	Sludge
A manufact that fall and in a more time.	es if sources aludes in annited to tour
	ns if sewage sludge is applied to land.
	pplied in bulk form, what type of crop or other vegetation is grown on this site?
Tifton Bermuda Grass, Rye	grass
O If a common about a circle and a	and the definition of the desired of
	pplied in bulk form, what is the nitrogen requirement for this crop or vegetation?
600lb/acre/year (Reclamation	n Site)
<ol><li>If sewage sludge is land a</li></ol>	pplied in bulk form, briefly describe the nature of any complaints filed from
neighbors?	
No complaints have been re	eceived.

**Note:** Permittees that submitted the "Annual Report Review Form" for sludge to the EPA may submit a copy with the MWPP in lieu of this Attachment.

ADEM FORM 419 8/02 Page 4 of 4

## Warrior Wastewater Treatment Plant <u>ATTACHMENT 4</u> – Plant and Collection System Personnel Inventory



FACILITY NAME: Warrior WWTP					PLANT GRADE:				
PERMIT NUMBER	R: AL 0050	0881				_			
PLANT SUPERINT	TENDENT:	Chad Qu	ick	<u>.</u>			TEL.#	(205)681-7971	
SYSTEM MANAG	ER:	David De	enard				TEL.#	(205)326-8232	
PLANT OPERATO	PRS:								
	NAME		_	DE OR E STATUS	0	PERATOR NO.	EXP	. DATE	
Eric Pond				IV		C003706	2/28	3/2016	
Mark Lee				IV	C000389			1/2016	
Chad Quick				IV		C003616		3/2015	
Pat McCarty		<del> </del>		IV		C003224			
Adam Moore				IV	<del>-</del>	C006513		/1/2014	
		<del></del>		10		0000313	117	1/2014	
						"		<del></del>	
		· · · · · · · · · · · · · · · · · · ·				·			
COLLECTION SYS	STEM OPERAT	ORS:				·			
						•	<del>-   .</del>		
	UPERVISOR GRADE I-	MAN H	RS./WK 20	NUMBER		AVERAGE NUMBE	R OF EMPLOY	/EES PFR SHIFT:	
MANAGEMENT/S	UPERVISOR	MAN H				AVERAGE NUMBE	R OF EMPLOY	/EES PER SHIFT:	
MANAGEMENT/S	UPERVISOR GRADE I- GRADE GRADE GRADE I	MAN H	20 /////////	3		1ST 1		TEES PER SHIFT:	
MANAGEMENT/S OPERATOR(S):	UPERVISOR GRADE I- GRADE GRADE I GRADE I	MAN H				1ST 1 2ND		<del> </del>	
MANAGEMENT/S OPERATOR(S): DESIGNATED TR	UPERVISOR GRADE I- GRADE GRADE I GRADE I	MAN H	20 /////////	3		1ST 1		<del> </del>	
MANAGEMENT/S OPERATOR(S):	UPERVISOR GRADE I- GRADE GRADE I GRADE I	MAN H	20 //////////	3		1ST 1 2ND		<del> </del>	
MANAGEMENT/S OPERATOR(S): DESIGNATED TR	UPERVISOR  GRADE I-  GRADE I  GRADE I  GRADE I  AINEE(S)	MAN H	20 //////////	3		1ST 1 2ND		<del> </del>	
MANAGEMENT/SI OPERATOR(S):  DESIGNATED TRI LABORATORY MAINTENANCE OTHER PLANT W	UPERVISOR  GRADE I-  GRADE I  GRADE I  GRADE I  AINEE(S)	MAN H	20 ////////////////////////////////////	3		1ST 1 2ND		<del> </del>	
MANAGEMENT/S OPERATOR(S):  DESIGNATED TR. LABORATORY MAINTENANCE OTHER PLANT W OPERATOR SHIF	UPERVISOR  GRADE I-  GRADE I  GRADE I  GRADE I  AINEE(S)  ORKERS	MAN H  12  C  III  V  8	20 30 ACH DAY:	2	EDI	1ST 1 2ND 3RD		<del> </del>	
MANAGEMENT/S OPERATOR(S):  DESIGNATED TR LABORATORY MAINTENANCE OTHER PLANT W OPERATOR SHIF	UPERVISOR  GRADE I-  GRADE I  GRADE I  AINEE(S)  ORKERS  TS NORMALLY	MAN H 12 C C III III V 8 WORKED EA TUES	ACH DAY: WED	3 ///////// 2 THURS	FRI X	1ST 1 2ND 3RD		<del> </del>	
MANAGEMENT/S OPERATOR(S):  DESIGNATED TR. LABORATORY MAINTENANCE OTHER PLANT W OPERATOR SHIF	UPERVISOR  GRADE I-  GRADE I  GRADE I  AINEE(S)  ORKERS  TS NORMALLY	MAN H  12  C  III  V  8	20 30 ACH DAY:	2	FRI X	1ST 1 2ND 3RD		<del> </del>	

PLANT AND COLLECTION SYSTEM PERSONNEL INVENTORY

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

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

YES	NO
X	
ADEM FORM 444	0/00

		PLANT A	ND COLL	ECTION S	SYSTEM F	PERSO	NNEL INVI	ENTORY		
FACILITY NAI PERMIT NUM		Sewer Line M	aintenance	-			ļ	PLANT GRADE:		<u>iV</u>
PLANT SUPE	RINTENDEN	NT:		-				TEL.	# (205) 5	40-7585
SYSTEM MAN	NAGER:		David Denard	1				TEL.		25-5979
PLANT OPER	RATORS:									
				1	DE OR					
		AME			STATUS	+	PERATOR NO	). EXF	P. DATE	ļ
1. Brian Champie	on			l(c)		C00209			6/30/2015	
2 Don Goodwin				l(c)		C00542			6/30/2015	
3. Lavon Evans				I(c)		C00463	1		12/31/2014	
4. Brian Rohling				I(c)		C00541	8		6/30/2015	]
5.										]
6.										]
7										
8.										]
9.										
10.										
1	TOTOTEMO	TENTONS.								
4.				1	•				<u>-</u>	Ì
MANAGEMEN OPERATOR(S		SOR GRADE I-C	MAN H	RS./WK	NUMBER	]				
		GRADE I			<del> </del>	1	AVÉDACE NII	NADED OF TAID!	OVEEC DEE	
		GRADE II				1	AVERAGE NU	JMBER OF EMPL	OYEES PER	(SHIFT:
		GRADE III				1	1ST		START TIME	
		GRADE IV			<del>                                     </del>	1	2ND	·	SIAKI IIME	
DESIGNATED	TDAINEE/					1	3RD			-
LABORATOR		<b>&gt;</b> )			-	1	אטר			
MAINTENANO					-	-				
OTHER PLAN	_	98			<b>†</b>	1				
		RMALLY WORK	ED EACH DA	Y:						
	SUN	MON	TUES	WED	THURS	FRI	SAT			
1ST		1		· · · · ·	1	T				
2ND		1		Í		<b>1</b>				
3RD		1		1	<del> </del>	<b>1</b>				
ADEM USE ONLY				•	·				YES	NO
1. DOES PLANT	OPERATOR	STAFFING COM	PLY WITH DIVIS	SION 10 OF ADI	EM ADMINISTR	ATIVE CO	DE?			
2. DOES COLLE	ECTION SYST	EM OPERATOR	STAFFING COM	IPLY WITH DIV	ISION 10 OF AD	EM ADMII	NISTRATIVE COL	DE?		
									ADEM FOR	M 441 8/02

#### **JEFFERSON COUNTY COMMISSION**



DAVID CARRINGTON – PRESIDENT GEORGE BOWMAN SANDRA LITTLE BROWN JOE KNIGHT JIMMIE STEPHENS Daniel White, P.E. – Deputy Directo ENVIRONMENTAL SERVICES

Environmental Services Department Suite A300 716 Richard Arrington, Jr. Blvd. N. Birmingham, Alabama 35203 Telephone (205) 325-5496 Fax (205) 325-5981

February 18, 2014

Certified Mail 7010 1870 0003 1330 9443 Return Receipt Requested

EPA Region 7 ATTN: BIOSOLIDS CENTER WWPD/WENF 11201 Renner Boulevard Lenexa, Kansas 66219

RE: Jefferson County Commission - 2013 Annual Biosolids Report

Please find enclosed the 2013 Annual Biosolids Monitoring Report for the Jefferson County Environmental Services Department Biosolids Land Reclamation Program. This report is respectfully submitted in accordance with the requirements of 40 CFR Part 503.

Sincerely,

Daniel A. White, P.E.

Deputy Director

Environmental Services Dept.

cc:

File

#### JEFFERSON COUNTY COMMISSION ENVIRONMENTAL SERVICES DEPARTMENT

JEFFERSON COUNTY, ALABAMA



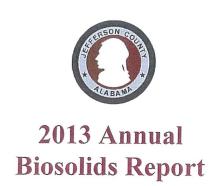
#### **BIOSOLIDS MANAGEMENT PROGRAM**

**Jefferson County Land Reclamation Program** 



REPORT PREPARED BY:

JEFFERSON COUNTY ENVIRONMENTAL SERVICES DEPARTMENT



#### **Certification Statement**

#### **Executive Summary**

#### **Project Information**

Jefferson County WWTPs
Flat Top/Bessie Mines Land
Reclamation Site
Beltona Land Reclamation Site

#### **Biosolids Analysis**

Test Methodology Analysis Results Sample Specimen Collection Sheets

#### **Agronomic Rate Calculations**

Design Considerations Calculations

#### Appendix A

Agronomic Rate Justification Letter "Worksheet for Calculating Biosolids Application Rates in Agriculture"

#### Appendix B

Flat Top/Bessie Mine VAR Summary Beltona VAR Summary

#### Appendix C

- 1 Jefferson County Map
- 2 Flat Top/Bessie Mines Land Reclamation Site
- 3 Beltona Land Reclamation Site

#### 2013 EPA ANNUAL BIOSOLIDS REPORT

#### JEFFERSON COUNTY ENVIRONMENTAL SERVICES DEPARTMENT BIRMINGHAM, ALABAMA

Enclosed is the 2013 Annual Biosolids Monitoring Report for the Jefferson County Environmental Services' **Biosolids Land Reclamation Program**. This report is respectfully submitted to the Environmental Protection Agency (EPA) Region IV in accordance with the requirements of 40 CFR Part 503.

#### Information provided in this report includes:

- 1. Certification Statement for management practices, site restrictions, pathogen requirement, and vector attraction reduction requirements.
- 2. Executive Summary.
- 3. Project information for the Biosolids Management Program, including Jefferson County Wastewater Treatment Facility information and land application site data.
- 4. Biosolids testing methodology and analysis results, including sample collection forms.
- 5. Agronomic calculations, rate justification letter and sample worksheet for calculating agronomic rates.
- 6. Vector Attraction Reduction Statistics.
- 7. Land application site maps.

### SECTION 1 CERTIFICATION STATEMENT

#### CERTIFICATION STATEMENT FOR THE PREPARER and APPLIER OF BULK SEWAGE BIOSOLIDS

I certify, under penalty of law, that the information that will be used to determine compliance with the management practices in §503.14, the site restrictions in §503.32 (b)(5), the Class B pathogen requirements in §503.32(b), and the vector attraction reduction requirements in §503.33(b)(6) or (10)(i) was prepared for each site on which bulk sewage sludge is 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.

<u>David Denard - Director, Jefferson County Environmental Services Department</u> Printed Name and Position

## SECTION 2 EXECUTIVE SUMMARY

## **EXECUTIVE SUMMARY**

The Jefferson County Environmental Services Department utilizes land application as the method of disposal for the biosolids currently produced by its wastewater treatment facilities. There are currently nine (9) wastewater treatment facilities operated by the Environmental Services Department. During 2013, these facilities treated an average daily flow of 124 MGD of wastewater and produced 10,956 dry tons of biosolids that were sent for land application. Seven (7) of the County's wastewater treatment facilities are Class I Publicly-Owned Treatment Works (POTWs), and therefore subject to the 40 CFR Part 503 reporting regulations.

Throughout 2013, the biosolids produced by Jefferson County's wastewater treatment facilities were land applied at two (2) former strip mine sites. Jefferson County is assisting the property owner, the United Land Corporation, in the reclamation of both sites through the land application of biosolids.

The Flat Top/Bessie Mines Land Reclamation Site (Flat Top) is located in northwestern Jefferson County and is approximately 4,670 acres total in size, with approximately 2,700 acres being disturbed through previous mining activities. Biosolids from nine (9) wastewater treatment facilities were applied at this site during 2013.

The Beltona Land Reclamation Site, located in northern Jefferson County, is approximately 1,000 acres in size, with about one-third of the site being previously disturbed through mining activities. Biosolids from two (2) wastewater treatment facilities were applied at Beltona during 2013.

Applicable site restrictions, general requirements, and management practices have been met at both Land Reclamation Sites. Biosolids were applied to both sites using the "Pollutant Concentration" (PC) option. Pathogen and vector attraction reduction requirements and all required site restrictions for Class "B" biosolids were also met.

## SECTION 3 PROJECT INFORMATION

## JEFFERSON COUNTY

## WASTEWATER TREATMENT FACILITIES

System:

Jefferson County Commission/Environmental Services Department

716 Richard Arrington, Jr. Boulevard North

Birmingham, AL 35203

#### **Summary:**

The Jefferson County Environmental Services Department currently operates nine wastewater treatment facilities. During 2013, these facilities treated an average daily flow of 124 MGD of wastewater and produced 10,956 dry (English) tons of biosolids that were land applied. Seven of the County's wastewater treatment facilities are Class I POTWs, and therefore subject to the 40 CFR Part 503 reporting regulations.

Cla	ss I POTWs:	<b>Dry Tons of Biosolids Land Applied</b>
1.	Cahaba River Wastewater Treatment Plant NPDES Permit No. AL0023027	1,207
2.	Five Mile Creek Wastewater Treatment Plant NPDES Permit No. AL0026913	1,021
3.	Leeds Wastewater Treatment Plant NPDES Permit No. AL0022297	373
4.	Trussville Wastewater Treatment Plant NPDES Permit No. AL0022934	614
5.	Turkey Creek Wastewater Treatment Plant NPDES Permit No. AL0022936	251
6.	Valley Creek Wastewater Treatment Plant NPDES Permit No. AL0023655	4,111
7.	Village Creek Wastewater Treatment Plant NPDES Permit No. AL0023647	3,231
Non-	Class I POTWs (<1.0 MGD):	
1.	Prudes Creek Wastewater Treatment Plant NPDES Permit No. AL0056120	123
2.	Warrior Wastewater Treatment Plant NPDES Permit No. AL0050881	25
		TOTAL: 10,956 Dry Tons

## Reporting Requirements:

Based on the quantity of biosolids land applied during 2013, the required frequency of monitoring was six times per year. However, Jefferson County typically performs biosolids monitoring on a monthly basis (twelve times per year).

### Pathogen Requirements:

Class "B" pathogen requirements were met through Alternative 1: The Monitoring of Fecal Coliform [503.32(b)(2)]. The geometric mean fecal coliform density per gram of dry biosolids was less than 2 million colony-forming units for each sampling event (see Biosolids Analysis Results).

## **Vector Attraction Reduction Summary:**

The Valley Creek and Village Creek wastewater treatment facilities primarily utilized Option 6: Addition of Alkaline Material [503.33(b)(6)] for vector attraction reduction of their biosolids. The lime stabilized biosolids from the Valley Creek and Village Creek WWTPs account for approximately 49% of the County's total land applied biosolids. Only the alkaline stabilized biosolids from the Valley Creek and Village Creek WWTPs were land applied at the Beltona Land Reclamation Site in 2013 (21% of the total from these facilities). The remaining biosolids from these two sites and the seven other WWTPs were land applied at the Flat Top/Bessie Mines application site and were incorporated into the soil within six hours of application as described in Option 10: Incorporation of Biosolids into the Soil [503.33(b)(10)(i)]. This Option 10 method of vector attraction reduction applied to approximately 86% of the County's total biosolids land applied during 2013. The Valley Creek WWTP also met vector attraction reduction requirements through Option 1: Volatile Solids Reduction by a minimum of 38 percent [503.33(b)(1)] after July 25, 2013 as a secondary method.

## FLAT TOP/BESSIE MINES

## **LAND RECLAMATION SITE**

System:

Jefferson County Commission/Environmental Services Department

716 Richard Arrington, Jr. Boulevard North

Birmingham, AL 35203

#### **Reporting Period:**

January 1, 2013 to December 31, 2013

#### **Site Address:**

5201 Flat Top Road, Graysville, AL 35073

#### **Site Description:**

The Flat Top Land Reclamation Site is a former strip mine site, 4,670 acres total in size, with approximately 2,700 acres being previously disturbed through mining activities. Jefferson County is assisting the property owner in the reclamation of this site through the land application of biosolids. Biosolids were land applied on roughly 423 acres at the site in 2013.

There is currently marginal soil mass present at this site for growing vegetation and, in order to build adequate soil mass, biosolids are recommended to be applied at a rate of 600 lb Nitrogen/Ac/year. When soil mass becomes adequate to sustain crop growth, Tifton Bermuda and Rye grass will be planted for nitrogen uptake.

#### Source of Biosolids:

During 2013, biosolids from nine wastewater treatment facilities were land applied at this site.

#### Quantity:

A total of 9,391 dry (English) tons of biosolids were applied at the Flat Top Land Reclamation Site during 2013. Biosolids were applied to Plot 3 of the site (see Figure 2). Of the total dry tons applied, 3,834 tons were lime stabilized and 5,557 tons were not lime stabilized.

#### **Pollutant Limits:**

Biosolids were applied to this site using the "Pollutant Concentration" (PC) option (see 2013 Biosolids Analysis Results). In order to be representative of insitu conditions, monthly biosolids samples were taken from each treatment facility and then blended according to each facility's disposal ratio. Biosolids testing was then performed on this "blended" sample.

### Pathogen Requirements:

Class "B" pathogen requirements were met through Alternative 1: The Monitoring of Fecal Coliform [503.32(b)(2)]. The geometric mean fecal coliform density per gram of dry biosolids was less than 2 million colony-forming units for each sampling event (see 2012 Biosolids Analysis Results).

## Vector Attraction Reduction Requirements:

The Valley Creek and Village Creek wastewater treatment facilities primarily utilized lime stabilization for vector attraction reduction in the majority of their biosolids in accordance with Option 6: Addition of Alkaline Material [503.33(b)(6)]. To satisfy the requirements of Option 6, sufficient lime was added to the biosolids to raise the pH to at least 12 for 2 hours and at least 11.5 for an additional 22 hours, without the addition of more lime. Beginning in June and continuing into July, the Valley Creek WWTP intermittently tested whether the vector attraction reduction and pathogen requirements could be met through Option 1: Volatile Solids Reduction by a minimum of 38 percent [503.33(b)(1)]. The tests were successful, and the facility ceased using lime on July 25<sup>th</sup>. When biosolids from these treatment facilities are land applied at the Flat Top/Bessie Mines Reclamation Site, they are incorporated into the soil within six hours of application as well.

For biosolids received at the Flat Top Land Reclamation Site from the remaining treatment plants and the portion of biosolids from Valley and Village wastewater treatment facilities that did not receive lime stabilization, the method of vector attraction reduction used was Option 10: Incorporation of Biosolids into the Soil [503.33(b)(10)(i)]. These biosolids were land applied and incorporated into the soil within six hours of application on the land.

## **Management Practices and Site Restrictions:**

All applicable management practices stated in 503.14 were met at the site, including a minimum 100 ft. buffer zone around waters of the United States.

All applicable site restrictions stated in 503.32(b)(5) for Class "B" biosolids were also met. The Flat Top/Bessie Mines Land Reclamation site is in a remote area of Jefferson County and is located on private property; therefore there is no public access to the site.

## **BELTONA LAND RECLAMATION SITE**

System:

Jefferson County Commission/Environmental Services Department

716 Richard Arrington, Jr. Boulevard North

Birmingham, AL 35203

**Reporting Period:** 

January 1, 2013 to December 31, 2013

Site Address:

401-B Beltona Road, Warrior, AL 35180

Site Description:

The Beltona Land Reclamation Site, which is approximately 1,000 acres in size, is a former strip mine site located in northern Jefferson County. About one-third of the site has been utilized for biosolids land application, with plot sizes ranging from 3.0 acres to 20 acres. Jefferson County is assisting the property owner in the reclamation of this site through the land application of biosolids. Biosolids were land applied on roughly 143 acres at the site in 2013. Presently, Tifton Bermuda and Winter Rye grasses are grown at Beltona and are harvested several times a year as hay.

#### Source of Biosolids:

During January, February, and March 2013, biosolids from the Valley Creek and Village Creek wastewater treatment facilities were land applied at this site.

Quantity:

1,565 dry (English) tons of biosolids were land applied at the Beltona Land Reclamation Site during 2013.

#### **Pollutant Limits:**

Biosolids from two of the County's wastewater treatment facilities were applied to this site using the "Pollutant Concentration" (PC) option. Biosolids testing was performed on samples from these facilities at a frequency that meets or exceeds the minimum monitoring frequency requirement for each facility (see 2013 Biosolids Analysis Results).

### Pathogen Requirements:

Class "B" pathogen requirements were met through Alternative 1: The Monitoring of Fecal Coliform [503.32(b)(2)]. The geometric mean fecal coliform density per gram of dry biosolids was less than 2 million colony-forming units for each sampling event (see 2012 Biosolids Analysis Results).

## Vector Attraction Reduction Requirements:

For the biosolids land applied at the Beltona site, the Valley Creek and Village Creek wastewater treatment facilities utilized lime stabilization for vector attraction reduction of their biosolids, as described in Option 6: Addition of Alkaline Material [503.33(b)(6)]. To satisfy the requirements of Option 6, sufficient lime was added to the biosolids to raise the pH to at least 12 for 2 hours and at least 11.5 for an additional 22 hours, without the addition of more lime. Lime stabilized biosolids were then surface-applied at the Beltona Land Reclamation Site.

## **Management Practices and Site Restrictions:**

All applicable management practices stated in 503.14 were met at the site, including a minimum 100 ft. buffer zone around waters of the United States.

All applicable site restrictions stated in 503.32(b)(5) for Class "B" biosolids were also met. The Beltona Land Reclamation Site is in a remote area of Jefferson County and is located on private property; therefore there is no public access to the site.

## SECTION 4 BIOSOLIDS ANALYSIS

## TEST METHODS FOR BIOSOLIDS ANALYSIS

Based on the quantity of biosolids land applied at the Flat Top/Bessie Mine Land Reclamation Site during 2013, the required frequency of monitoring was six (6) times per year; however, Jefferson County typically performs biosolids monitoring on a monthly basis (see 2013 Biosolids Analysis Results). Each month, samples were collected from each treatment facility and blended according to each facility's disposal ratio in order to be representative of in-situ conditions. Biosolids testing was then performed on this "blended" sample.

For the Beltona Land Reclamation Site, biosolids samples from the two (2) contributing treatment facilities were collected at a frequency that meets or exceeds the minimum monitoring frequency requirement for each facility (see 2013 Biosolids Analysis Results).

#### **METALS ANALYSIS:**

Following is a list of the biosolids sample preparation and test methods used when performing metals testing:

METHODS FOR EVALUATING SOLID WASTE, SW846 METHODS:

Arsenic	3050B, 7060A
Cadmium	3050B, 7130
Chromium	3050B, 7190
Copper	3050B, 7210
Lead	3050B, 7420
Mercury	7471B
Molybdenum	3050B, 7481
Nickel	3050B, 7520
Selenium	3050B, 7740
Zinc	3050B, 7950

#### FECAL COLIFORM TESTING:

For each sampling event, seven (7) samples were collected and tested according to the procedure outlined in Part 9222D, Standard Methods for the Examination of Water and Wastewater, and Appendix F of EPA's Environmental Regulations and Technology, Control of Pathogens and Vector Attraction in Sewage Sludge. The geometric mean fecal coliform density per gram of dry biosolids was less than 2 million colony-forming units for each sampling event (see 2012 Biosolids Analysis Results). Serial dilutions were prepared in the range of 10<sup>1</sup> through 10<sup>6</sup>, and on some occasions 10<sup>7</sup>, thus enabling coliform colony counts of greater than 20 million.

# 2013 BIOSOLIDS ANALYSIS RESULTS FLAT TOP/BESSIE MINES LAND RECLAMATION SITE (Blended sample from all facilities)

g         mg/kg         mg/		As	Cd	Ċŗ	Cu	В	П			· ·			
98         1,400         76         1,300         1,400         76         2.3         18         73         13         3,700         73%           74         960         54         2.0         12         57 <pql< td="">         3,100         64%           110         1,500         73         <pql< td="">         13,00         70         18         72         <pql< td="">         3,700         58%           110         1,500         73         <pql< td="">         18         72         <pql< td="">         3,700         64%           110         1,500         68         2.1         19         65         12         2,900         65%         64%           67         660         51         2.0         11         55         <pql< td="">         2,900         65%         66%         65%         67%         64%         63%         64%         64%         65%         67%         64%         63%         64%</pql<></pql<></pql<></pql<></pql<></pql<>	43	mg/kg	mg/kg	mg/kg	mg/kg	mo/ka	ma//ra	IMIO Mar/le-	Z S	Se	Zn	% Moisture	Fecal Coliform
74         960         54         2.5         18         73         13         3,700         73%           110         1,500         54         2.0         12         57 <pql< td="">         3,100         64%           110         1,500         73         <pql< td="">         18         72         <pql< td="">         3,700         58%           110         1,500         68         2.1         19         65         12         2,900         65%           67         660         51         2.0         11         55         <pql< td="">         2,900         65%           67         660         51         2.0         11         55         <pql< td="">         2,900         65%           86         1,400         63         2.0         19         58         20         1,800         63%           120         1,400         82         <pql< td="">         2,1         0.0         55%         10         10         25%           130         1,500         77         2.2         17         83         <pql< td="">         4,500         55%           140         2,000         100         2.2         34         100         29</pql<></pql<></pql<></pql<></pql<></pql<></pql<>	)13	<pql< td=""><td><pql< td=""><td>86</td><td>1 400</td><td>376</td><td>May Ng</td><td>IIIg/Kg</td><td>mg/kg</td><td>mg/kg</td><td>mg/kg</td><td>mg/kg</td><td>CFU/g*</td></pql<></td></pql<>	<pql< td=""><td>86</td><td>1 400</td><td>376</td><td>May Ng</td><td>IIIg/Kg</td><td>mg/kg</td><td>mg/kg</td><td>mg/kg</td><td>mg/kg</td><td>CFU/g*</td></pql<>	86	1 400	376	May Ng	IIIg/Kg	mg/kg	mg/kg	mg/kg	mg/kg	CFU/g*
110         1,500         73         40L         3,100         64%           110         1,500         73         40L         18         72         40L         3,100         58%           110         1,500         73         40L         18         16         76         14         3,500         54%           110         1,600         68         2.1         19         65         12         2,900         65%           67         660         51         2.0         11         55         40D         2,900         65%           86         1,400         63         2.0         19         58         20         1,800         63%           130         1,400         82         40L         2,300         58%         20         1,800         63%           120         1,400         82         40L         2,300         58%         20         1,800         63%           130         1,200         83         1.9         73         1,300         63%         25%           140         2,000         100         2.2         34         100         29         4,500         39%	113	<pql< td=""><td><pql< td=""><td>74</td><td>096</td><td>5 2</td><td>2.0</td><td>18</td><td>73</td><td>13</td><td>3,700</td><td>73%</td><td>3</td></pql<></td></pql<>	<pql< td=""><td>74</td><td>096</td><td>5 2</td><td>2.0</td><td>18</td><td>73</td><td>13</td><td>3,700</td><td>73%</td><td>3</td></pql<>	74	096	5 2	2.0	18	73	13	3,700	73%	3
110         1,500         70         47ch         18         72         4PQL         3,700         58%           110         1,300         70         1.8         16         76         14         3,500         54%           110         1,600         68         2.1         19         65         12         2,900         65%           67         660         51         2.0         11         55         4PQL         2,300         65%           86         1,400         63         2.0         19         58         20         1,800         64%           130         1,400         82         4PQL         21         100         23         3,700         64%           120         1,500         77         2.2         17         83         4PQL         4,500         55%           110         1,700         67         4PQL         19         73         13         4,500         55%           140         2,000         100         2.2         34         100         29         4,500         71%           140         2,000         100         2.3         34         100         29	)13	<pql< td=""><td><pql< td=""><td>110</td><td>1 500</td><td>73</td><td>0.7</td><td>71</td><td>57</td><td>ZPQL APQL</td><td>3,100</td><td>64%</td><td>7,400</td></pql<></td></pql<>	<pql< td=""><td>110</td><td>1 500</td><td>73</td><td>0.7</td><td>71</td><td>57</td><td>ZPQL APQL</td><td>3,100</td><td>64%</td><td>7,400</td></pql<>	110	1 500	73	0.7	71	57	ZPQL APQL	3,100	64%	7,400
110         1,500         68         2.1         10         76         14         3,500         54%           67         660         51         2.0         11         55 <pql< td="">         2,900         65%           86         1,400         63         2.0         11         55         <pql< td="">         2,300         58%           86         1,400         63         2.0         19         58         20         1,800         64%           130         1,400         82         <pql< td="">         21         100         23         3,700         64%           120         1,500         77         2.2         17         83         <pql< td="">         4,500         55%           130         1,200         83         1.9         21         79         13         3,800         61%           140         2,000         100         2.2         34         100         29         3,500         71%           140         2,000         100         2.3         34         100         29         4,500         8           6.0         5.0         12         6.0         6.0         12         8         8<!--</td--><td>113</td><td><pql< td=""><td><pql< td=""><td>110</td><td>1,300</td><td>02</td><td>2 0</td><td>10</td><td>7.7</td><td>ZPQL</td><td>3,700</td><td>58%</td><td>1,400</td></pql<></td></pql<></td></pql<></pql<></pql<></pql<>	113	<pql< td=""><td><pql< td=""><td>110</td><td>1,300</td><td>02</td><td>2 0</td><td>10</td><td>7.7</td><td>ZPQL</td><td>3,700</td><td>58%</td><td>1,400</td></pql<></td></pql<>	<pql< td=""><td>110</td><td>1,300</td><td>02</td><td>2 0</td><td>10</td><td>7.7</td><td>ZPQL</td><td>3,700</td><td>58%</td><td>1,400</td></pql<>	110	1,300	02	2 0	10	7.7	ZPQL	3,700	58%	1,400
67         660         51         2.0         17         65         12         2,900         65%           86         1,400         63         2.0         11         55 <pql< td="">         2,300         58%           130         1,400         63         2.0         19         58         20         1,800         64%           130         1,400         82         <pql< td="">         21         100         23         3,700         64%           120         1,500         77         2.2         17         83         <pql< td="">         4,500         55%           130         1,200         83         1.9         21         79         13         3,800         61%           110         1,700         67         <pql< td="">         19         73         13         4,500         59%           140         2,000         100         2.2         34         100         29         3,500         71%           140         2,000         100         2.3         34         100         29         4,500           6.0         5.0         12         6.0         6.0         6.0         4,500           <t< td=""><td>113</td><td><pql< td=""><td><pql< td=""><td>110</td><td>1,500</td><td>68</td><td>1.0</td><td>0 2</td><td>9/</td><td>41</td><td>3,500</td><td>54%</td><td>1,900</td></pql<></td></pql<></td></t<></pql<></pql<></pql<></pql<>	113	<pql< td=""><td><pql< td=""><td>110</td><td>1,500</td><td>68</td><td>1.0</td><td>0 2</td><td>9/</td><td>41</td><td>3,500</td><td>54%</td><td>1,900</td></pql<></td></pql<>	<pql< td=""><td>110</td><td>1,500</td><td>68</td><td>1.0</td><td>0 2</td><td>9/</td><td>41</td><td>3,500</td><td>54%</td><td>1,900</td></pql<>	110	1,500	68	1.0	0 2	9/	41	3,500	54%	1,900
86         1,400         63         2.0         11         55         APQL         2,300         58%           130         1,400         63         2.0         19         58         20         1,800         64%           130         1,400         82         APQL         21         100         23         3,700         64%           120         1,500         77         2.2         17         83         APQL         4,500         55%           130         1,200         83         1.9         21         79         13         4,500         55%           140         2,000         100         2.2         34         100         29         3,500         71%           140         2,000         100         2.2         34         100         29         4,500         71%           6.0         5.0         12         6.0         6.0         6.0         12         6.0         6.0         12         8           -         1,500         300         17         -         420         100         2,800         -         -           -         4,300         840         57         75 <td>113</td> <td><pql< td=""><td><pol< td=""><td>67</td><td>099</td><td>20 2</td><td>1.7</td><td>13</td><td>3</td><td>17</td><td>2,900</td><td>65%</td><td>3,700</td></pol<></td></pql<></td>	113	<pql< td=""><td><pol< td=""><td>67</td><td>099</td><td>20 2</td><td>1.7</td><td>13</td><td>3</td><td>17</td><td>2,900</td><td>65%</td><td>3,700</td></pol<></td></pql<>	<pol< td=""><td>67</td><td>099</td><td>20 2</td><td>1.7</td><td>13</td><td>3</td><td>17</td><td>2,900</td><td>65%</td><td>3,700</td></pol<>	67	099	20 2	1.7	13	3	17	2,900	65%	3,700
130         1,400         82         2.0         19         58         20         1,800         64%           130         1,400         82 <pql< td="">         21         100         23         3,700         63%           120         1,500         77         2.2         17         83         <pql< td="">         4,500         55%           130         1,200         83         1.9         21         79         13         3,800         61%           110         1,700         67         <pql< td="">         19         73         13         4,500         59%           140         2,000         100         2.2         34         100         29         3,500         71%           140         2,000         100         2.3         34         100         29         4,500         71%           6.0         5.0         12         0.03         6.0         6.0         6.0         4,500         7,500           -         1,500         300         17         -         420         10         2,800         -           -         4,300         840         6.0         6.0         6.0         6.0</pql<></pql<></pql<>	013	<pql< td=""><td><pol< td=""><td>98</td><td>1 400</td><td>10</td><td>0.7</td><td></td><td>55</td><td>~PQL</td><td>2,300</td><td>28%</td><td>1,300</td></pol<></td></pql<>	<pol< td=""><td>98</td><td>1 400</td><td>10</td><td>0.7</td><td></td><td>55</td><td>~PQL</td><td>2,300</td><td>28%</td><td>1,300</td></pol<>	98	1 400	10	0.7		55	~PQL	2,300	28%	1,300
120         1,400         82 <pql< th="">         21         100         23         3,700         63%           120         1,500         77         2.2         17         83         <pql< td="">         4,500         55%           130         1,200         83         1.9         21         79         13         3,800         61%           110         1,700         67         <pql< td="">         19         73         13         4,500         59%           140         2,000         100         2.2         34         100         29         3,500         71%           140         2,000         100         2.2         34         100         29         3,400           140         2,000         100         2.3         34         100         29         4,500           6.0         5.0         12         0.03         6.0         6.0         12         8           -         1,500         300         17         -         420         100         2,800         -           -         4,300         840         57         75         420         100         7,500         -</pql<></pql<></pql<>	)13	<pol.< td=""><td>-POI</td><td>130</td><td>1,400</td><td>20</td><td>0.7</td><td>61</td><td>58</td><td>20</td><td>1,800</td><td>64%</td><td>0</td></pol.<>	-POI	130	1,400	20	0.7	61	58	20	1,800	64%	0
120         17         2.2         17         83 <pql< th="">         4,500         55%           130         1,200         83         1.9         21         79         13         3,800         61%           110         1,700         67         <pql< td="">         19         73         13         4,500         59%           140         2,000         100         2.2         34         100         29         3,500         71%           107         1385         72         1.5         19         74         <pql< td="">         3,400         74           140         2,000         100         2.3         34         100         29         4,500         71%           6.0         5.0         12         0.03         6.0         6.0         12         8         8           -         1,500         300         17         -         420         100         2,800         -           -         4,300         840         57         75         420         100         7,500         -</pql<></pql<></pql<>	013	Z-N-Z-Z-Z-Z-Z-Z-Z-Z-Z-Z-Z-Z-Z-Z-Z-Z-Z-Z	IOd>	120	1,400	78	ZPQL APQL	21	100	23	3,700	63%	0
130         1,200         83         1.9         21         79         13         3,800         61%           110         1,700         67 <pql< td="">         19         73         13         4,500         59%           140         2,000         100         2.2         34         100         29         3,500         71%           107         1385         72         1.5         19         74         <pql< td="">         3,400         71%           6.0         2,000         100         2.3         34         100         29         4,500         7           6.0         5.0         12         0.03         6.0         6.0         12         8         8           -         1,500         300         17         -         420         100         2,800         -           -         4,300         840         57         75         420         100         7,500         -</pql<></pql<>	013	IOd>	1200	120	1,500		2.2	17	83	<pql< td=""><td>4,500</td><td>55%</td><td>5 900</td></pql<>	4,500	55%	5 900
110       1,700       67 <pql< th="">       19       73       13       4,500       59%         140       2,000       100       2.2       34       100       29       3,500       71%         107       1385       72       1.5       19       74       <pql< th="">       3,400       71%         140       2,000       100       2.3       34       100       29       4,500       7         6.0       5.0       12       0.03       6.0       6.0       12       8       8         -       1,500       300       17       -       420       100       2,800       -         -       4,300       840       57       75       420       100       7,500       -</pql<></pql<>	013	IOQ.	7 7 7	130	1,200	83	1.9	21	79	13	3,800	61%	8 100
140       2,000       100       2.2       34       100       29       3,500       71%         107       1385       72       1.5       19       74 <pql< th="">       3,400         140       2,000       100       2.3       34       100       29       4,500         6.0       5.0       12       0.03       6.0       6.0       12       8         -       1,500       300       17       -       420       100       2,800       -         -       4,300       840       57       75       420       100       7,500       -</pql<>	21,7	7 7	3);	110	1,700	29	<pql< td=""><td>19</td><td>73</td><td>13</td><td>4,500</td><td>29%</td><td>23,100</td></pql<>	19	73	13	4,500	29%	23,100
107         1385         72         1.5         19         74 <pql< th="">         3,400           140         2,000         100         2.3         34         100         29         4,500           6.0         5.0         12         0.03         6.0         6.0         12         8           -         1,500         300         17         -         420         100         2,800         -           -         4,300         840         57         75         420         100         7,500         -</pql<>	013	727	7.7	140	2,000	100	2.2	34	100	29	3,500	71%	2 900
107         1385         72         1.5         19         74 <pql< th="">         3,400           140         2,000         100         2.3         34         100         29         4,500           6.0         5.0         12         0.03         6.0         6.0         12         8           -         1,500         300         17         -         420         100         2,800         -           -         4,300         840         57         75         420         100         7,500         -</pql<>		-											2,700
140         2,000         100         2.3         34         100         29         4,500           6.0         5.0         12         0.03         6.0         6.0         12         8           -         1,500         300         17         -         420         100         2,800           -         4,300         840         57         75         420         100         7,500	ge	<pql< td=""><td><pql< td=""><td>107</td><td>1385</td><td>72</td><td>u</td><td>9</td><td></td><td>100</td><td></td><td></td><td></td></pql<></td></pql<>	<pql< td=""><td>107</td><td>1385</td><td>72</td><td>u</td><td>9</td><td></td><td>100</td><td></td><td></td><td></td></pql<>	107	1385	72	u	9		100			
6.0         5.0         12         0.03         6.0         6.0         12         8           -         1,500         300         17         -         420         100         2,800         -           -         4,300         840         57         75         420         100         7,500         -	mm	<poi.< td=""><td>5.1</td><td>140</td><td>000</td><td>1 00</td><td>C: T</td><td>13</td><td>4</td><td>7,45</td><td>3,400</td><td></td><td></td></poi.<>	5.1	140	000	1 00	C: T	13	4	7,45	3,400		
6.0       5.0       12       0.03       6.0       6.0       12       8         -       1,500       300       17       -       420       100       2,800       -         -       4,300       840       57       75       420       100       7,500       -				A+T	7,000	007	2.3	34	100	29	4,500		
- 1,500 300 17 - 420 100 2,800 4,300 840 57 75 420 100 7,500			5.0	0.9	0.4	2							
- 1,500 300 17 - 420 100 2,800 4,300 840 57 75 420 100 7,500 -				2	0.0	71	0.03	0.0	0.9	12	8		
- 4,300 840 57 75 420 100 2,800	imit	41	30		1 500	000	Į.						
- 4,300 840 57 75 420 100	imit <sup>2</sup>	75	70		1,500	300	/_	,	420	100	2,800	1	
	mm	C/	Co		4,300	840	57	75	420	100	7,500	1	

All pollutant concentrations given on a dry-weight basis

PQL = Practical Quantitation Limit

<sup>1</sup> Pollutant Concentration Limits taken from Table 3, Part 503.13 <sup>2</sup> Ceiling Concentration Limits taken from Table 1, Part 503

\* Geometric mean fecal coliform density

## BELTONA LAND RECLAMATION SITE 2013 BIOSOLIDS ANALYSIS RESULTS (Valley Creek WWTP)

	Fecal Coliform	CFU/g*	0	0	0	14.000	21	0		000 20	23,000	170,000	130,000	140 000	130 000	000,000							3	
	% Moisture	mg/kg	%08	%08	77%	83%	84%	71%	75%	830%	0/00	86%	82%	83%	84%		-						1	
	Zn	mg/kg	1,200	1,300	830	1,200	970	710	098	1 400	1 500	1,500	1,600	1,900	1,900		1300	1 000	13,700		∞		2,800	7,500
		-	<pql< td=""><td><pql< td=""><td><pql< td=""><td><pql< td=""><td><pql< td=""><td><pql< td=""><td><pql< td=""><td><pol< td=""><td>\ POI</td><td>177</td><td>777</td><td><pql< td=""><td>19</td><td></td><td><poi< td=""><td>61</td><td></td><td></td><td>12</td><td></td><td>100</td><td>100</td></poi<></td></pql<></td></pol<></td></pql<></td></pql<></td></pql<></td></pql<></td></pql<></td></pql<></td></pql<>	<pql< td=""><td><pql< td=""><td><pql< td=""><td><pql< td=""><td><pql< td=""><td><pql< td=""><td><pol< td=""><td>\ POI</td><td>177</td><td>777</td><td><pql< td=""><td>19</td><td></td><td><poi< td=""><td>61</td><td></td><td></td><td>12</td><td></td><td>100</td><td>100</td></poi<></td></pql<></td></pol<></td></pql<></td></pql<></td></pql<></td></pql<></td></pql<></td></pql<>	<pql< td=""><td><pql< td=""><td><pql< td=""><td><pql< td=""><td><pql< td=""><td><pol< td=""><td>\ POI</td><td>177</td><td>777</td><td><pql< td=""><td>19</td><td></td><td><poi< td=""><td>61</td><td></td><td></td><td>12</td><td></td><td>100</td><td>100</td></poi<></td></pql<></td></pol<></td></pql<></td></pql<></td></pql<></td></pql<></td></pql<>	<pql< td=""><td><pql< td=""><td><pql< td=""><td><pql< td=""><td><pol< td=""><td>\ POI</td><td>177</td><td>777</td><td><pql< td=""><td>19</td><td></td><td><poi< td=""><td>61</td><td></td><td></td><td>12</td><td></td><td>100</td><td>100</td></poi<></td></pql<></td></pol<></td></pql<></td></pql<></td></pql<></td></pql<>	<pql< td=""><td><pql< td=""><td><pql< td=""><td><pol< td=""><td>\ POI</td><td>177</td><td>777</td><td><pql< td=""><td>19</td><td></td><td><poi< td=""><td>61</td><td></td><td></td><td>12</td><td></td><td>100</td><td>100</td></poi<></td></pql<></td></pol<></td></pql<></td></pql<></td></pql<>	<pql< td=""><td><pql< td=""><td><pol< td=""><td>\ POI</td><td>177</td><td>777</td><td><pql< td=""><td>19</td><td></td><td><poi< td=""><td>61</td><td></td><td></td><td>12</td><td></td><td>100</td><td>100</td></poi<></td></pql<></td></pol<></td></pql<></td></pql<>	<pql< td=""><td><pol< td=""><td>\ POI</td><td>177</td><td>777</td><td><pql< td=""><td>19</td><td></td><td><poi< td=""><td>61</td><td></td><td></td><td>12</td><td></td><td>100</td><td>100</td></poi<></td></pql<></td></pol<></td></pql<>	<pol< td=""><td>\ POI</td><td>177</td><td>777</td><td><pql< td=""><td>19</td><td></td><td><poi< td=""><td>61</td><td></td><td></td><td>12</td><td></td><td>100</td><td>100</td></poi<></td></pql<></td></pol<>	\ POI	177	777	<pql< td=""><td>19</td><td></td><td><poi< td=""><td>61</td><td></td><td></td><td>12</td><td></td><td>100</td><td>100</td></poi<></td></pql<>	19		<poi< td=""><td>61</td><td></td><td></td><td>12</td><td></td><td>100</td><td>100</td></poi<>	61			12		100	100
	Z.	mg/kg	31	38	25	43	38	32.	30	44	36	5 6	70	45	50		37	20			0.0		420	420
2	IMIO	mg/kg	2 ;		4401	7.8	9.1	<pql< td=""><td>9.8</td><td>13</td><td>12</td><td>5</td><td>07</td><td>19</td><td>22</td><td></td><td>11</td><td>19</td><td></td><td>0.7</td><td>0.0</td><td></td><td></td><td>75</td></pql<>	9.8	13	12	5	07	19	22		11	19		0.7	0.0			75
5	ma/lig	mg/wg	C.I	5.1	7045	1.7	1.4	1.4	1.0	<pql< td=""><td>2.4</td><td>~</td><td>7.0</td><td>1.9</td><td>1.7</td><td></td><td>1.3</td><td>2.4</td><td></td><td>0.02</td><td>0.03</td><td></td><td>/I</td><td>57</td></pql<>	2.4	~	7.0	1.9	1.7		1.3	2.4		0.02	0.03		/I	57
a d	mo/ka	3,4,8	30	84 6	25	/4	43	29	24	41	43	55	5	40	39		40	55		1.7	77	000	200	840
J		┦	000	220	720	0440	200	270	280	490	510	530	200	750	610		450	610		5.0		1 500	0000,1	4,300
Ċ	mg/kg	3,6	46	95	95	500	50	55	37	52	45	72	89	90	60		48	72		6.0				
Cd	mg/kg	<pol< td=""><td><poi,< td=""><td><poi.< td=""><td>- POI</td><td>Z V V</td><td>100</td><td>7 7</td><td>77/2</td><td>7 / CF</td><td><pql< td=""><td><pql< td=""><td><poi.< td=""><td>Z DOI</td><td>7</td><td></td><td><pql< td=""><td><pql< td=""><td></td><td>5.0</td><td></td><td>30</td><td>, ,</td><td>62</td></pql<></td></pql<></td></poi.<></td></pql<></td></pql<></td></poi.<></td></poi,<></td></pol<>	<poi,< td=""><td><poi.< td=""><td>- POI</td><td>Z V V</td><td>100</td><td>7 7</td><td>77/2</td><td>7 / CF</td><td><pql< td=""><td><pql< td=""><td><poi.< td=""><td>Z DOI</td><td>7</td><td></td><td><pql< td=""><td><pql< td=""><td></td><td>5.0</td><td></td><td>30</td><td>, ,</td><td>62</td></pql<></td></pql<></td></poi.<></td></pql<></td></pql<></td></poi.<></td></poi,<>	<poi.< td=""><td>- POI</td><td>Z V V</td><td>100</td><td>7 7</td><td>77/2</td><td>7 / CF</td><td><pql< td=""><td><pql< td=""><td><poi.< td=""><td>Z DOI</td><td>7</td><td></td><td><pql< td=""><td><pql< td=""><td></td><td>5.0</td><td></td><td>30</td><td>, ,</td><td>62</td></pql<></td></pql<></td></poi.<></td></pql<></td></pql<></td></poi.<>	- POI	Z V V	100	7 7	77/2	7 / CF	<pql< td=""><td><pql< td=""><td><poi.< td=""><td>Z DOI</td><td>7</td><td></td><td><pql< td=""><td><pql< td=""><td></td><td>5.0</td><td></td><td>30</td><td>, ,</td><td>62</td></pql<></td></pql<></td></poi.<></td></pql<></td></pql<>	<pql< td=""><td><poi.< td=""><td>Z DOI</td><td>7</td><td></td><td><pql< td=""><td><pql< td=""><td></td><td>5.0</td><td></td><td>30</td><td>, ,</td><td>62</td></pql<></td></pql<></td></poi.<></td></pql<>	<poi.< td=""><td>Z DOI</td><td>7</td><td></td><td><pql< td=""><td><pql< td=""><td></td><td>5.0</td><td></td><td>30</td><td>, ,</td><td>62</td></pql<></td></pql<></td></poi.<>	Z DOI	7		<pql< td=""><td><pql< td=""><td></td><td>5.0</td><td></td><td>30</td><td>, ,</td><td>62</td></pql<></td></pql<>	<pql< td=""><td></td><td>5.0</td><td></td><td>30</td><td>, ,</td><td>62</td></pql<>		5.0		30	, ,	62
As	mg/kg	<pql< td=""><td><pol< td=""><td><pol< td=""><td><poi,< td=""><td><poi.< td=""><td>Z-DOI</td><td>1000</td><td>7 7</td><td>ירלב.</td><td>SPQL SPQL</td><td><pql< td=""><td><pol< td=""><td>- POI</td><td>7</td><td></td><td>70.T</td><td>4PQL</td><td></td><td>11</td><td></td><td>41</td><td>75</td><td>C</td></pol<></td></pql<></td></poi.<></td></poi,<></td></pol<></td></pol<></td></pql<>	<pol< td=""><td><pol< td=""><td><poi,< td=""><td><poi.< td=""><td>Z-DOI</td><td>1000</td><td>7 7</td><td>ירלב.</td><td>SPQL SPQL</td><td><pql< td=""><td><pol< td=""><td>- POI</td><td>7</td><td></td><td>70.T</td><td>4PQL</td><td></td><td>11</td><td></td><td>41</td><td>75</td><td>C</td></pol<></td></pql<></td></poi.<></td></poi,<></td></pol<></td></pol<>	<pol< td=""><td><poi,< td=""><td><poi.< td=""><td>Z-DOI</td><td>1000</td><td>7 7</td><td>ירלב.</td><td>SPQL SPQL</td><td><pql< td=""><td><pol< td=""><td>- POI</td><td>7</td><td></td><td>70.T</td><td>4PQL</td><td></td><td>11</td><td></td><td>41</td><td>75</td><td>C</td></pol<></td></pql<></td></poi.<></td></poi,<></td></pol<>	<poi,< td=""><td><poi.< td=""><td>Z-DOI</td><td>1000</td><td>7 7</td><td>ירלב.</td><td>SPQL SPQL</td><td><pql< td=""><td><pol< td=""><td>- POI</td><td>7</td><td></td><td>70.T</td><td>4PQL</td><td></td><td>11</td><td></td><td>41</td><td>75</td><td>C</td></pol<></td></pql<></td></poi.<></td></poi,<>	<poi.< td=""><td>Z-DOI</td><td>1000</td><td>7 7</td><td>ירלב.</td><td>SPQL SPQL</td><td><pql< td=""><td><pol< td=""><td>- POI</td><td>7</td><td></td><td>70.T</td><td>4PQL</td><td></td><td>11</td><td></td><td>41</td><td>75</td><td>C</td></pol<></td></pql<></td></poi.<>	Z-DOI	1000	7 7	ירלב.	SPQL SPQL	<pql< td=""><td><pol< td=""><td>- POI</td><td>7</td><td></td><td>70.T</td><td>4PQL</td><td></td><td>11</td><td></td><td>41</td><td>75</td><td>C</td></pol<></td></pql<>	<pol< td=""><td>- POI</td><td>7</td><td></td><td>70.T</td><td>4PQL</td><td></td><td>11</td><td></td><td>41</td><td>75</td><td>C</td></pol<>	- POI	7		70.T	4PQL		11		41	75	C
	Date	1/15/2013	2/5/2013	3/5/2013	4/9/2013	5/7/2013	6/4/2013	7/16/2013	8/6/2012	0/10/2013	9/10/2013	10/1/2013	11/2/2013	12/3/2013	01021012		Average	Maximum		PQL		EO/PC Limit <sup>1</sup>	Ceiling I imit	Coming Limit

All pollutant concentrations given on a dry-weight basis

PQL = Practical Quantitation Limit

<sup>1</sup> Pollutant Concentration Limits taken from Table 3, Part 503.13 <sup>2</sup> Ceiling Concentration Limits taken from Table 1, Part 503

\* Geometric mean fecal coliform density

## 2013 BIOSOLIDS ANALYSIS RESULTS BELTONA LAND RECLAMATION SITE (Village Creek WWTP)

	As	PO	ئ	ئ	10	#.A	l l					
Date	mg/kg	mg/kg	mø/ko	ma/ka	ma/l/a	50	Mo	Z	Se	Zm	% Moisture	Fecal Coliform
1/15/2013	<pol< td=""><td><p0i< td=""><td>4.1</td><td>/130 //30</td><td>IIIB/NS</td><td>mg/kg</td><td>mg/kg</td><td>mg/kg</td><td>mg/kg</td><td>mg/kg</td><td>mg/kg</td><td>CFU/o*</td></p0i<></td></pol<>	<p0i< td=""><td>4.1</td><td>/130 //30</td><td>IIIB/NS</td><td>mg/kg</td><td>mg/kg</td><td>mg/kg</td><td>mg/kg</td><td>mg/kg</td><td>mg/kg</td><td>CFU/o*</td></p0i<>	4.1	/130 //30	IIIB/NS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	CFU/o*
2/5/2013	\POI_	<poi< td=""><td>7</td><td>021</td><td>10</td><td>6.7</td><td>0  </td><td>44</td><td><pql< td=""><td>1,100</td><td>71%</td><td>0</td></pql<></td></poi<>	7	021	10	6.7	0	44	<pql< td=""><td>1,100</td><td>71%</td><td>0</td></pql<>	1,100	71%	0
3/5/2013	<pol< td=""><td><poi.< td=""><td>41</td><td>450</td><td>/0</td><td>2.5</td><td>8.6</td><td>46</td><td><pql< td=""><td>1,100</td><td>70%</td><td>0</td></pql<></td></poi.<></td></pol<>	<poi.< td=""><td>41</td><td>450</td><td>/0</td><td>2.5</td><td>8.6</td><td>46</td><td><pql< td=""><td>1,100</td><td>70%</td><td>0</td></pql<></td></poi.<>	41	450	/0	2.5	8.6	46	<pql< td=""><td>1,100</td><td>70%</td><td>0</td></pql<>	1,100	70%	0
4/9/2013	\POI	Z-DOI	17	490	10	SPUL.		41	<pql< td=""><td>1,000</td><td>70%</td><td>0</td></pql<>	1,000	70%	0
5/7/2013	<pol.< td=""><td><poi< td=""><td>5</td><td>1400</td><td>90</td><td>2.1</td><td>7.9</td><td>42</td><td><pql< td=""><td>1,100</td><td>72%</td><td>0</td></pql<></td></poi<></td></pol.<>	<poi< td=""><td>5</td><td>1400</td><td>90</td><td>2.1</td><td>7.9</td><td>42</td><td><pql< td=""><td>1,100</td><td>72%</td><td>0</td></pql<></td></poi<>	5	1400	90	2.1	7.9	42	<pql< td=""><td>1,100</td><td>72%</td><td>0</td></pql<>	1,100	72%	0
6/4/2013	<poi.< td=""><td>Z\Z</td><td>30</td><td>0/4</td><td>0/</td><td>3.5</td><td>11</td><td>41</td><td><pql< td=""><td>1,100</td><td>73%</td><td>81</td></pql<></td></poi.<>	Z\Z	30	0/4	0/	3.5	11	41	<pql< td=""><td>1,100</td><td>73%</td><td>81</td></pql<>	1,100	73%	81
7/16/2013	<poi.< td=""><td>Z-DOJ</td><td>36</td><td>000</td><td>26</td><td>2.0</td><td>7.1</td><td>35</td><td><pql< td=""><td>026</td><td>71%</td><td>4</td></pql<></td></poi.<>	Z-DOJ	36	000	26	2.0	7.1	35	<pql< td=""><td>026</td><td>71%</td><td>4</td></pql<>	026	71%	4
8/6/2013	Z \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Z CPOI	20	350	43	1.6	6.2	35	<pql< td=""><td>890</td><td>65%</td><td>0</td></pql<>	890	65%	0
9/10/2013	Z > Z	IOQ>	44	360	51	<pql< td=""><td>6.5</td><td>35</td><td>12</td><td>970</td><td>%89</td><td></td></pql<>	6.5	35	12	970	%89	
10/1/2013	I CDO!	777	38	370	49	4.2	7.2	36	~PQL	1,000	%89	
11/0/1012	7 7	777	31	330	42	1.5	9.9	30	<pql< td=""><td>830</td><td>%89</td><td></td></pql<>	830	%89	
11/2/2013	7 A.C.	4PQL	38	390	51	0.46	8.2	37	<pot.< td=""><td>1 100</td><td>710/</td><td>0</td></pot.<>	1 100	710/	0
12/3/2013	<pql< td=""><td><pql< td=""><td>34</td><td>360</td><td>44</td><td>1.7</td><td>8.6</td><td>37</td><td>18</td><td>1,100</td><td>/ 1%0</td><td>0</td></pql<></td></pql<>	<pql< td=""><td>34</td><td>360</td><td>44</td><td>1.7</td><td>8.6</td><td>37</td><td>18</td><td>1,100</td><td>/ 1%0</td><td>0</td></pql<>	34	360	44	1.7	8.6	37	18	1,100	/ 1%0	0
							2		01	1,000	%/.9	0
Average	<pql< td=""><td><pql< td=""><td>39</td><td>400</td><td>55</td><td>10</td><td>× ×</td><td>20</td><td>1000</td><td></td><td></td><td></td></pql<></td></pql<>	<pql< td=""><td>39</td><td>400</td><td>55</td><td>10</td><td>× ×</td><td>20</td><td>1000</td><td></td><td></td><td></td></pql<>	39	400	55	10	× ×	20	1000			
Maximum	7Òd>	<pql< td=""><td>45</td><td>480</td><td>70</td><td>4.2</td><td>5</td><td>90</td><td>1721</td><td>1,013</td><td></td><td></td></pql<>	45	480	70	4.2	5	90	1721	1,013		
								2	TO TO	1,100		
PQL	11	5.0	6.0	0.5	12	0.03	0.7					
					77	50.0	0.0	0.0	12	∞		
EQ/PC Limit <sup>1</sup>	41	39	,	1 500	300	17						
Ceiling Limit <sup>2</sup>	75	85		4 200	000	1	,	470	001	2,800	1	ı
All nollutant concentrations with	Contration		li .	4,500	040	2/	5/	420	100	7,500	j	ı
TOO ITTOINET ON THE	בכוזם הווסכו	2 12/12/2	٦	1101014								-

All pollutant concentrations given on a dry-weight basis

PQL = Practical Quantitation Limit

Pollutant Concentration Limits taken from Table 3, Part 503.13

<sup>2</sup> Ceiling Concentration Limits taken from Table 1, Part 503

\* Geometric mean fecal coliform density

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	Sample	D:	CAHABA RIVER	WWTP_RIA SALI	<b>30</b> C				∞ey 21 €	,		1
	Sample:	Set-up	Date:		DS		Measuring Device	:				
	First San			Time:		Sampler '	Гуре:					-
/	Lasi San			Time:		Flow Met	er Type:			PRESTO		-
1 1	Collection	n Desai	The least of	Time:		Sample In	terval:			AIced,	AIKON I	METHODS:
O				Time()	10	8	pe: Grab	1 Com	posite	B-Sulfur	ic Acid	to pH < 2
1	Sample S						[TVVC/TC			C-Nime	Acid to	DH < 2
-	MOSI RE	COM	AEFED!! > Presery	ation Method A	by: WV	VTP Ø	by Barton Lab &			D-NaOH	to pH	> 11
0		1/	Uh III H				I All A		ime:	-02	50	
7	Signiple Col	locyd b	20019	Date Time	30		VILLO	$\searrow a$	1-15	200	45	
$\mathcal{J}_{i}$	Mu	(1)		-17-13 08 US	_ !	Petinquishe	by 77		-	Date Time		
. 0	Received by	0	12	Date Time		ON M	- Welland	lo.	12.	17-13 .0	901	
0		1	12/1	7/17 090		Relinquished	Aps			Date Time		
HOLD GOT	Received by	•	119	Date Time		Relinquished	33	>	18	112/13 1	611	
N	- m	_ Fb	ML 1	· log l	#	reimdmsueq	ру		I	sate Time		
	Received by			Date Time					·			
		×	T	<del></del>								
	Check	7 = -	Analyte	RESULTS		Units	METHOL	Number	-   F	tef		
	×	<b> </b>	BOD,				5210 B	-		M SW		
	Requeste		CBOD,				5210 B			Standard M		
	d Analys	<b> </b>	TSS				2540 D	·····	S	10#		
	o rindiys	<b> </b> -	рН			<del></del>	4500-H B	<del></del>	Z)			
			COD				5220 D		SA			
-	•	-	TKN				351.2	<del></del>	R			<del>,</del>
		-	NH <sub>3</sub> -N			,	4500-NH <sub>3</sub> G		SA			[7]
İ			Fecal Coliform	2,33×105	2	ella	9222 D	· · · · · · · · · · · · · · · · · · ·	SA		,3-020	1//
		<del> </del>	Total Phosphorus			1	4500-P F		SA		· · · · · · · · · · · · · · · · · · ·	
			Residual Chlorine				4500-Cl <sup>-</sup> G		SM			17
1.4			Onho-Phosphorus. TOC				4500-P F		SM	<del></del>		7
1			DO				5310 B		SM			1ni
1			NO <sub>3</sub> -N				4500-O C	<del></del>	SM			7, 7
			NO <sub>2</sub> -N				4500-NO3"H	<del></del>	SM	<del> </del>		
.	1		Turbidity				4500-NO3" H		SM	RJ =		
İ	·		Hardness	ļ			2130 B		SM	EP.A SW8	16	0
ĺ	F		Dil & Grease	ļ ·			2340 C		SM	Biosolids	T	١٦
	1		Vrsenic				1664		R3	Method	Ref	12
			Cadmium				3030 E, 3111B, 3		SM	3050 B, 7060 A	R4	5 1
			hromium				3030 E, 3111B, 3		SM	3050 B, 7130	R₄	10.
	Γ		opper				3030 E, 3111B, 3		SM	3050 B, 7190	R√	<u></u>
			ead		+		3030 E, 3111B, 3			3050 B, 7210	R4	
		<del></del>	Гегсигу		<del> </del>	<del> </del>	3030 E, 3111B, 31	13 B	SM	3050 B, 7420	R4	
			olybdenum		<del> </del>	<del></del>	3112 B .			7471 B	R4	
			ckel			<del></del>	3030 E, 3111B, 31		SM	3050 B, 7481	R4	
			lenium				3030 E, 3111B, 31			3050 B, 7520	R4	
			ver				3030 E, 3111B, 31		7	3050 B, 7740	R4	
		Zir					3030 F, 3111B, 311		SM		1	
			anide			1	3030 E, 3111B, 311	3 B	SM 3	050 B, 7950	R4	
			atile Organics				4500-CN E		SM		لنت	
			ni-Volatile Organics			-	6210 D		SM			
		Sul	fate				5410 B		SM			
, -	X		3 METAIS				1500-SO <sub>4</sub> 2. E	3	SM			
人 ノ			10= { / { for 1									

County Commission Environmental Service Department

	Sampl	e ID: CAHABA RIVER	WWTP PIO SOUR		-104 252 7.01	Auziysis		7
	Sample	Set-up Date:			Measuring Device:			
		nple Date:	Time:	Sampler	Гуре:			
		iple Date:	Time:	Flow Met	er Type:			
$\times$	Collection		Time:	Şample In			AIced, 4° (	ION METHODS:
· · · · · · · · ·			Time() [3	O Sample Ty	3	7	B-Sulfuric	Acid to pH < 2
	ATIST DE					Composite	C-Nitric Ac	id to pH < 7
<del>18</del>	12031 BE	COMPLETED!! -> A Preserv	ation Method A b	y: WWTP E	[TVVC/TCVC/		D-NaOH to	pH > 11
0		7/Vh/11/4-10	10 0 10 0		by Begton Lab	Time:	$-07^{6}$	
7	Semple Co	lociled by			VILLAN	12-17-	B OXI	1
رک	Onus	10(2/06/10	1 1116	Belinquishe	by	) Da		5
.0	Received by		Date Time		West	12-1	YB CS	11
1		12/12/12/12	7117 0908	Relinquished	ЪУ	Da	Time	
Many Lot	Received by		Date Time			12/	12/13 10 V	<b>~</b> >>
$\mathcal{C}_{A}$	1000	Mall 1		Relinquished	by	Bat	e Time	<u> </u>
	Received by		MENT 1637 Bate Time					
		Analyte		# 				-
	Check	Tinaryte	RESULTS	Units	METHOD Num	ber Ref	7	
	区	BOD,			5210 B		d	
	Requeste	CBOD <sub>5</sub>			5210 B	SM	SM = Siandard Meu	
	d Analys	133			2540 D	SM.	19# Ed.	1003
1		pH			4500-H B	SM	<b>             </b>	
		COD TKN			5220 D	SM		
					351.2	SM	-	
1		NH <sub>3</sub> -N			4500-NH <sub>3</sub> G	R2	R2 = EPA-600/4-79_	1 1 000
		Fecal Coliform	5.38 X105	collar	9222 D	SM	2111-000/4-/9-	020
- 1		Total Phosphorus Residual Chlorine			4500-P F	SM SM	t-	
17		Ortho-Phosphorus			4500-Cl <sup>-</sup> G	SM		<u> </u>
1		TOC	<u> </u>		4500-P F	SM	R3 =	$\sim$
		DO			53 10 B	SM	EPA Method 16	
i	<u> </u>	NO <sub>3</sub> -N	-		4500-O C	SM	10.	
1	t	NO <sub>2</sub> -N			4500-NO3"H	SM		ì
1 .		Turbidity			4500-NO3" H	SM	R1 =	$\neg \gamma \sim 1$
		Hardness		·	2130 B	SM	EP.A SW846	0
1	Γ	Oil & Grease			2340 C	SM	Biosolide	
	Γ	Arsenic			1664	R3		Res / W
- 1		Cadmium			3030 E, 3111B, 3113 B	SM 30		R4
		Chromium			3030 E, 3111B, 3113 B		50.0	# D .
	_	Copper			3030 E, 3111B, 3113 B		0.0	21 -
	L_	Lead			3030 E, 3111B, 3113 B		0.5	24
.		Мегсигу			3030 E, 3111B, 3113 B	,		4
!		Molybdenum			3112 B	SM 747		
1		Nickel			3030 E, 3111B, 3113 B	SM 3050	0 B, 7481 R	<del></del> ∤
1		Selenium			1030 E, 3111B, 3113 B	-	) B, 7520 R	<del></del> ∤
		Silver			030 E, 3111B, 3113 B		B, 7740 R	
		Zinc			030 F, 3111B, 3113 B	SM :		7
		Cyanide		3	030 E, 3111B, 3113 B	SM 3050	B, 7950 R4	-
		Volatile Organics		-	000-CM E	SM		
		Semi-Volatile Organics		-	10 D	SM		
		Sulfate			10 B	SM		
!	X	503 METAIS		45	00-SO <sub>4</sub> <sup>2-</sup> E	SM		

	Sample	D:	CAHABA RIVER				and seed the state of the	r Anai	ysis			3
	Sample :	Set-up	Date:		LIDS	Primary	Measuring Device:					
	First San			Time:		Sampler	Туре:			· · · · · · · · · · · · · · · · · · ·		·
	Lasi Sam			Time:		Flow Me	eter Type:					
	Collection			Time:		Sample I	Interval:			PRESER'	VATION 48 C	METHODS:
Q	Sample S			Time()	30	Sample 1		Сошро		B-Sulfu	ic Acid	to pH < 2
Į	MIST BE	DIII.					[TVVC/TCV	СИТОХ	Site	C-Nitric	Acid to	pH<2
T		CYM	PLEAED!! → Preserv	ation Method A	by: V	WIPE	by Begton Lab			D-NaOF	to pH	> 11
Hornels			Month to	-17-12 M	30		TATA TO	Tim	2:	-0	30	
	Sample Coll		TANK :	Date Time			KILL	1a.	<u> Z</u>	13 0	145	<del>_</del>
2)	Only	سار	Clether 12	17-13 080	1	Pelipquish	Joy (7)	) .	Da	ie Tunc	•	
[1]	Received by	ر آ		Date Time	<u>~~</u>	Relinquishe	y Weak		<u> [].</u>	H3 .C	90,	
1	Received by			1117 090	8	- comidment	Ahr		Dat	Time		
$\sim$	nachai by	•		Date Time		Relinquishe	d by	×		12/13 1	513	
¥ *	Received by	10	Mark 10	112/13 16	10	•			Est:	Time		
			<u> </u>	ate Time								
i	Chi	X	Analyte	RESULT	S	1 4= 24	<del></del>					
	Check		BOD,	7.20027		Units	METHOD N	umber	Ref			
	区.		CBOD,				5210 B		SM	J. SM		7
Ĭ	Requeste		TSS				5210 B		SM	Standard A		.
	d Analys		рН			· · · · · · · · · · · · · · · · · · ·	2540 D		SM	19 €	Ed.	
ľ	2.		COD				4500-H" B		SM			
		<u> </u>	TKN			<del></del>	5220 D		SM			
.			NH <sub>3</sub> -N				351.2		R2	R2 =		7, 7
			Fecal Coliform	3,25 X105		colla	4500-NH <sub>3</sub> G 9222 D		SM	EPA-600/4-	79-020	11/1
			Total Phosphorus			color	4500-P F		SM			ا ا
7 N	}		Residual Chlorine				4500-Cl <sup>-</sup> G		SM			
(A	. }		Ortho-Phosphorus				4500-P F		SM SM			_~
	}		TOC DO				5310 B		SM	R3 = EPA Method	11661	
-	+		NO <sub>3</sub> -N				4500-O C		EM	E1 77 Jase DIOC	1004	117
{	-		VO <sub>2</sub> -N				4500-NO <sub>3</sub> -H		W			ì
•			Turbidity				4500-NO3" H	<del></del>	M	R.4 =		$_{1}$ $\sim$
			Hardness				2130 B	·S	M	EPA SW8	16	0
			Dil & Grease	· · · · · · · · · · · · · · · · · · ·			. 2340 C		W	Biosolids	T	היו
			rsenic				1664	R	3	Method	Ref	1.60
İ		C	admium				3030 E, 3111B, 3113		1 30.	50 B, 7060 A	R4	1 7
	_	C	hromium				3030 E, 3111B, 3113			50 B, 7130	RJ	0
	_	7	opper		-		3030 E, 3111B, 3113		1 305	60 B, 7190	R√	-
	1	~	ad				3030 E, 3111B, 3113			0B, 7210	R4	
	12		етсигу		<del> </del>		3030 E, 3111B, 3113			0 B, 7420	R4	
•			olybdenum		-		3112 B	SM	<del></del>		R4	
	<b> </b>		ckel		<del> </del>	<del></del>	3030 E, 3111B, 31131		7	) B, 7481	R₄	
ĺ	-		enium		<del> </del>		3030 E, 3111B, 3113 E		4	B, 7520	R₄	
		Silv					3030 E, 3111B, 3113 E	<del></del>		B, 7740	R₫	
	<del> </del>	Zin			1	1	3030 F, 3111B, 3113 B		<b>↓</b> :			
1			nide			1	3030 E, 3111B, 3113 B 4500-CN E	-	3050	B, 7950	R4	
			tile Organics				6210 D	SM	1		_	
		Sulf	i-Volatile Organics				6410 B	SM	1			
	X		3 METAIS	-			1500-SO <sub>2</sub> 2- E	SM				
( -		البرا	314951					- NA				

## Commission Environmental Service Department

	Sampl	e D: CAHABA RIVER	WWTP PIO COL	Į.	on / Request For	· Analysis		
	Sample	Sei-up Daie:	Time:		Measuring Device:			
	First Sar	nple Date:		Sampler				
	Lasi San	iple Date:	Time:	Flow Met			(DDC050)	
-	Collection	n Date: 0 - 7 - 13	Time:	Sample In	terval:		AIced, 4	ATION METHODS:
9		plit? Yes   No	Time()73(	Sample T	vpe: Grab	Composite	B-Sulfuri	c Acid to pH < 2
-0-	MUST BE				[TVVC/TCVC	/TCVV1	C-Nitric	Acid to pH < 1
1			ration Method A by	WWTPE	by Bagton Lab D	Time:	D-N8OH	to pH > 11
2	Semple Col	1 Ciled by Carlot	-17-13 (77.3		4.1111	10 10		30
$\mathcal{L}$	Anu	1 11/10/	Date Time	Prinquisha	LA COLON	(d://-	<u> </u>	45
(	Received by	Ju Celler 12	-D-13 0845	Jan.	1. (3)	Da	te Time	
(Le			Date Time	Relinquished	by	-15·1		901
Horn dio	Received by		7117 0908			Dat		
$\mathcal{N}$ .		all of	. Last	Relinquished	by	Bati		57
	Received by		Bate Time				Tune	
i			7 11116	B D	· ,			····
	Check	Titalyle	RESULTS	Units	METHOD Nu		7	
	X	BOD,			5210 B		₹ r	
	Requeste	CBOD,			5210 B	SM	SM = Standard M	
1	d Analys	TSS		1	2540 D	SM	19 ± E	
		PH COD		Ì	4500-H B	SM		
		TKN			5220 D	SM		
		NH <sub>3</sub> -N			351.2	R2	R2 =	
		Fecal Coliform			4500-NH <sub>3</sub> G	SM	EPA-600/4-7	9-020
1	1	Total Phosphorus	3,00×105	color	9222 D	SM		
1		Residual Chlorine			4500-P F	SM	-	
		Ortho-Phosphorus	<del></del>		4500-Cl <sup>-</sup> G	SM		W.
1	1	TOC			4500-P F	SM	R3 =	
1	-	DO			5310 B	SM	EPA Method	1664
	-	NO3-N			4500-O C	SW		
1	. }-	NO <sub>2</sub> -N			4500-NO <sub>3</sub> ·H	SM		\
	}-	Turbidity			2130 B	MZ	R1 = EP.4 SW846	. 10
		Hardness		<del></del>	2340 C	SM [		
1	<u> </u> -	Oil & Grease Arsenic			1664	SM	Biosolids	1 16
	<u> </u>	Cadmium			3030 E, 3111B, 3113 E	R3   SM   30:	Method	Ref
1		Chromium			3030 E, 3111B, 3113 B		50 B, 7060 A 50 B, 7130	R4 .
		Copper			3030 E, 3111B, 3113 B		0 B, 7190	RJ
		Lead			3030 E, 3111B, 3113 B	-	0 B, 7210	R4
	$\square$	Мегсигу			3030 E, 3111B, 3113 B		0 B, 7420	R4
		Molybdenum			3112 B	SM 747		R4
		Nickel			1030 E, 3111B, 3113 B	7	D 510	R4
		Selenium			030 E, 3111B, 3113 B		5	R4
1	-	Silver			030 E, 3111B, 3113 B		5	R4
	<b> </b>	Zinc			030 F, 3111B, 3113 B	SM :		···
	<u> </u>	Cyanude			030 E, 3111B, 3113 B	SM 3050	B, 7950 A	24
	-	Volatile Organics		——-y—-	00-CN E	SM		
į		Semi-Volatile Organics			10 D	SM		
	_ X	Sulfate			10 B 00-SO <sub>4</sub> <sup>2</sup> E	SM		
		503 METAIS		143	W-3U4 E	SM		
$\mathcal{L} \mathcal{L}$								

Jenesson County Commission Environmental Service Department

	Sampl	e D: CAHABA RIVE	WWT DYC COT -	P	* / Meduest Por	Analysi	S		5
	Sample	Set-up Date:		S Primary M	easuring Device:				
		mple Date:	Time:	Sampler Ty	pe:				_
		nple Date:	Time:	Flow Meter	Type:				E <b>&gt;</b>
	Collectio		Time:	Şample Inte			PRESER	VATION I	METHODS:
o o				Sample Typ	3		AIced, B-Sulfa	4º C.	to pH < 2
1	Sample 5	plit? Yes 🗆   No 🗆		- F JP		Composite	C-Ninio	Acid to	0 pH < 2
<del>10</del>	IMOS1 BE	COMPLETED!! - A Prese	rvation Method A by	: WWTP &	[TVVC/TCVC/		D-NaOI	H to pH :	> 11
0		N/VbJ114-	0 10 10 10		by Barton Lab	Time:	-00	130	
(7	Spipe Col	llecifed by	Date Time		WALK	2.17	7-12	V/ i-	
5	Chi		, mic	Petinquished L	y Th		Date Tim	872	
on 1/2	Received by		2-17-13 0845 Date Time	100 Mus	West			2901	
1	-	151 well	17/17 0908	Relinquished	У		Date Time		
P	Received by	118	Date Time	Relinquished by			1000	610	
is	- man	MAL	Meks 1620	Treimdingued p)	·	I	Sate Time		
	Roceived by		Bate Time				·····		
		X Analyse		į					
ļ	Check	BOD <sub>s</sub>	RESULTS	Units	METHOD Num	ber B	ter		
	X	CBOD,			5210 B	S			
	Requeste	TSS			5210 B	- S			
	d Analys	pH			2540 D	SA	10#		
. [	ec	COD			4500-H" B	SA			
		TKN			5220 D	Sh	<del></del> {		
1		NH <sub>3</sub> -N			351.2	RZ	<u></u>		7
1		Fecal Coliform			4500-NH <sub>3</sub> G	SM	<b>⊣</b> 1		10
1		Total Phosphorus	4,00 X105	collar	9222 D	SM	{		1
1		Residual Chlorine			4500-P F	SM	-		
( )		Ortho-Phosphorus			4500-CI <sup>-</sup> G	SM			1
1		TOC			4500-P F	SM	R3 =		1 ~
1		DO			5310 <sup>-</sup> B	SM	EPA Method	1 1664	(V)
ĺ		NO <sub>3</sub> -N			4500-O C	SM			. ~
	L	NO2-N			4500-NO <sub>3</sub> -H	SM			~
	_	Turbidity			4500-NO₃' H	SM	R1 =		~
	1	Hardness		-	2130 B	SM	EPA SW8	16 .	
	1	Oil & Grease			2340 C	SM	Biosolids		
	<u> </u>	Arsenic			1664	R3	Method	Ref	~ V
ĺ	<u> </u>	Cadmium			030 E, 3111B, 3113 B	1 3	3050 B, 7060 A	R4	7.
	}	Chromium			030 E, 3111B, 3113 B		3050 B, 7130	R↓	$\mathcal{O}$
	-	Copper			030 E, 3111B, 3113 B		3050 B, 7190	R₄	ينستم
	·	Lead			)30 E, 3111B, 3113 B	1	3050 B, 7210	R4	
1	12	Mercury		1	12 B	7	3050 B, 7420	R4	
j	}-	Molybdenum			30 E, 3111B, 3113 B	7	471 B	R4	
	-	Nickel			30 E, 3111B, 3113 B	7	050 B, 7481	R4	
	}	Selenium			30 E, 3111B, 3113 B		050 B, 7520	R4	
1	<del> </del>	Silver Zinc		1	0F, 3111B, 3113 B		050 B, 7740	R4	
	<del> </del>	Cyanide Cyanide			0 E, 3111B, 3113 B	-			
	}				0-CN E		050 B, 7950	R4	
	-	Volatile Organics		621		SM			
ļ		Semi-Volatile Organics Sulfate		6410		SM			
	X	1503 METALS			)-SO <sub>2</sub> 2- E	SM			
						WVI .			
						,			

Jenerson County Commission Environmental Service Department

Sample D: CAHABA RIVER WWTP-BIO-SOLIDS  Sample Date: Time: Sample Type: Fust Sample Date: Time: Sample Interval:  Collection Date: Fine: Sample Interval:  Collection Date: Fine: Sample Splin Yes   No   No   Sample Splin Yes   No   No   Sample Splin Yes   No   No   Sample Splin Yes   No   No   Sample Splin Yes   No   No   No   No   Sample Splin Yes   No   No   Sample Splin Yes   No   No   No   No   Sample Splin Yes   No   No   No   No   Sample Splin Yes   No   No   No   No   No   Sample Splin Yes   No   No   No   No   No   Sample Splin Yes   No   No   No   No   No   No   Sample Splin Yes   No   No   No   No   No   No   Sample Splin Yes   No   No   No   No   No   No   No   N		Sampl	eD: CAHABA RIVE	R WWTP DIO COL		l	om viecquest poi	r Analy:	sis			
First Sample Date: Time:   Sample Type:     PRESERVATION METHOD		Sample	Set-up Date:		<u>IDS</u>	Primary	Measuring Device:					
Last Sample Date:  Time:  Collection Date:  Time:  Sample Interval:  Sample Spin? Yes   No   Time:  Sample Spin? Yes   No   Time:  MUST BE COMPARTED!! > Preservation Method A by: WWTP B' by Barton Lab   Time:  Sample Collected by Date Time Received by Date Time Re						Sampler	Туре:		······································			intern
Collection Date:    Collection Date:   Collection D	_					Flow Mei	er Type:					
Sample Split? Yes   No   No   Turne   Sample Type: Grab   Composite   C-Nitric Acid to pH <   C-Nitric		Collection	In Date: 10 - 10	Time:						PRESER	VATION	METHODS:
MUST BE CQMP_EFED!   Preservation Method   A   by: WWTP   by Beston Lab   Time:   C-Nimic Acid to pH < 2   D-NaOH to pH > 11	<i>\o</i>	Sample S	Ditt. V		30		- 7	Comme		B-Sulfu	4°C. Tic Acid	10 011 - 2
Date   Time   Received by   Date   Time	ĺ	MIST BE								C-Nitric	Acid to	20H<2
Supple Collected by  Date  Time  Received by  Received by  Received by  Date  Time  Relinquished by  Date  Time  Relinquished by  Date  Time  Relinquished by  Received by  Received by  Received by  Date  Time  Relinquished by  Date  Time  Relinquished by  Date  Time  Relinquished by  Received by  Received by  Received by  Received by  Received by  Date  Time  Relinquished by  Date  Time  Time  Relinquished by  Date  Time  Relinquished	TA	IMOST DE	Pres.	ervation Method A	by: WV	VTP ET				D-NaOH	I to pH	> 11
Date Time Received by  Date Time Received by  Date Time Received by  Date Time Received by  Date Time Relinquished by  Date Time  Received by  Date Time Relinquished by  Date Time  Relinquished by  Date Time  Sum  Time  Relinquished by  Date Time  Relinquished by  Date Time  Time  Relinquished by  Date Time  Relinquished by  Date Time  Time  Sum  Sum  Sum  Sum  Sum  Sum  Sum  S	0		XIVOLIM	10-12-12 M7			I AM A H	lime:		_07	30	
Color   Colo			lecifed by		-		KRAUD	18-7	7-12		116	
Date   Time   Relinquished by   Date   Time   Date   Time   Date   Time   Date   Time   Date   Time   Date   Time   Date   D	ζ.	CAMP	W Cleber 1	2-17-13 0811	<u> </u>		by The		Date	Time	; 1. A.Z	•
Received by   Date   Time   Relinquished by   Date   Time   Time   Received by   Date   Time   Relinquished by   Date   Time   Received by   Date   Time   Relinquished by   Date   Time   Date   Time   Relinquished by   Date   Time   Date	14			Date Time	7 1	Ob M.	Mart		1-17-1			
Date   Time   Relinquished by   Date   Time   Time   Date   Date   Time   Date   Date   Time   Date   Dat	7		151		8 1	сепичизмес	Joh			Time		
Reserved by   Bate   Time	2	raceiva by	. [ ]			elinouished	by	<			612	
Sale   Time	٠٠ 8	Reserved by	- WOAL	MIEL 7 163	8	7	0,		Bate	Time		
Check	<u>ر</u> .			Bate Time								
Check   BOD;   S210 B	<u> </u>		X Analyte	RESULTS			<u> </u>	· · · .				
CBOD <sub>3</sub>   S210 B   SM   SM =	H			- NEGOLIS		Units	7	mber	Ref			
TSS	A	_	CBOD.				5210 B		SM	SM	=	
DA   DA   DA   DA   DA   DA   DA   DA	ži –					·	5210 B		SM			
TKN   351.2   R2   R2 =   EPA-600/4-79-020	0	d Analys	· · · · · · · · · · · · · · · · · · ·					. 1	SM	19 th 1	Ed.	
NH <sub>3</sub> -N   351.2   R2   EPA-600/4-79-020   NH <sub>3</sub> -N   4500-NH <sub>3</sub> G   SM   EPA-600/4-79-020   NH <sub>3</sub> -N   A500-P F   SM   R3 = EPA Method 1664   NH <sub>3</sub> -N   A500-O C   SM   NH <sub>3</sub> -N   A500-NO <sub>3</sub> -N   A500-NO <sub>3</sub> -H   SM   SM   NH <sub>3</sub> -N   A500-NO <sub>3</sub> -H   SM   SM   SM   NH <sub>3</sub> -N   A500-NO <sub>3</sub> -H   SM   SM   NH <sub>3</sub> -N   A500-NO <sub>3</sub> -H   SM   SM   NH <sub>3</sub> -N   A500-NO <sub>3</sub> -H   SM   NH <sub>3</sub> -N   A500-NO <sub>3</sub> -H   SM   NH <sub>3</sub> -N   A500-NO <sub>3</sub> -H   SM   NH <sub>3</sub> -N   NH <sub>3</sub> -N   A500-NO <sub>3</sub> -H   SM   NH <sub>3</sub> -N   NH <sub>3</sub> -N   A500-NO <sub>3</sub> -H   SM   NH <sub>3</sub> -N   NH <sub>3</sub> -N   NH <sub>3</sub> -N   A500-NO <sub>3</sub> -H   SM   NH <sub>3</sub> -N   f-	25	COD	<del></del>					SM		· · · · · · · · · · · · · · · · · · ·		
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Jenesson County Commission Environmental Service Department

	Sampl	e ID: CAE	laba river	X3/14/0000 -			1	- evo. 69 \	reduest hor	'Anal	ysis			
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ĺ		Мегсигу							E, 3111B, 3113 B	SM		B, 7420	R4	
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		Silver							, 3111B, 3113 B	SM	-	3, 7740	R4	
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į –	A	503 K	IEJAISI					500-SC	)4" E	SM				
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## Barton Laboratory BIOSOLIDS BACTERIAL ANALYSIS

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Analyzain	
Analysis Date: 12/17/13	Sample ID:
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Sample ID: Cahaba
Date / Time In: /7/17 / 1220	Sample 7
Date / Time	Date / Time: 12/17/13 / 0730
Read: 12/18 / 1230	
1.0 , 10,70	Lab Analyst:

## TEST(S) PERFORMED:

Fecal Coliform M
Total Coliform []

Fecal Strep []
Other []

## Summary of Geometric Mean Calculations:

G.M. = 390,000 colonies per gran of dry solids.

	Dilution	1				
10000 to 100	Used or mL of Sample	Colonies Counted	% Dry Solids	pH	Colonies Counted X 100 mL Sample X % Dry Solid	Geometric Mean
	.001	28	12		1-800 - 6:00 5	$\mathbb{V}(X_1)(X_2)(X_N)$
1	1,0011	71	12		100/K12 2,33/405	5.37
(3)	.00/	39	12		7/06 .001/x12 - 5.38 x10 <sup>5</sup> 3900	5.73
(A)	,001	36	12		3600 3,25 XIO5	5.51
(5)				·		5.48
6	.00/	48	12		100/X12 4.00 X195	5.60
	.0011	81	12		:001/x12-6.14x105	5,79
9	1001	58	12		5800	
8	4				1.4 )NO	5.68
9 1	Aug 90 5	olids. 1-	2%	The state of the s		(5.59)
10 A	tuglo Me	pisture 82	7-%	-		S. Carrier and Car
Blank	,01 6	2		1	$G_iM_i = 3$	90,000 colonies
	33.507.75				fel glan	of dry solids
					•	,

## Barton Laboratory

## BIOSOLIDS

## Coliform Colonies Counted

	Sample ID: Cahabe
· 	Sample Date / Time: 12(17(13 / 1248-0730)
Date / Time	Date / Time: 12 (17 (13 / 12 18 0720)
Date / Time Counted: /2/18/13 / 1230	Lab Analyst: 18. Cer
	Day Analyst:
COLIENDIA	Allea

## COLIFORM COLONIES COUNTED

					20 10 12 Hzm 2-20	
	Sample Number	0.01	0.001	0.0001	0.00001	f 0.000001
%.Solids	Sa	mL Filtration	mL Filtratio	n mL Filtration	MOT. Filtration	TOTAL TIME
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	2		mL Filtratio	- 7		
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## SECTION 5 AGRONOMIC RATE INFORMATION AND CALCULATIONS

## AGRONOMIC RATE BELTONA LAND RECLAMATION SITE

#### Summary:

The Beltona Land Reclamation Site is a former strip mine site located in northwestern Jefferson County. The Environmental Services Department is assisting the property owner in the reclamation of this site through the land application of biosolids. In the areas that have not received any biosolids applications, no vegetation other than "scrub" vegetation is present and growing. In the areas that have received biosolids applications, Tifton Bermuda and Rye grass has been planted for nitrogen uptake.

The local Agricultural Cooperative Extension Service has recommended a fertilizer rate of 600 lb Nitrogen/Ac/year for the mine reclamation site. These calculations are based on six cuttings of hay each year (four harvests of Bermuda grass and two harvests of Rye grass each year), with 100 lb Nitrogen per acre needed for each cutting.

### Agronomic Rate Considerations:

- The Agronomic Calculations presented in this report are based on an extension bulletin worksheet entitled "Calculating Biosolids Application Rates in Agriculture" (1998), developed by Craig Cogger and Dan Sullivan for the Pacific Northwest. This bulletin uses widely accepted procedures for nitrogen budgeting which are applicable across the United States.
- During analysis, NH<sub>4</sub><sup>+</sup> -N is often converted to NH<sub>3</sub>-N and analytical results are then reported as NH<sub>3</sub>-N. Both forms are plant available and this combined analysis does not diminish the quality of the result.
- 3) There is no additional nitrogen applied to the reclamation site by Jefferson County (no fertilizer or irrigation water).
- 4) Biosolids from the Valley and Village WWTP's are applied to each plot on an annual basis throughout the winter months. These biosolids are anaerobically digested, mechanically dewatered, and lime stabilized, and are not incorporated into the soil following land application.
- 5) Biosolids were applied at a rate of 11 dry tons/acre.

## AGRONOMIC RATE CALCULATIONS – BELTONA LAND RECLAMATION SITE

### **FORMULA:**

Plant Available Nitrogen (PAN) = Available Organic Nitrogen + Inorganic Nitrogen = [(Organic Nitrogen)(Organic Mineralization Rate)] + [(NH<sub>4</sub>)(%NH<sub>4</sub> Retained) + Nitrate]

### **GIVEN**:

- During analysis, NH<sub>4</sub><sup>+</sup> -N is converted to NH<sub>3</sub>-N and analytical results are then reported as NH<sub>3</sub>-N. This combined analysis does not diminish the quality of the result.
- The TKN, NH<sub>3</sub> and NO<sub>3</sub> results are averages of data available during 2013. All results are reported on a dry-weight basis.

 $TKN_{(average)}=37,000~mg/Kg~x~0.002~(converts~mg/Kg~to~lb/dry~ton)=74.0~lb/dry~ton\\NH_{3(average)}=1,183~mg/Kg~x~0.002=2.4~lb/dry~ton\\NO_{3(average)}=271~mg/Kg~x~0.002=0.5~lb/dry~ton$ 

Organic Nitrogen = TKN -  $NH_3$  -  $NO_3$  = 74.0 - 2.4 - 0.5 = 71.1 lb N/dry ton

Calculations for the Beltona site are performed considering anaerobically digested, dewatered, and lime stabilized biosolids.

## NITROGEN CREDITS FOR PREVIOUS BIOSOLIDS APPLICATIONS:

• Biosolids that were applied from 2009 through 2012 had an average Organic Nitrogen content of 31,463 mg/kg. These biosolids were applied at an average rate of 21 dry tons per acre. Using Table 1 of the Worksheet:

Nitrogen Credit for 31,463 mg/kg:

= 8.1 lb PAN per dry ton (years 2-5) x 21 dry tons per acre

= 170 lb PAN per acre Nitrogen credit

Tifton Bermuda/Rye grass nitrogen requirements = 600 lb N/Ac/Yr (based on Agricultural Cooperative Extension Service recommendation of six cuttings of hay each year with 100 lb N/Ac needed for each cutting). With a Nitrogen Credit of 170 lb/acre, approximately 430 lb N/Ac/year is needed from the current applications of biosolids.

## AGRONOMIC RATE CALCULATIONS – BELTONA LAND RECLAMATION SITE

### **CALCULATIONS:**

## Anaerobically Digested, Dewatered, Lime Stabilized, Not Incorporated

 $TKN_{(average)}=37,000$  mg/Kg x 0.002 (converts mg/Kg to lb/dry ton) = 74.0 lb/dry ton  $NH_{3(average)}=1,183$  mg/Kg x 0.002 = 2.4 lb/dry ton  $NO_{3(average)}=271$  mg/Kg x 0.002 = 0.5 lb/dry ton

Organic Nitrogen = TKN -  $NH_3$  -  $NO_3$  = 74.0 - 2.4 - 0.5 = 71.1 lb N/dry ton

### Organic Nitrogen:

Mineralization Rate (Worksheet, Table 3): Anaerobic Digestion, Dewatered = 20% – 40%

Percent of Organic N available in the first year = 30% (average)

Total Organic Nitrogen available in the first year =  $71.1 \times 30\% = 21.3 \text{ lb/dry ton}$ 

### Ammonium Nitrogen:

% NH<sub>4</sub> Retained (Worksheet, Table 2): Not Incorporated, Lime Stabilized = 10%

Percent of Ammonia retained after application = 10%

Ammonium Nitrogen retained after application =  $2.4 \text{ lb/dry ton } \times 10\% = \underline{0.2 \text{ lb/dry ton}}$ 

## **Estimated Plant Available Nitrogen (PAN):**

PAN = Available Organic Nitrogen + Inorganic Nitrogen = 21.3 + 0.2 + 0.5 = 22 lb N/dt

## Agronomic Rate:

 $\overline{430 \text{ lb N/Ac/year}} \div 22 \text{ lb N/dry ton} = 20 \text{ dry tons/Acre/year}$ 

Biosolids were applied at the Beltona site throughout 2013 at a rate of 11 dry tons per acre. As can be seen from the above calculations, and as required by the 40 CFR Part 503 regulations, the anaerobically digested biosolids are being applied at a rate equal to or less than the agronomic rate for the crops grown.

## AGRONOMIC RATE FLAT TOP/BESSIE MINES LAND RECLAMATION SITE

#### Summary:

The Flat Top/Bessie Mines Land Reclamation Site is also a former strip mine site located in northwestern Jefferson County. The Environmental Services Department is assisting the property owner in the reclamation of this site through the land application of biosolids. At this site there is currently no soil mass present for growing vegetation, and in order to build soil mass, biosolids are recommended to be applied at a rate of 600 lb Nitrogen/Ac/year. When soil mass becomes adequate to sustain crop growth, Tifton Bermuda and Rye grass will be planted for nitrogen uptake.

## **Agronomic Rate Considerations:**

- 1) There is no additional nitrogen applied to the reclamation site by Jefferson County (no fertilizer or irrigation water) and there is very little to no plant available nitrogen currently present at the site.
- Approximately 62% of the land applied biosolids were anaerobically digested, followed by either mechanical dewatering or drying beds. The remaining biosolids were aerobically digested, followed by either mechanical dewatering or drying beds. Calculations were performed considering the three biosolids treatment and dewatering scenarios.
- 3) Typically, the anaerobically digested biosolids are lime stabilized.
- 4) Biosolids from all plants are incorporated into the soil within six (6) hours of application.
- 5) Biosolids applications currently occur on a year-round basis at a rate of <u>22</u> dry tons/acre.

## AGRONOMIC RATE CALCULATIONS – FLAT TOP/BESSIE MINES LAND RECLAMATION SITE

#### **FORMULA:**

Plant Available Nitrogen (PAN) = Available Organic Nitrogen + Inorganic Nitrogen = [(Organic Nitrogen)(Organic Mineralization Rate)] + [(NH<sub>4</sub>)(%NH<sub>4</sub> Retained) + Nitrate]

#### **GIVEN**:

- During analysis, NH<sub>4</sub><sup>+</sup> -N is converted to NH<sub>3</sub>-N and analytical results are then reported as NH<sub>3</sub>-N. This combined analysis does not diminish the quality of the result.
- The TKN, NH<sub>3</sub> and NO<sub>3</sub> results are averages of data available during 2013. All results are reported on a dry-weight basis.

 $TKN_{(average)}=37,000$  mg/Kg x 0.002 (converts mg/Kg to lb/dry ton) = 74.0 lb/dry ton  $NH_{3(average)}=1,183$  mg/Kg x 0.002 = 2.4 lb/dry ton  $NO_{3(average)}=271$  mg/Kg x 0.002 = 0.5 lb/dry ton

Organic Nitrogen = TKN - NH<sub>3</sub> - NO<sub>3</sub> = 74.0 - 2.4 - 0.5 = 71.1 lb N/dry ton

- Being a reclamation site, biosolids are applied at a rate of 600 lb N/Ac/Yr to build soil mass. When soil mass becomes adequate to sustain crop growth, Tifton Bermuda and Rye grass will be planted for nitrogen uptake.
- Calculations will be performed considering both biosolids scenarios: (1) anaerobically digested, dewatered, and lime stabilized, and (2) aerobically digested, mechanically dewatered or drying beds, and incorporated into the soil within six hours of application.

## AGRONOMIC RATE CALCULATIONS -FLAT TOP/BESSIE MINES LAND RECLAMATION SITE

#### **CALCULATIONS:**

## Anaerobically Digested, Dewatered, Lime Stabilized, Incorporated within Six Hours

-and-

Aerobically Digested, Mechanically Dewatered or Drying Beds, Incorporated within Six Hours

 $TKN_{(average)} = 37,000 \text{ mg/Kg x } 0.002 \text{ (converts mg/Kg to lb/dry ton)} = 74.0 \text{ lb/dry ton}$  $NH_{3(average)} = 1,183 \text{ mg/Kg x } 0.002 = 2.4 \text{ lb/dry ton}$  $NO_{3(average)} = 271 \text{ mg/Kg x } 0.002 = 0.5 \text{ lb/dry ton}$ 

Organic Nitrogen = TKN - NH<sub>3</sub> - NO<sub>3</sub> = 74.0 - 2.4 - 0.5 = 71.1 lb N/dry ton

#### Organic Nitrogen:

Mineralization Rate (Worksheet, Table 3): Anaerobic Digestion, Dewatered = 20%-40% Aerobic Digestion = 30% - 45%Drying Beds = 15%-30%

Percent of Organic N available in the first year = 29% (weighted average)

Total Organic Nitrogen available in the first year =  $71.1 \times 29\% = 20.6 \text{ lb/dry ton}$ 

## Ammonium Nitrogen:

% NH<sub>4</sub> Retained (Worksheet, Table 2): Incorporated (0-2 Days), Dewatered = 60%, Incorporated (0-2 Days), Drying Bed = 100% Incorporated (0-2 Days), Alkaline Stabilized = 10% Percent of Ammonia retained after application = 52% (weighted average)

Ammonium Nitrogen retained after application =  $2.4 \text{ lb/dry ton } \times 52\% = 1.25 \text{ lb/dry ton}$ 

## **Estimated Plant Available Nitrogen (PAN):**

PAN = Available Organic Nitrogen + Inorganic Nitrogen = 20.6 + 1.25 + 0.5 = 22.35 lb N/dt

## Agronomic Rate:

600 lb N/Ac/year  $\div$  22.35 lb N/dry ton = 27 dry tons/Acre/year

As can be seen from the above calculations, the current biosolids application rate of 22 dry tons per acre is equal or below the calculated Agronomic Rate for the anaerobically digested biosolids. Therefore, as required by the 40 CFR Part 503 regulations, the anaerobically digested biosolids are being applied at a rate equal to or less than the agronomic rate for the crops grown.

## APPENDIX A AGRONOMIC RATE SUPPORTING DOCUMENTATION



#### Your Experts for Life

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November 19, 2003

Mr. David Denard A-300 Courthouse Annex 716 Richard Arrington Jr. Blvd. Birmingham, Al 35203

David:

Enclosed is a fact sheet that we based our 6001b/N/ACRE recommendation related to the county's hay production/Bio-solid project.

The reasoning behind the high rate of nitrogen is to maximize forage tonnage which in turn will increase sludge uptake and breakdown.

The yearly fertilization schedule is based on six cuttings using 100lb/N/ac/cutting. The extra cuttings comes from over seeding the Bermudagrass with ryegrass in the fall. The ryegrass can be cut twice, while Bermudagrass is normally cut four times each year.

If you have questions or comments related to this schedule, feel free to give me a call.

Sincerely

David Tlubbard

County Extension Agent

DH/fb

## Worksheet for Calculating Biosolids Application Rates in Agriculture

By Craig Cogger, Extension Soil Scientist, WSU-Puyallup and Dan Sullivan, Extension Soil Scientist, Oregon State University

## Overview

This bulletin will walk you through the calculations that yield the biosolids agronomic rate. This rate is based on biosolids quality (determined by analytical results), site and crop nitrogen requirements, and regulatory limits for trace element application. In almost all cases, nitrogen controls the biosolids application rate. By calculating the agronomic rate, managers can match the plant-available N supplied by biosolids to crop N needs.

The calculations consist of 6 steps:

- 1. Collect information on the site and crop, including crop N requirement.
- 2. Estimate the plant-available N needed from the biosolids application.
- 3. Collect biosolids nutrient data.
- 4. Estimate plant-available N per dry ton of biosolids.
- 5. Calculate the agronomic biosolids application rate on a dry ton basis.
- Convert the application rate to an "as is" basis.

This bulletin consists of:

- A worksheet with instructions for completing the application rate calculations.
- The same calculations in equation form for those who prefer using equations.
- Tables for calculating trace element loading.

To learn more about the use and management of biosolids as a fertilizer, refer to Fertilizing with Biosolids, PNW508, which is the companion to this bulletin.

## Worksheet

## Step 1. Collect Site Information.

## Soil and crop information:

Line No.		Your Information	Example
1.1	Soil series and texture (NRCS soil survey)		Puyallup sandy loam
1.2	Yield goal (grower, agronomist) (units/acre*)		5 tons/acre/yr
1.3	Crop rotation (grower; e.g., wheat/fallow/wheat)		perennial grass
1.4	Plant-available N needed to produce yield goal (fertilizer guide; agronomist) (lb N/acre/yr)	,	200

## Plant-available N provided by other sources;

Line No.		Your Calculation	Example	Units
	Pre-application testing			
1.5	Nitrate-N applied in irrigation water		10	lb N/acre
1.6	Preplant nitrate-N in root zone (east of Cascades)**			lb N/acre
	Adjustments to typical soil N mineralization		<u></u>	10 Try dele
1.7	Plowdown of cover or green manure crop**			lb N/acre
1.8	Previous biosolids applications (Table 1)		30	lb N/acre
1.9	Previous manure applications			Ib N/acre
	Grower information			10 TV/ acre
1.10	N applied at seeding (starter fertilizer)			lb N/acre
1.11	Total plant-available N from other sources (sum of lines 1.5 through 1.10)		40	lb N/acre

<sup>\*</sup>Yield goals may be expressed as a weight (tons, lb, etc.) or as a volume (bushels).

<sup>\*\*</sup>Do not list here if these N sources were accounted for in the nitrogen fertilizer recommendation from a university fertilizer guide.

# Step 2. Estimate the Amount of Plant-Available N Needed from Biosolids.

Line No.		Your Calculation	Example	Units
2.1	Plant-available N needed to produce yield goal (from line 1.4)		200	lb N/acre
2.2	Plant-available N from other sources (from line 1.11)		40	lb N/acre
2.3	Amount of plant-available N needed from biosolids (line 2.1 - line 2.2)		160	lb N/acre

### Step 3. Collect Biosolids Data.

#### Application Information:

Line No.		Your Information	Example
3.1	Moisture content of biosolids (liquid or solid; see Table 3, pg. 8)		liquid
3.2	Biosolids processing method (see Table 3, pg. 8)		anaerobic
3.3	Method of application (surface or injected)		surface
3.4	Number of days to incorporation of biosolids		no incorporation
3.5	Expected application season		MarSept.

## Laboratory Biosolids Analysis (dry weight basis):

If your biosolids analysis is on an "as is" or wet weight basis, you will need to divide your analysis by the percent solids (line 3.10) and multiply the result by 100 to convert to a dry weight basis.

Line No.		Your Calculation	F 1	
3.6	Total Kjeldahl N (TKN)*	Calculation	Example	Units
3.7	Ammonium N*		50,000	mg/kg
3.8	Nitrate N *, **		10,000	mg/kg
<u>-</u> -			not analyzed	mg/kg
3.9	Organic N*** (line 3.6 – line 3.7)		40,000	mg/kg
3.10	Total solids		2.5	percent

<sup>\*</sup>If your analysis is in percent, multiply by 10,000 to convert to mg/kg.

<sup>\*\*</sup>Nitrate-N analysis required for composted or aerobically-digested biosolids, but not for anaerobically-digested biosolids.

<sup>\*\*\*</sup>Organic N = total Kjeldahl N - ammonium N.

# Step 4. Estimate Plant-Available N Per Dry Ton of Biosolids.

## Convert biosolids N analysis to lb per dry ton:

Line No.		Your Calculation	Example	Units
4.1	Total Kjeldahl N (TKN) (line 3.6 x 0.002)		100	lb N/dry ton
4.2	Ammonium N (line 3.7 x 0.002)		20	lb N/dry ton
4.3	Nitrate N (line 3.8 x 0.002)		not analyzed	lb N/dry ton
4.4	Organic N (line 4.1 – 4.2)		80	lb N/dry ton

#### Estimate Inorganic N Retained:

4.5	Percent of ammonium-N retained after application (Table 2, pg. 7)	60	percent
4.6	Ammonium-N retained after application (line 4.2 x line 4.5/100)	12	lb N/dry ton
4.7	Calculate biosolids inorganic N retained (line 4.3 + line 4.6)	12	lb N/dry ton

## Estimate Organic N Mineralized:

4.8	Percent of organic N that is plant-available in Year 1 (Table 3, pg. 8)	30	percent
4.9	First year plant-available organic N (line 4.4 x line 4.8/100)	24	lb N/dry ton

#### Plant-available N:

4.10	Estimated plant-available N Add available inorganic N and available organic N (line 4.7 + line 4.9)	36	lb N/dry ton
		l	

Step 5. Calculate the Agronomic Biosolids Application Rate.

Line No.		Your Calculation	Example	Units
5.1	Amount of plant-available N needed from biosolids (from line 2.3)		160	lb N/acre
5.2	Estimated plant-available N in biosolids (from line 4.10)		36	lb N/dry ton
5.3	Agronomic biosolids application rate (line 5.1/line 5.2)		4.4	dry ton/acre

Step 6. Convert to "As Is" Biosolids Basis.

Desired Units		Your Calculation	Example
Gallons per acre =	(line 5.3/line 3.10) x 24,000	5.3/line 3.10) x 24,000	
Acre inches per acre =	(line 5.3/line 3.10) x 0.88		1.55
Wet tons per acre =	(line 5.3/line 3.10) x 100		176

## How to Use the Worksheet

## Step 1. Collect Site Information.

### Soil Series and Surface Soil Texture (Line 1.1)

Find the location on the county NRCS soil survey. Record the series name and surface texture of the predominant soil.

#### **Crop Yield Goal (Line 1.2)**

Field records are the best source for crop yield estimates. You can find proven yields for most grain farms from the local Farm Service Agency office. For most other cropping systems, grower records are the only source available. Be sure to note whether the yield records are on an "as is" or dry matter basis. Where field records are not available, you can make first-year estimates for a project using NRCS soil surveys, county production averages, or other local data sources.

A site used repeatedly for biosolids application should have yield data collected each year. Use this accumulated data for determining crop nitrogen requirement. If crop yield data is not kept, you may need to conduct additional monitoring (e.g., post-harvest soil nitrate testing) to be sure biosolids are applied at an agronomic rate.

Yield data is typically not available for grazed pastures because grazing animals consume the crop directly in the field. In these cases omit the yield goal, and go directly to Line 1.4. Estimate plant nitrogen needs from the appropriate pasture fertilizer guide recommendation, based on the level of pasture management.

#### Crop Rotation (Line 1,3)

Consult with the grower and discuss the range of possible crop rotations. Rotations that include root crops or other crops with a long post-application waiting period are not suitable for Class B biosolids applications.

## Plant-Available N Needed to Produce Yield Goal (Line 1.4)

You can estimate plant-available-N needs by referring to university fertilizer guides or consulting a qualified agronomist.

#### University Fertilizer Guides

Land grant universities (Washington State University, Oregon State University, University of Idaho) publish fertilizer guides that estimate crop nitrogen requirements. Use the fertilizer guide most appropriate for the site and crop. For major crops, guides may cover irrigated or rainfed (dryland) cropping and different geographic areas. Don't use guides produced for irrigated sites when evalu-

ating dryland sites. When appropriate guides do not exist, consult the local Cooperative Extension or Natural Resources Conservation Service office, or a qualified agronomist for assistance.

Nitrogen fertilizer application rates listed in the fertilizer guides are based on field growth trials under the specified climate and cultural conditions. Growth trial results are averaged over a variety of soil types and years. Note that fertilizer guide recommendations are not the same as crop uptake. This is because the fertilizer guides account for N available from mineralization of soil organic matter and the efficiency of N removal by the crop.

The N rate recommended in fertilizer guides assumes average yields, good management practices, and removal of N from the field through crop harvest or grazing. In terms of satisfying crop N needs, plant-available N from biosolids application is considered equal to fertilizer N.

#### Agronomist Calculations

Because of the general nature of university fertilizer guides, it may be worthwhile to have a qualified agronomist calculate how much plant-available N is needed for a specific field. Always use the same method to calculate the N requirements. You will need to document your reasons for using agronomist calculations instead of the university fertilizer guide.

## Plant-available N provided by other sources (Lines 1.5-1.11)

To make sure there isn't too much nitrogen applied to a crop, you must determine how much nitrogen comes from sources other than biosolids and soil organic matter. These sources of N are grouped into three categories in the worksheet:

Plant-available N estimated by pre-application testing

· Adjustments to typical soil organic N mineralization (usually obtained from an agronomist)

Information supplied by the grower

## N estimated by pre-application testing (Lines 1.5-1.6)

Irrigation Water

Since the amount of nitrate-N in irrigation water varies, it should be determined by water testing. Irrigation water containing 5 mg nitrate-N per liter will contribute 1.1 pounds of nitrogen per acre inch applied; irrigation water containing 10 mg nitrate-N per liter will contribute 2.3 pounds of N per acre inch.

Preplant Nitrate-N in the Root Zone (east of Cascades)

You can estimate the preplant nitrate-N in the root zone by testing the soil in early spring. Sample in one-foot increments to a depth of at least two feet. University of Idaho Cooperative Extension Service Bulletin No. 704, Soil Sampling, is a good reference for soil sampling procedures.

Some fertilizer guides use preplant soil nitrate-N when calculating N fertilizer application rates. If you use these guides, don't count soil test nitrate-N in our worksheet. It has already been accounted for in the recommended fertilizer N rate prescribed in the guide.

## Adjustments to typical soil N mineralization (Lines 1.7-1.9)

Nitrogen mineralization is the release of nitrogen from organic forms to plant-available inorganic forms (ammonium and nitrate). Soil organic matter supplies plant-available N through mineralization, but this is accounted for in the fertilizer guides. Sites with a history of cover crops, biosolids applications, or manure applications supply more plant-available N than do sites without a history of these inputs, and biosolids recommendations must be adjusted based on this additional supply of N.

### Plowdown of Cover or Green Manure Crops

Green manures and cover crops are not removed from the field, but are recycled back into the soil by tillage. You can get an estimate of the N contributed from this plowdown by referring to the university fertilizer guides, or by estimating the yield and nitrogen concentration of the cover crop. Recovery of green manure N by the next crop ranges from 10-50% of the total N added to the soil by the cover crop. Estimates of plant-available N contributed by green manure crops should be made by a qualified agronomist.

#### Previous Biosolids Applications

Previous biosolids applications contribute to plant-available nitrogen in the years after the initial application. In the worksheet, they are considered as "N from other sources." We estimate that 8, 3, 1 and 1 percent of the organic N originally applied mineralizes in Years 2, 3, 4 and 5 after application. After Year 5, biosolids N is considered part of stable soil organic matter and is not included in calculations.

Table 1. Estimated nitrogen credits for previous biosolids applications at a site.

	Ye	ars After Biosolids	Application	
	Year 2	Year 3	Years 4 and 5	Cumulative Years 2, 3, 4 and 5
Biosolids Organic N as applied	Percent of Organic N Applied First \			Year
	8	3.	1	13
mg/kg (dry wt basis)	P	lant-available N re	eleased, lb N per dry t	ימח. כו
10000	1.6	0.6	0.2	
20000	3.2	1.2	0.4	2.6
30000	4.8	1.8	0.6	5.2 7.8
40000	6.4	2.4	0.8	7.8 10.4
50000	8.0	3.0	1.0	13.0
60000	9.6	3.6	1.2	15.6

In using Table 1, consider the following example. Suppose:

- You applied biosolids with an average organic N content of 30,000 mg/kg
- Applications were made the previous 2 years
- The application rate was 4 dry tons per acre

Table 1 gives estimates of nitrogen credits *in terms of the organic N originally applied*. Look up 30,000 mg/kg under Year 2 and Year 3 columns in the table. The table estimates 4.8 lb plant-available N per dry ton for year 2, and 1.8 lb plant-available N for year 3 (two-year credit of 6.6 lb N per dry ton). To calculate the N credit in units of lb/acre, multiply your application rate (4 dry ton/acre) by the N credit per ton (6.6 lb N/dry ton). The N credit is 26.4 lb plant-available N per acre.

Previous Manure Applications

Previous manure applications contribute to plant-available nitrogen in a similar manner to previous biosolids applications. To estimate this contribution, consult an agronomist.

## Information supplied by the grower (Line 1.10)

N Applied at Seeding

For best growth, some crops depend on starter fertilizers (N applied at seeding). These fertilizers usually supply N, P and S. Examples are 16-20-0, 10-34-0. Starters are usually applied at rates that supply 10-30 lb N per acre. Enter all of the N supplied by starter fertilizer on line 1.10 in the worksheet.

## Step 2. Estimate Plant-Available N Needed from Biosolids.

Next you will estimate the amount of plant-available N the biosolids must provide. This is the difference between the total plant-available N needed to produce the yield goal (line 1.4) and the plant-available N from other sources (line 1.11).

## Step 3. Collect Biosolids Data.

To make the calculation, managers will need the following analyses:

- Total Kjeldahl N (TKN)
- Ammonium-N (NH<sub>4</sub>-N)
- Nitrate-N (NO<sub>3</sub>-N; composted or aerobically digested biosolids only)
- Percent total solids

If your laboratory results are on an "as is" or wet weight basis, you must convert them to a dry weight basis. To convert from an "as-is" to a dry weight basis, divide your analysis by the percent solids in the biosolids and multiply the result by 100.

Total Kjeldahl N includes over 95% of the total nitrogen in biosolids. In using the worksheet, we will assume that total Kjeldahl N equals total N.

Ammonium-N usually makes up over 95% of the total inorganic N in most biosolids. Ammonium-N includes both ammonia (NH $_3$ ) and ammonium (NH $_4$ <sup>+</sup>). Depending on your laboratory, results for ammonium-N may be expressed as either ammonia-N or ammonium-N.

Nitrate-N analyses also include small amounts of nitrite. Nitrite concentrations are negligible in biosolids. There may be significant amounts of nitrate in aerobically-digested biosolids or in composts. There is little nitrate in anaerobically-digested biosolids; therefore, nitrate analysis is not needed for these materials.

Determine biosolids organic N by subtracting ammonium-N from total Kjeldahl N (line 3.6 - line 3.7). Percent total solids analyses are used to calculate application rates. Biosolids applications are calculated as the dry weight of solids applied per acre (e.g., dry tons per acre).

## Step 4. Estimate Plant-Available N Per Dry Ton of Biosolids.

The estimate of plant-available N per dry ton of biosolids includes:

- · Some of the ammonium-N
- All of the nitrate-N
- Some of the organic N

#### Inorganic N Retained (Lines 4.5-4.7)

#### Ammonium-N (Lines 4.5-4.6)

Under some conditions, ammonium is readily transformed to ammonia and lost as a gas. This gaseous ammonia loss reduces the amount of plant-available N supplied by biosolids. The following section explains the factors used to estimate ammonia-N retained in plant-available form after application.

#### Biosolids processing

Some types of biosolids processing cause most of the ammonia-N to be lost as ammonia gas or converted to organic forms before application:

- Drying beds
- Alkaline stabilization at pH 12
- Composting

#### Application method

Ammonia loss occurs only with surface application. Injecting liquid biosolids eliminates ammonia loss, since the injected liquid is not exposed to the air. Surface applications of liquid biosolids lose less ammonia than do dewatered biosolids. For liquid biosolids, the ammonia is less concentrated and is held as  $NH_4^+$  on negatively-charged soil surfaces after the liquid contacts the soil.

Ammonia loss is fastest just after application to the field. As ammonia is lost, the remaining biosolids are acidified—that is, each molecule of NH<sub>3</sub> loss generates one molecule of H<sup>+</sup> (acidity). Acidification gradually slows ammonia loss. Biosolids that remain on the soil surface will eventu-

ally reach a pH near 7, and further ammonia losses will be small. Losses of ammonia after six days on the soil surface are very close to zero.

Days to soil incorporation

Tillage to cover biosolids can reduce ammonia loss by adsorption of ammonium-N onto soil particles.

Table 2 estimates the amount of ammonium-N retained after field application. To use this table, you will need information on biosolids stabilization processes, method of application (surface or injected), and the number of days to soil incorporation.

Table 2. Estimates of ammonium-N retained after biosolids application.

		Surfa	ce-applied		Injected
Days to incorporation by tillage	Liquid Biosolids	Dewatered Biosolids	Alkaline- stabilized Biosolids*	Composted or Drying Bed Biosolids	All Biosolid
		——— Ammoniu	m-N retained, perc	ent of applied	
0 to 2 3 to 6 over 6†	80 70 60	60 50 40	10 10 10	100 100 100	100 100 100

<sup>\*</sup>For alkaline-stabilized biosolids analyzed for ammonium-N before lime addition. †If biosolids will not be incorporated by tillage, use over 6 days to incorporation.

#### Nitrate-N (Line 4.3)

We assume 100% availability of biosolids nitrate-N.

#### Organic N Mineralized (Lines 4.8-4.9)

Biosolids organic N, which includes proteins, amino acids and other organic N compounds, is not available to plants at the time of application. Plant-available N is released from organic N through microbial activity in soil—called mineralization. Mineralization is more rapid in soils that are warm and moist, and is slower in soils that are cold or dry. Biosolids organic N mineralization rates in soil also depend on the treatment plant processes that produced the biosolids.

Use Table 3 to estimate biosolids mineralization rates based on processing. Use the middle of the range presented, unless you have information specific to the site or biosolids that justifies using higher or lower values within the range.

Table 3. First-year mineralization estimates for organic N in biosolids.

Processing	Moisture Content	First-year organic-N mineralization rate
Anagyahia digasti		percent of organic N
Anaerobic digestion	liquid	20-40
Aerobic digestion	liquid	30-45
Aerobic or anaerobic digestion and		
storage in lagoon > 6 months	liquid	15-30
Anaerobic digestion and dewatering	semi-solid	20-40
Orying bed	solid	15-30
Heat-drying	solid	20–40
Composting	solid	0-20

## Step 5. Calculate the Agronomic Biosolids Application Rate.

Perform this calculation using the results of the previous sections, as shown in lines 5.1 through 5.3.

# Step 6. Convert Agronomic Biosolids Application Rate to "As Is" Basis.

Use the appropriate conversion factors (given in Table 6) to convert to gallons, acre-inches, or wet tons per acre.

## Other considerations for calculations

- Small acreage sites without a reliable yield history. Some communities apply biosolids to small acreages managed by "hobby farmers." In many of these cases, there is no reliable yield history for the site, and the goal of management is not to make the highest economic returns. You can be sure of maintaining agronomic use of biosolids nitrogen on these sites by applying at a rate substantially below that estimated for maximum yield.
- **Equipment limitations at low application rates.** At some low-rainfall dryland cropping locations east of the Cascades, the agronomic rate calculated with the worksheet will be lower than can be spread with manure spreaders (usually about 3 dry tons per acre). At these locations, you may be able to apply the dewatered biosolids at the equipment limit, but check with your permitting agency for local requirements.

• **Unavailable soil nitrate (dryland cropping, east of Cascades).** Not all of the nitrate-N determined by testing dryland soils (line 1.6) is available to the crop because chemical extraction of nitrate is more efficient than plant root extraction. This difference becomes significant when soil nitrate concentrations are low (less than 10 mg nitrate N/kg soil) and sampling is done to greater than two feet.

Recent research has shown that the amount of "unavailable nitrate-N" increases with soil clay content. Use the following formula if you estimate "unavailable nitrate-N" based on soil clay content.

## Unavailable nitrate-N (mg/kg) = percent clay x 0.1

- **Denitrification and immobilization.** Denitrification (the loss of nitrate as gaseous N<sub>2</sub> or N<sub>2</sub>O) and immobilization (the loss of nitrate or ammonium by incorporation into organic compounds) can occur following biosolids application. At agricultural sites these losses usually are not included in biosolids loading rate calculations because university fertilizer guides account for average losses due to these processes. Check with your local permitting agency before including denitrification or immobilization losses in the loading rate calculations.
- **Site Specific Inputs.** Biosolids application rates can also be calculated using a more detailed N budget method found in Washington State Department of Ecology publication, "Managing Nitrogen from Biosolids." The N budget method allows for more site-specific inputs into the calculation. It will be most valuable when budget components are based on actual site monitoring data. If you do not have detailed site nitrogen data, use the worksheet presented above.

## **Cumulative Loading of Trace Elements**

Under EPA regulations (40 CFR Part 503.13), managers must maintain records on cumulative loading of trace elements *only* when bulk biosolids do not meet EPA Exceptional Quality Standards for trace elements (Table 4).

When required, the steps in tracking trace metals are:

- Obtain biosolids trace element analyses from the wastewater treatment plant database.
- Compute pounds of element per dry ton of biosolids. Multiply mg/kg (dry weight basis) by 0.002.
- Keep records of the amount of biosolids applied to the site each year (in dry tons per acre).
- Compute pounds of element applied per acre. Multiply pounds of element per dry ton by dry tons applied.
- Compare cumulative pounds of element applied with the cumulative loading rate limit (Table 5).

Table 4. Biosolids concentration limits for land application. Source: EPA 40 CFR Part 503.

		Concentration Limit		
Element	Symbol	Exceptional Quality Standard (EPA Table 3)* mg/kg	Ceiling Limit (EPA Table 1) mg/kg	
Arsenic	As	41	75	
Cadmium	Cd	39	. 85	
Copper	Cu	1500	4300	
Lead	Pb	300	840	
Mercury	Hg	17	57	
Molybdenum	Mo	**	75	
Nickel	Ni	420	420	
Selenium	Se	100	100	
Zinc	Zn	2800	7500	

<sup>\*</sup>EPA Table 3 and Table 1 refer to tables in EPA biosolids rule (40 CFR Part 503).

Table 5. Cumulative loading rate limits for bulk biosolids that do not meet EPA-Table 3 criteria and are applied to agricultural land. Source: EPA 40 CFR Part 503.13.

Element	Cumulative Limit (lb/acre)	
Arsenic	37	
Cadmium	35	
Copper	1340	
Lead	268	
Mercury	. 15	
Molybdenum	*	
Nickel	375	
Selenium	89	
Zinc	2500	

<sup>\*</sup>Molybdenum limit is under review by the EPA.

<sup>\*\*</sup>Molybdenum Table 3 level is under review by the EPA.

Table 6. Conversion Factors

1%	=	10,000 mg/kg or ppm	
	=	20 lb/ton	
1 mg/kg	=	1 ppm	
		.0001%	
		.002 lb/ton	
1 wet ton	=	1 dry ton / (percent solids x 0.01)	
1 dry ton	=	1 wet ton x (percent solids x 0.01)	
1 acre-inch	=	27,000 gallons	

The following equations summarize the calculations in the worksheet. You can use them in place of the worksheet. These equations do the same calculation as the worksheet, so you do not have to use both. These equations will give results in dry tons of biosolids per acre. You will still need an additional calculation (Step 6 in the worksheet) to convert to an "as is" basis.

# **Equations for Calculating Application Rates**

$$B_{app} = (N_{need} - N_{other})/B_{pan}$$
 [1]

$$B_{pan} = [(TN - AN) * M/100 + AN * R/100 + NN] * C$$
 [2]

$$N_{other} = (0.225N_w * W) + \sum (N_{ppi} * 2.8 * D_i) + N_{gm} + N_{bs} + N_{man} + N_{start}$$
 [3]

#### Where:

 $\boldsymbol{B}_{\scriptscriptstyle{app}}$  is the biosolids application rate in dry tons/acre

 $N_{\text{need}}$  is the plant-available N needed to produce the crop yield goal in lb/acre

 $N_{\text{other}}$  is the plant-available N provided by other sources in lb/acre

 $\mathbf{B}_{\mathrm{pan}}$  is plant-available N in the biosolids in lb/dry ton

TN is biosolids total N in mg/kg or percent

AN is biosolids ammonium N in mg/kg or percent

NN is biosolids nitrate N in mg/kg or percent

 $oldsymbol{M}$  is the biosolids organic N mineralization rate in percent (Table 3)

R is the proportion of ammonium N retained in available form in percent (Table 2)

C is the conversion to lb/dry ton for biosolids N. For analyses in mg/kg, C = 0.002; for analyses in percent, C = 20.

 $\boldsymbol{N}_{\!_{\boldsymbol{w}}}$  is the nitrogen content of irrigation water in mg/kg

 $\boldsymbol{W}$  is the irrigation water applied in inches

 $N_{ppi}$  is preplant nitrogen in layer i in mg/kg. (Layers must be sampled in 12-inch increments)

 $D_i$  is soil bulk density in layer i in g/cm3

 $N_{\mbox{\scriptsize gm}}$  is nitrogen from the plowdown of a green manure or cover crop in lb/acre

 $N_{\rm bs}$  is nitrogen released from previous biosolids applications in lb/acre (Table 1)

 $N_{\mbox{\scriptsize man}}$  is nitrogen released from previous manure applications in lb/acre

 $N_{\mbox{\scriptsize start}}$  is nitrogen supplied by starter fertilizer in lb/acre

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# APPENDIX B VECTOR ATTRACTION REDUCTION STATISTICS

## VECTOR ATTRACTION REDUCTION STATISTICS

A summary of the total amount of biosolids land applied from each wastewater treatment plant (WWTP) and the vector attraction reduction methods used for those biosolids is provided in Tables 1 and 2 below.

Table 1
Flat Top/Bessie Mines Land Reclamation Site
Summary of 2013 Vector Attraction Reduction (VAR) Methods

Jefferson County WWTP	Amount of Biosolids Land Applied (dry tons)	Vector Attraction Reduction Method
Cahaba River	1,207	Option 10: Incorporation of Biosolids into the Soil [503.33(b)(10)(i)]
Five Mile Creek	1,021	Option 10: Incorporation of Biosolids into the Soil [503.33(b)(10)(i)]
Leeds	373	Option 10: Incorporation of Biosolids into the Soil [503.33(b)(10)(i)]
Trussville	614	Option 10: Incorporation of Biosolids into the Soil [503.33(b)(10)(i)]
Turkey Creek	251	Option 10: Incorporation of Biosolids into the Soil [503.33(b)(10)(i)]
Valley Creek	3,138	Option 1: Volatile Solids Reduction by a minimum of 38 percent [503.33(b)(1)] Option 6: Addition of Alkaline Material [503.33(b)(6)] Option 10: Incorporation of Biosolids into the Soil [503.33(b)(10)(i)]
Village Creek	2,639	Option 6: Addition of Alkaline Material [503.33(b)(6)] Option 10: Incorporation of Biosolids into the Soil [503.33(b)(10)(i)]
Prudes Creek	123	Option 10: Incorporation of Biosolids into the Soil [503.33(b)(10)(i)]
Warrior	25	Option 10: Incorporation of Biosolids into the Soil [503.33(b)(10)(i)]
Total Amount of Biosolids Applied at Flat Top:	9,391 dry tons	

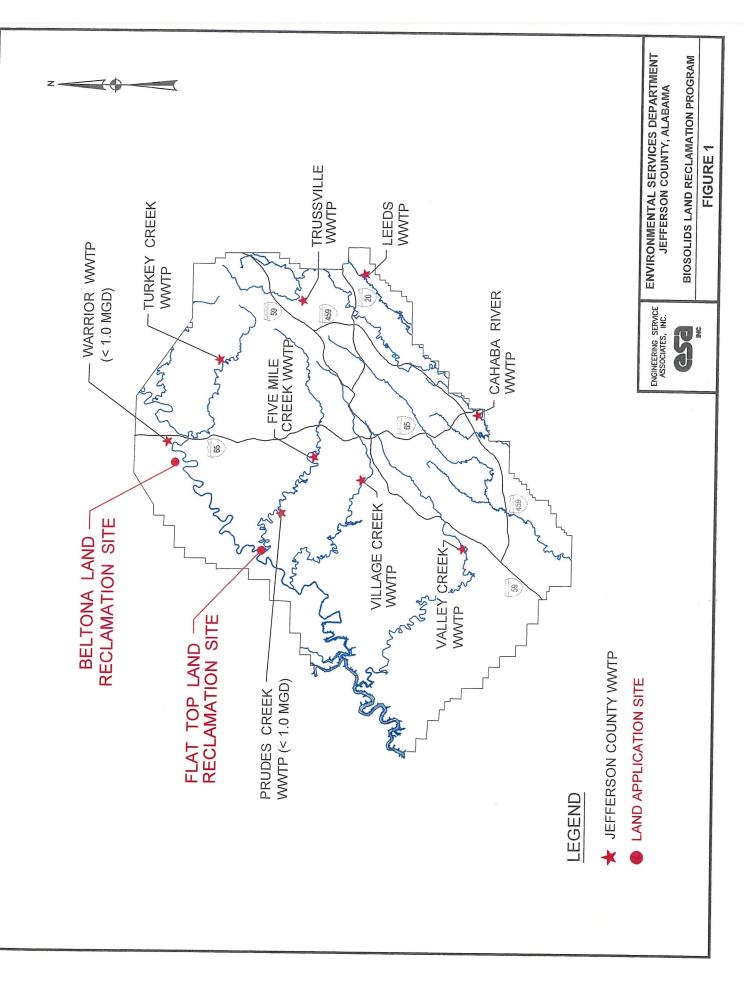
Table 2

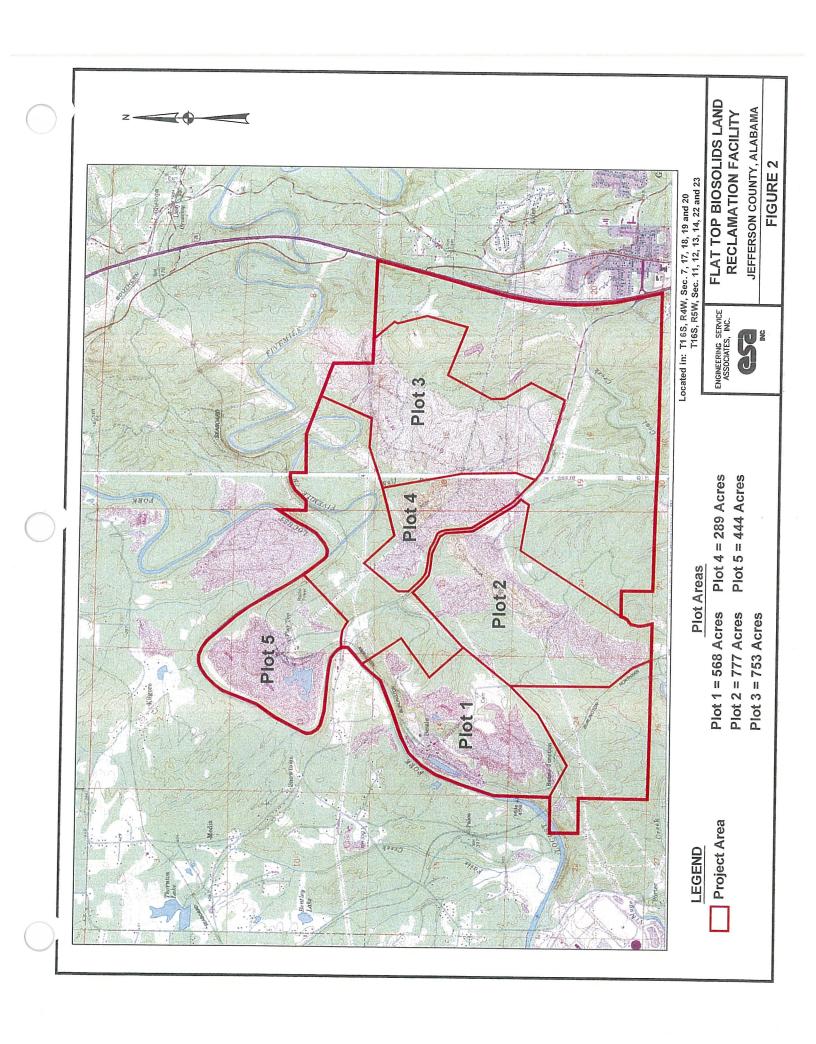
Beltona Land Reclamation Site

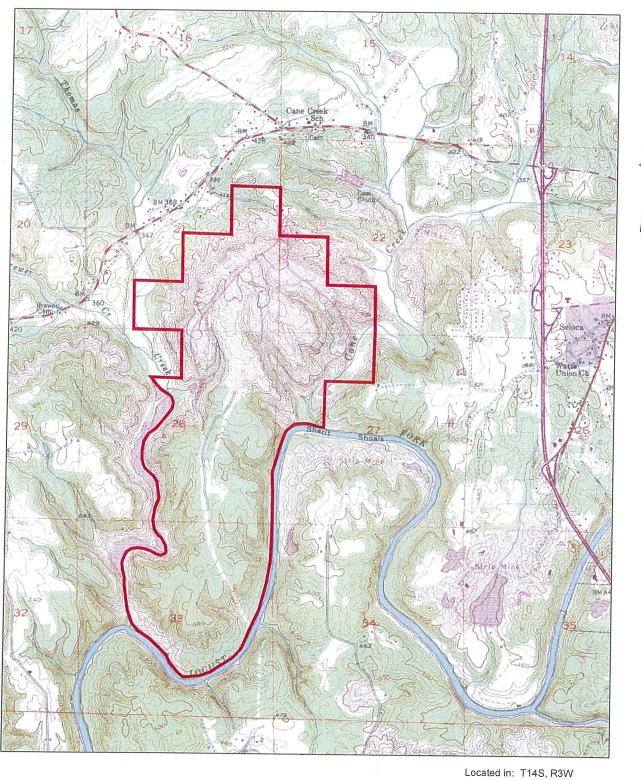
Summary of 2013 Vector Attraction Reduction (VAR) Methods

Jefferson County WWTP	Amount of Biosolids Land Applied (dry tons)	Vector Attraction Reduction Method
Valley Creek	973	Option 6: Addition of Alkaline Material [503.33(b)(6)]
Village Creek	592	Option 6: Addition of Alkaline Material [503.33(b)(6)]
Total Amount of Biosolids Applied at Beltona:	1,565 dry tons	100% = Option 6, Lime Addition

# APPENDIX C SITE MAPS







LEGEND

Project Area

Located in: T14S, R3W Sections 21, 22, 27, 28 and 33





**BELTONA BIOSOLIDS LAND RECLAMATION FACILITY** JEFFERSON COUNTY, ALABAMA

FIGURE 3