

AR0043613-City of Magnolia- Big Creek WWTP

Fax

To: Alan Anderson **From:** Russell Thomas
Fax: 501-682-0880 **Date:** 08/30/2013
Phone: 501-682-0635 **Pages:** plus cover page
Re: TX1Q DMR **CC:**

Urgent XX For Review Please Comment Please Reply Please Recycle

-Comments:

Will mail hard copy out today.

Thank you

Russell Thomas

City of Magnolia Waste Water System

870-904-1694

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: MAGNOLIA, CITY OF - BIG CREEK WWTP
 ADDRESS: P.O. BOX 686
 MAGNOLIA, AR 71754-0686

FACILITY: MAGNOLIA, CITY OF-BIG CREEK WWTP
 LOCATION: 72 COLUMBIA 300
 MAGNOLIA, AR 71753

ATTN: RUSSELL W. THOMAS, SUPT/MGR

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

Form Approved
 OMB No. 2048-0104

AR0043613	TX1-Q
PERMIT NUMBER	DISCHARGE NUMBER
MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
1/1/2013	3/31/2013

DMR Mailing ZIP CODE: 71754-0886
 MAJOR 5
 001-QTRLY-WHOLE EFFLUENT LETH
 External Outfall

AFIN# 14-00059

No Discharge

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Pass/Fail Static Renewal 7 Day Chronic Ceriodaphnia	SAMPLE MEASUREMENT	*****	*****	*****	*****	1	*****	*****	1	1/4	Compos
TGP3B 10 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. 7 DA AVG	*****	pass=0/fail=1		Quarterly	COMPOS
Pass/Fail Static 7Day Chronic Pimephales Promelas	SAMPLE MEASUREMENT	*****	*****	*****	*****	0	*****	0	0	1/4	Compos
TGP6C 10 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. 7 DA AVG	*****	pass=0/fail=1		Quarterly	COMPOS
Low Flow Pass/Fail Survival Test Static Renewal 7 Day Chronic Ceriodaphnia dubia	SAMPLE MEASUREMENT	*****	*****	*****	*****	0	*****	0	0	1/4	Compos
TLP3B 10 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. 7 DA AVG	*****	pass=0/fail=1		Quarterly	COMPOS
Low Flow Pass/Fail Survival Test Static Renewal 7 Day Chronic Pimephales promelas	SAMPLE MEASUREMENT	*****	*****	*****	*****	0	*****	0	0	1/4	Compos
TLP6C 10 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. 7 DA AVG	*****	pass=0/fail=1		Quarterly	COMPOS
NOEC Lethal Static Renewal 7 Day Chronic Ceriodaphnia dubia	SAMPLE MEASUREMENT	*****	*****	*****	*****	100	*****	%	0	1/4	Compos
TOP3B 10 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. 7 DA AVG	*****	%		Quarterly	COMPOS
NOEC Lethal Static Renewal 7 Day Chronic Pimephales promelas	SAMPLE MEASUREMENT	*****	*****	*****	*****	100	*****	%	0	1/4	Compos
TOP6C 10 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. 7 DA AVG	*****	%		Quarterly	COMPOS
NOEC Sub-Lethal Static Renewal 7 Day Chronic Ceriodaphnia dubia	SAMPLE MEASUREMENT	*****	*****	*****	*****	32%	*****	%	0	1/4	Compos
TTP3B 10 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. 7 DA AVG	*****	%		Quarterly	COMPOS

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER Russell W. Thomas, Supt/MGR TYPED OR PRINTED	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT <i>Russell W. Thomas</i>	TELEPHONE	DATE
			AREA Code	NUMBER
			870-2342955	08/29/2013

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

(PASS=0 FAIL=1) REPORT "0" IF THE NOEC FOR SURVIVAL IS LESS THAN THE CRITICAL DILUTION; OTHERWISE, ENTER "1" UNDER CONCENTRATION AVERAGE ABOVE. SUB-LETHAL CHRONIC WET LIMIT (BOTH SPECIES) SEE PART II, CONDITION #11 & 12. 14-00059

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: MAGNOLIA, CITY OF - BIG CREEK WWTP
 ADDRESS: P.O. BOX 666
 MAGNOLIA, AR 71754-0666
 FACILITY: MAGNOLIA, CITY OF-BIG CREEK WWTP
 LOCATION: 72 COLUMBIA 300
 MAGNOLIA, AR 71753
 ATTN: RUSSELL W. THOMAS, SUPT/MGR

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
 DISCHARGE MONITORING REPORT (DMR)

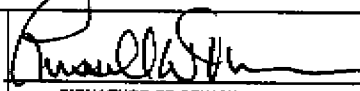
Form Approved
 OMB No. 2040-0004

AR0043613	TX1-Q
PERMIT NUMBER	DISCHARGE NUMBER
MONITORING PERIOD	
MM/DD/YYYY	MM/DD/YYYY
1/1/2013	3/31/2013

DMR Mailing ZIP CODE: 71754-0666
 MAJOR \$
 001-QTRLY-WHOLE EFFLUENT LETH
 External Outfall

No Discharge

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
NOEC Sub-Lethal Static Renewel 7 Day Chronic Pimephales promelas	SAMPLE MEASUREMENT	*****	*****	*****	*****	100%	*****	%	0	1/4	Compos
TPP8C 10 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. 7 DA AVG	*****	%		Quarterly	COMPOS
Coef Of Var Statre 7Day Chronic Ceriodaphnia	SAMPLE MEASUREMENT	*****	*****	*****	*****	37.68	*****	%	0	1/4	Compos
TPP3B 10 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. 7 DA AVG	*****	%		Quarterly	COMPOS
Coef Of Var Statre 7Day Chronic Pimephales	SAMPLE MEASUREMENT	*****	*****	*****	*****	19.20	*****	%	0	1/4	Compos
TPP8C 10 Effluent Gross	PERMIT REQUIREMENT	*****	*****	*****	*****	Req. Mon. 7 DA AVG	*****	%		Quarterly	COMPOS

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER Russell W Thomas, Supt/MGR TYPED OR PRINTED	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 prepare the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT 	TELEPHONE	DATE	
			8702342955	01/29/2013	
			AREA Code	NUMBER	MM/DD/YYYY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

(PASS=3 FAIL=1) REPORT "0" IF THE NOEC FOR SURVIVAL IS LESS THAN THE CRITICAL DILUTION; OTHERWISE, ENTER "1" UNDER CONCENTRATION AVERAGE ABOVE. SUB-LETHAL CHRONIC WET LIMIT (BOTH SPECIES) SEE PART II, CONDITION #11 & 12. 14-00059

APPENDIX E
AGENCY FORMS

SUMMARY REPORTING FORMS CHRONIC BIOMONITORING

Ceriodaphnia dubia Survival and Reproduction

Permittee: City of Magnolia

NPDES No.: AR0043613/ AFIN 14-00059

	Time	Date	Time	Date
Composite 1 Collected From	0700	1/6/13 To	0700	1/7/13
Composite 2 Collected From	0700	1/8/13 To	0700	1/9/13
Composite 3 Collected From	0700	1/10/13 To	0700	1/11/13
Test initiated:	1305	am/pm	1/8/13	date
Test terminated:	1415	am/pm	1/15/13	date
Dilution water used:	Receiving		Reconstituted	

PERCENT SURVIVAL

Time of Reading	Percent Effluent					
	0	32	42	56	80	100
24h	100	100	100	100	100	100
48h	100	100	100	100	100	100
End of test	100	100	100	100	100	80

NUMBER OF YOUNG PRODUCED PER FEMALE @ END OF TEST

Rep	0	32	42	56	80	100
A	25	21	22	15	15	9
B	28	19	16	20	13	D
C	20	18	14	19	18	5
D	13	11	12	14	18	10
E	28	19	18	19	14	D5
F	25	20	18	22	17	2
G	9	15	12	17	15	6
H	17	7	15	10	12	6
I	12	9	11	9	11	7
J	26	20	14	17	10	7
Surv. Mean	20.3	15.9	15.2	16.2	14.3	6.5
Total Mean	20.3	15.9	15.2	16.2	14.3	5.7
CV%*	35.07	32.13	22.32	26.16	19.79	37.68

*coefficient of variation = standard deviation x 100/mean. D=dead adult

PMSD = 25.4

Ceriodaphnia dubia
Survival and Reproduction (cont)

1. Fisher's Exact Test:

Is the mean survival at the end of the test significantly different ($p=.05$) than the control survival for the % effluent corresponding to (lethality):

a) LOW FLOW OR CRITICAL DILUTION (100%):	YES	X	NO
b) ½ LOW FLOW DILUTION (N/A%):	YES		NO

2. Dunnett's Procedure or Steel's Many-One Rank Test as appropriate:

Is the mean number of young produced per female significantly different ($p=.05$) than the control's number of young per female for the % effluent corresponding to (significant non-lethal effects):

a) LOW FLOW OR CRITICAL DILUTION (100%):	X	YES	NO
b) ½ LOW FLOW DILUTION (N/A%):		YES	NO

3. If you answered NO to 1. a) and 2. a) enter (0) otherwise enter (1): 1

4. If you answered NO to 1. b) and 2. b) enter (0) otherwise enter (1): N/A

5. Enter response to item 3 on DMR Form, parameter #TEP3B.

6. Enter response to item 4 on DMR Form, parameter #TFP3B.

7. Enter percent effluent corresponding to each NOEC below and circle lowest number:

a) NOEC survival:	100% effluent
b) NOEC reproduction:	32% effluent
c) LOEC survival:	N/A% effluent
d) LOEC reproduction:	42% effluent

**Remarking Form
Chronic Toxicity Summary Form
Cristobalito 4000
Chemical Parameters Chart**

Permittee: City of Magnolia
NPDES No: AR00436137 AFIN 14-00009
Contact: Russell Thomas
Analyst: Waughton, Ziegler, Carlson

Sample No. 1 Collected Date: 1/7/13 Time: 0700
Sample No. 2 Collected Date: 1/8/13 Time: 0700
Sample No. 3 Collected Date: 1/11/13 Time: 0700
Test Begin Date: 1/9/13 Time: 1305
Test End Date: 1/29/13 Time: 1415

Dilution: 0								Dilution: 56									
Day:								Day:									
	1	2	3	4	5	6	7	Comments		1	2	3	4	5	6	7	Comments
Temp (C)	24.3	24.0	24.1	24.2	24.1	24.3	24.2		Temp (C)	24.2	24.0	24.1	24.2	24.1	24.3	24.2	
DO Initial	8.4	8.3	8.3	8.3	8.4	8.4	8.3		DO Initial	8.2	8.2	8.3	8.1	8.2	8.3	8.0	
DO Final	8.3	8.3	8.6	8.3	8.3	8.9			DO Final	8.4	8.3	8.3	8.2	8.3	8.4		
pH Initial	7.7	7.9	7.8	7.7	7.9	7.8	7.6		pH Initial	7.3	7.4	7.5	7.7	7.8	7.9	7.4	
pH Final	7.9	7.8	7.8	7.7	7.6	7.9			pH Final	7.6	7.4	7.5	9.9	7.8	7.4		
Alkalinity	36.0	40.0			28.0				Alkalinity								
Hardness	53.0	46.0			52.0				Hardness								
Conductivity	179.0	173.7	170.3	174.0	171.7	174.4			Conductivity	236	242	247	204	250	260		
Chlorine	<.01	<.01			<.01				Chlorine								
Dilution: 32								Dilution: 80									
Day:								Day:									
	1	2	3	4	5	6	7	Comments		1	2	3	4	5	6	7	Comments
Temp (C)	24.3	24.0	24.1	24.2	24.1	24.3	24.2		Temp (C)	24.2	24.0	24.1	24.2	24.1	24.3	24.2	
DO Initial	8.3	8.3	8.4	8.2	8.4	8.4	8.3		DO Initial	8.2	8.1	8.2	8.1	8.2	8.3	8.1	
DO Final	8.3	8.3	8.4	8.2	8.3	8.5			DO Final	8.4	8.3	8.2	8.2	8.3	8.4		
pH Initial	7.3	7.8	7.7	7.8	7.9	7.7	7.4		pH Initial	7.3	7.5	7.5	7.6	7.7	7.4	7.3	
pH Final	7.7	7.6	7.8	9.0	7.3	7.6			pH Final	7.5	7.2	7.2	9.9	7.8	7.2		
Alkalinity									Alkalinity								
Hardness									Hardness								
Conductivity	212	215	217	246	219	228			Conductivity	260	270	278	373	289	307		
Chlorine									Chlorine								
Dilution: 48								Dilution: 100									
Day:								Day:									
	1	2	3	4	5	6	7	Comments		1	2	3	4	5	6	7	Comments
Temp (C)	24.2	24.0	24.1	24.2	24.1	24.3	24.2		Temp (C)	24.2	24.0	24.1	24.2	24.1	24.3	24.2	
DO Initial	8.3	8.3	8.4	8.1	8.4	8.3	8.1		DO Initial	8.2	8.2	8.3	8.1	8.2	8.3	8.1	
DO Final	8.3	8.3	8.4	8.2	8.3	8.4			DO Final	8.5	8.4	8.3	8.3	8.3	8.4		
pH Initial	7.4	7.7	7.7	7.7	7.8	7.5	7.4		pH Initial	7.1	7.4	7.2	7.6	7.8	6.9	6.7	
pH Final	7.7	7.4	7.4	8.1	7.1	7.3			pH Final	7.3	6.7	7.2	9.8	6.3	6.0		
Alkalinity									Alkalinity	8.0	12.0		32.0				
Hardness									Hardness	48.0	48.0		48.0				
Conductivity	221	238	230	264	232	246			Conductivity	280	296	316	396	333	341		
Chlorine									Chlorine	<.01	<.01		<.01				

**SUMMARY REPORTING FORMS CHRONIC BIOMONITORING
FATHEAD MINNOW LARVAE GROWTH AND SURVIVAL
(Pimephales promelas)**

Permittee: City of Magnolia

NPDES No.: AR0043613/AFIN 14-00059

	Time	Date	Time	Date
Composite 1 Collected from:	0700	1/6/13 To	0700	1/7/13
Composite 2 Collected from:	0700	1/8/13 To	0700	1/9/13
Composite 3 Collected from:	0700	1/10/13 To	0700	1/11/13

Test initiated:	1405 am/pm	1/7/13	date
Test terminated:	1105 am/pm	1/14/13	date
Dilution water used:	Receiving	Reconstituted	

DATA TABLE FOR SURVIVAL

Effluent Conc. %	Percent Survival in Replicate Chambers					Mean Percent Survival			CV%*
	A	B	C	D	E	24h	48h	7 days	
0	100	100	100	100	87.5	100	100	97.5	6.06
32	50	100	100	100	100	100	100	90.0	21.37
42	87.5	100	100	75.0	87.5	100	97.5	90.0	11.68
56	87.5	100	87.5	100	100	100	95.0	95.0	7.62
80	87.5	87.5	100	100	100	100	100	95.0	7.62
100	100	87.5	87.5	75.0	100	100	100	90.0	11.68

DATA TABLE FOR GROWTH

Effluent Conc. %	Average Dry Weight in milligrams in replicate chambers					Mean Dry Weight mg	CV*
	A	B	C	D	E		
0	0.400	0.363	0.363	0.388	0.300	0.363	10.63
32	0.188	0.325	0.450	0.313	0.388	0.333	29.43
42	0.338	0.400	0.438	0.375	0.275	0.365	17.02
56	0.300	0.350	0.338	0.388	0.275	0.330	13.29
80	0.225	0.275	0.338	0.388	0.313	0.308	20.04
100	0.250	0.263	0.388	0.288	0.350	0.308	19.20
0-SN	0.400	0.363	0.363	0.388	0.343	0.371	6.10

*coefficient of variation = standard deviation x 100/mean.

PMSD = 24.9%

FATHEAD MINNOW LARVAE GROWTH AND SURVIVAL (cont)
(Pimephales promelas)

1. Dunnett's Procedure or Steels Many-One Rank Test as appropriate:

Is the mean survival at 7 days significantly different ($p=.05$) than the control survival for the % effluent corresponding to:

- | | | | |
|-----------------------------------------|-----|---|----|
| a) LOW FLOW OR CRITICAL DILUTION (100%) | YES | X | NO |
| b) ½ LOW FLOW DILUTION (N/A%) | YES | | NO |

2. Dunnett's Procedure (or appropriate test):

Is the mean dry weight (growth) at 7 days significantly different ($p=.05$) than the control's dry weight for the % effluent corresponding to (significant non-lethal effects):

- | | | | |
|-----------------------------------------|-----|---|----|
| a) LOW FLOW OR CRITICAL DILUTION (100%) | YES | X | NO |
| b) ½ LOW FLOW DILUTION (N/A%) | YES | | NO |

3. If you answered NO to 1. a) and 2. a) enter (0) otherwise enter (1): 0

4. If you answered NO to 1. b) and 2. b) enter (0) otherwise enter (1): N/A

5. Enter response to item 3 on DMR Form, parameter #TEP6C.

6. Enter response to item 4 on DMR Form, parameter #TFP6C.

7. Enter percent effluent corresponding to each NOEC below and circle lowest number:

- | | |
|-------------------|----------------|
| a.) NOEC survival | 100% effluent. |
| b.) NOEC growth | 100% effluent. |
| c.) LOEC survival | N/A% effluent |
| d.) LOEC growth | N/A% effluent |

Monitoring Form
Chronic Toxicity Secondary Form
EPA/600/R-03/010
Chemical Parameters Chart

Permittee: City of Magnolia
NPDES No.: AR0003613/ APIN 34-00009
Contact: Samuel Thomas
Analyst: Blaughton, Ziegler, Callahan

Sample No. 1 Collected Date: 1/9/13 Time: 0700
Sample No. 2 Collected Date: 1/9/13 Time: 0700
Sample No. 3 Collected Date: 1/11/13 Time: 0700
Test Region: Date: 1/9/13 Time: 1403
Test Date: Date: 1/14/13 Time: 1103

Station: 0									Station: 86								
Day:									Day:								
	1	2	3	4	5	6	7	Comments		1	2	3	4	5	6	7	Comments
Temp (C)	26.5	24.1	24.8	24.0	24.6	25.3	25.6		Temp (C)	26.3	24.1	24.8	24.5	24.6	25.3	25.6	
DO Initial	7.8	7.4	7.4	7.5	7.4	7.6	6.9		DO Initial	7.3	6.9	7.4	7.6	7.3	7.5	6.6	
DO Final	8.3	8.2	8.3	8.4	8.3	8.3			DO Final	8.3	8.4	8.3	8.3	8.2	8.3		
pH Initial	7.5	7.5	7.5	7.5	7.7	7.7	7.4		pH Initial	7.3	7.1	7.4	7.3	7.4	7.4	7.2	
pH Final	7.8	7.9	7.8	7.8	7.7	7.6			pH Final	7.6	7.6	7.4	7.3	9.5	7.8		
Alkalinity	24.0		40.0			28.0			Alkalinity								
Hardness	33.0		40.0			33.0			Hardness								
Conductivity	182.3	179.9	173.7	176.3	174.8	171.7			Conductivity	236	236	241	247	244	238		
Chlorine	<.01		<.01			<.01			Chlorine								
Station: 32									Station: 80								
Day:									Day:								
	1	2	3	4	5	6	7	Comments		1	2	3	4	5	6	7	Comments
Temp (C)	26.8	24.1	24.8	24.5	24.6	25.3	25.6		Temp (C)	26.5	24.1	24.8	24.5	24.6	25.3	25.6	
DO Initial	7.5	6.8	7.3	7.7	7.2	7.4	6.7		DO Initial	7.8	6.9	7.5	7.5	7.3	7.3	6.7	
DO Final	8.2	8.3	8.3	8.4	8.3	8.3			DO Final	8.3	8.4	8.3	8.3	8.2	8.3		
pH Initial	7.4	7.3	7.5	7.4	7.5	7.5	7.3		pH Initial	7.2	7.0	7.3	7.1	7.3	7.4	7.1	
pH Final	7.7	7.7	7.6	7.5	9.8	7.3			pH Final	7.4	7.5	7.2	7.2	9.9	7.8		
Alkalinity									Alkalinity								
Hardness									Hardness								
Conductivity	214	213	218	217	244	219			Conductivity	265	269	270	278	282	299		
Chlorine									Chlorine								
Station: 42									Station: 100								
Day:									Day:								
	1	2	3	4	5	6	7	Comments		1	2	3	4	5	6	7	Comments
Temp (C)	26.8	24.1	24.8	24.9	24.6	25.3	25.6		Temp (C)	26.5	24.1	24.8	24.5	24.6	25.3	25.6	
DO Initial	7.4	6.9	7.4	7.6	7.3	7.4	6.8		DO Initial	7.8	7.4	7.3	7.6	7.4	7.2	6.9	
DO Final	8.3	8.3	8.3	8.4	8.2	8.3			DO Final	8.3	8.5	8.4	8.2	8.3	8.2		
pH Initial	7.3	7.2	7.4	7.3	7.8	7.5	7.3		pH Initial	6.8	6.3	7.3	7.8	7.1	7.1	7.1	
pH Final	7.7	7.7	7.4	7.4	9.1	7.3			pH Final	8.2	7.3	6.7	7.2	9.8	4.3		
Alkalinity									Alkalinity	6.0		13.0		33.0			
Hardness									Hardness	48.0		48.0		48.0			
Conductivity	222	221	228	230	264	233			Conductivity	312	308	306	316	306	333		
Chlorine									Chlorine	<.01		<.01		<.01			

APPENDIX F
REPORT QUALITY ASSURANCE FORM



Bio-Analytical Laboratories

3240 Spurgin Road
Post Office Box 527
Doyline, LA 71023

(318) 745-2772
1-800-259-1245
Fax: (318) 745-2773

REPORT QUALITY ASSURANCE FORM (v. 31612)

Client: Magnolia Waste; Water

Project#: X4983

Chain of Custody Documents Checked by: AH 1/18/13
Technician/Date

Raw Data Documents Checked by: AH 1/18/13
Technician/Date

Statistical Analysis Package Checked by: EGG 1/23/13
Quality Manager/Date

Quality Control Data Checked by: EGG 1/18/13
Quality Manager/Date

Report Checked by: EGG 2/13/13
Quality Manager/Date

I certify that this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. The information contained in this document, to the best of my knowledge, is true, accurate and complete.

Curtis L. Bragg, BS
Quality Manager

2/13/13
Date

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