STATE OF MISSISSIPPI
DAVID RONALD MUSGROVE, GOVERNOR
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
CHARLES H. CHISOLM, EXECUTIVE DIRECTOR

RECEIVED
2001 MAY -7 P 4: 21
CWAES

May 2, 2001

Honorable J. Ed Morgan, Mayor
City of Hattiesburg
P O Box 1898
Hattiesburg, Mississippi 39403

Dear Mayor Morgan:

Re: Hattiesburg South WWTF
NPDES Permit NO. MS0020303
Hattiesburg North WWTF
NPDES Permit NO. MS0020826
RR Inspection / Forrest County

Enclosed are copies of the Reconnaissance Inspection Reports for the inspections that were performed at the referenced Wastewater Treatment Facilities on April 5, 2001. You should use the results of these inspections as a guide for complying with requirements found in your NPDES permit.

If you have any questions concerning this matter, please contact us at (601) 961-5222.

Sincerely,

Hamp Sterling, P.E.
Municipal and Private Facilities Branch
Environmental Compliance and Enforcement Division

Enclosures
cc: SRO
Mr. Michael Hom, EPA ← THIS COPY FOR

Scheduled April 2001 AERATED LAGOON INSPECTION REPORT NPDES NO. 20826

Name of Facility (Mun., Ind., Private) Hattiesburg North Lagoon
County Forrest Person Contacted Chuck Henderson Phone No. 545-4531

---

1. Pumping Station: Yes X No___
   a. Dual Pumps: Yes X No___
   b. Pumps Operable: Yes X No___
   Comment: None

2. Aeration Cell: (2)
   a. Color: Duckweed
   b. Odor: Yes___ No X
   c. Floating solids: None X Few___ Many___
   d. Effluent structure condition: Good X Poor___
   e. Dikes:
      Condition: Good
      Freeboard: 9 FT.
      Grass: Maintained
   f. Aerators:
      Number: 20
      Operable: Yes X No___
      Timed: Yes X No___
      Comment: None

3. Settling Cell:
   a. Color: Duckweed
   b. Odor: Yes___ No X
   c. Floating solids: None X Few___ Many___
   d. Skimming: Yes X No___
   e. Effluent structure condition: Good X Poor___
   f. Dikes:
      Condition: Good
      Freeboard: 10 FT.
      Grass: Maintained
      Comment: None

4. Chlorinator and Contact Chamber: Yes X No___
   a. Operating: Yes X No___
   b. Baffles adequate: Yes___ No___
   c. Housing: Yes X No___
   d. Cylinder on hand: Yes X No___
      How many: 2 - 1 ton
   e. Solids in contact chamber: Yes___ No X
   f. Air gap in solution line: Yes N/A No___
   g. Chlorine residual: 0.57 Mg/l Yes X No___
   Comment: None

5. Effluent:
   a. Color: Turbid___ Clear X
   b. Odor: Yes___ No X
   c. Sample taken: Yes___ No X
   Comment: None

6. General:
   a. Fence: Yes X No___
      Locked: Yes X No___
   b. Upkeep: Good X Poor___
   c. Access road condition: Good X Poor___
   d. Safety hazards: Yes___ No X
   Comment: None

7. Certified Operator:
   Yes X No___ Date departed
   Name: Chuck Henderson
   Cert. No.: 3792 Class: III Exp: 10-1-02

8. Inspectors recommendations to person contacted: None

9. Verbal commitments of person contacted to correct problems: N/A

10. General comments: None

11. Does this situation warrant action from the Jackson Office: Yes___ No X

12. Follow-up inspection scheduled: Yes___ Date___ No X

Inspector: Josh Rowell

Date: 4-5-01 Time: 11:45 a.m.

Scheduled April 2001 AERATED LAGOON INSPECTION REPORT NPDES NO. 20303

Name of Facility (Mun.,Ind.,Private) Hattiesburg South Lagoon
County Forrest Person Contacted Chuck Henderson Phone No. 545-4531

1. Pumping Station: Yes X No___
   a. Dual Pumps: Yes X No___
   b. Pumps Operable: Yes X No___
   Comment: None

2. Aeration Cell: (3)
   a. Color: Clear green
   b. Odor: Yes___ No X
   c. Floating solids: None X Few___ Many___
   d. Effluent structure condition: Good X Poor___
   e. Dikes:
      Condition: Good
      Freeboard: 10 FT.
      Grass: Maintained
   f. Aerators:
      Number: 72 total
      Operable: Yes X No___
      Timed: Yes X No___
      Comment: None

3. Settling Cell:
   a. Color: Clear green
   b. Odor: Yes___ No X
   c. Floating solids: None X Few___ Many___
   d. Skimming: Yes X No___
   e. Effluent structure condition: Good X Poor___
   f. Dikes:
      Condition: Good
      Freeboard: 10 FT.
      Grass: Maintained
      Comment: None

4. Chlorinator and Contact Chamber: Yes X No___
   a. Operating: Yes X No___
   b. Baffles adequate: Yes X No___
   c. Housing: Yes X No___
   d. Cylinder on hand: Yes X No___
      How many: 2 - 1 ton
   e. Solids in contact chamber: Yes___ No X
   f. Air gap in solution line: Yes N/A No___
   g. Chlorine residual: 0.11 Mg/l Yes___ No___
   Comment: Dechlorination in use

5. Effluent:
   a. Color: Green Turbid X Clear___
   b. Odor: Yes___ No X
   c. Sample taken: Yes___ No X
   Comment: None

6. General:
   a. Fence: Yes X No___
      Locked: Yes X No___
   b. Upkeep: Good X Poor___
   c. Access road condition: Good X Poor___
   d. Safety hazards: Yes___ No X
   Comment: None

7. Certified Operator:
   Yes X No___ Date departed___
   Name: Chuck Henderson
   Cert. No.: 3792 Class: III Exp: 10-1-02

8. Inspectors recommendations to person contacted: None

9. Verbal commitments of person contacted to correct problems: N/A

10. General comments: None

11. Does this situation warrant action from the Jackson Office: Yes___ No X

12. Follow-up inspection scheduled: Yes___ Date___ No X

Inspector: Josh Rowell

Date: 4-5-01 Time: 11:00 a.m.

STATE OF MISSISSIPPI
DAVID RONALD MUSGROVE, GOVERNOR
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
CHARLES H. CHISOLM, EXECUTIVE DIRECTOR

RECEIVED
2001 MAR -9 P 12: 08
DWAES

March 5, 2001

Honorable J. Ed Morgan, Mayor
City of Hattiesburg
P O Box 1898
Hattiesburg, Mississippi 39403

Dear Mayor Morgan:

Re: Hattiesburg South WWTF MS0020303
NPDES Permit NO. MS0020303
Hattiesburg North WWTF MS0020826
NPDES Permit NO. MS0020826
CMI Inspection / Forrest County

Enclosed are copies of the Compliance Monitoring Inspection Reports and sampling results for the inspections that were performed at the referenced Wastewater Treatment Facilities on October 24, 2000. You should use the results of these inspections as a guide for complying with requirements found in your NPDES permit.

If you have any questions concerning this matter, please contact us at (601) 961-5222.

Sincerely,

Hamp Sterling
Municipal and Private Facilities Branch
Environmental Compliance and Enforcement Division

CHS:chs
Enclosures
cc: SRO
Mr. Michael Hom, EPA ← THIS COPY FOR

Scheduled Oct. 2000 AERATED LAGOON INSPECTION REPORT NPDES NO. 20826

Name of Facility (Mun.,Ind.,Private) Hattiesburg North Lagoon
County Forrest Person Contacted Hattiesburg PW Phone No. 545-4531

---

1. Pumping Station: Yes X No
   a. Dual Pumps: Yes X No
   b. Pumps Operable: Yes X No
   Comment: None

2. Aeration Cell: (2)
   a. Color: Duckweed cover
   b. Odor: Yes No X
   c. Floating solids: None X Few Many
   d. Effluent structure condition: Good X Poor
   e. Dikes:
      Condition: Good
      Freeboard: 8-10 FT.
      Grass: Cut
   f. Aerators:
      Number: 22
      Operable: Yes X No
      Timed: Yes X No
      Comment: None

3. Settling Cell:
   a. Color: Duckweed cover
   b. Odor: Yes No X
   c. Floating solids: None X Few Many
   d. Skimming: Yes X No
   e. Effluent structure condition: Good X Poor
   f. Dikes:
      Condition: Good
      Freeboard: 8-10 FT.
      Grass: Cut
      Comment: None

4. Chlorinator and Contact Chamber: Yes X No
   a. Operating: Yes X No
   b. Baffles adequate: ? Yes No
   c. Housing: Yes X No
   d. Cylinder on hand: Yes X No
      How many: Did not view
   e. Solids in contact chamber: Yes No
   f. Air gap in solution line: Yes No
   g. Chlorine residual: 0.25 Mg/l Yes X No
   Comment: None

5. Effluent:
   a. Color: Turbid Clear X
   b. Odor: Yes No X
   c. Sample taken: Yes X No
   Comment: None

6. General:
   a. Fence: Yes X No
      Locked: Yes X No
   b. Upkeep: Good X Poor
   c. Access road condition: Good X Poor
   d. Safety hazards: Yes No X
   Comment: None

7. Certified Operator:
   Yes X No Date departed
   Name: Chuck Henderson
   Cert. No.: 3792 Class: III Exp: 10-1-02

8. Inspectors recommendations to person contacted: None

9. Verbal commitments of person contacted to correct problems: N/A

10. General comments: Midge flies very thick at effluent structure.

11. Does this situation warrant action from the Jackson Office: Yes No X

12. Follow-up inspection scheduled: Yes Date No X

Inspector: Errol White

Date: 10-24-00 Time: 1:45 p.m.

Scheduled Oct. 2000 AERATED LAGOON INSPECTION REPORT NPDES NO. 20303

Name of Facility (Mun.,Ind.,Private) Hattiesburg South Lagoon
County Forrest Person Contacted Hattiesburg PW Phone No. 545-4531

1. Pumping Station: Yes X No___
   a. Dual Pumps: Yes X No___
   b. Pumps Operable: Yes X No___
   Comment: None

2. Aeration Cell: (3)
   a. Color: Green
   b. Odor: Yes___ No X
   c. Floating solids: None X Few___ Many___
   d. Effluent structure condition: Good X Poor___
   e. Dikes:
      Condition: Good
      Freeboard: 10 FT.
      Grass: Cut
   f. Aerators:
      Number: 72 (?)
      Operable: Yes X No___
      Timed: Yes X No___
      Comment: None

3. Settling Cell:
   a. Color: Green
   b. Odor: Yes___ No X
   c. Floating solids: None X Few___ Many___
   d. Skimming: Yes X No___
   e. Effluent structure condition: Good X Poor___
   f. Dikes:
      Condition: Good
      Freeboard: 10 FT.
      Grass: Cut
      Comment: None

4. Chlorinator and Contact Chamber: Yes X No___
   a. Operating: Yes X No___
   b. Baffles adequate: Yes X No___
   c. Housing: Yes X No___
   d. Cylinder on hand: Yes X No___
      How many: Did not view
   e. Solids in contact chamber: Yes___ No X
   f. Air gap in solution line: Yes N/A No___
   g. Chlorine residual: 0 Mg/l Yes___ No___
   Comment: None

5. Effluent:
   a. Color: Green Turbid X Clear___
   b. Odor: Yes___ No X
   c. Sample taken: Yes X No___
   Comment: Sample site not easily accessed.

6. General:
   a. Fence: Yes X No___
      Locked: Yes X No___
   b. Upkeep: Good X Poor___
   c. Access road condition: Good X Poor___
   d. Safety hazards: Yes___ No X
   Comment: None

7. Certified Operator:
   Yes X No___ Date departed___
   Name: Chuck Henderson
   Cert. No.: 3792 Class: III Exp: 10-1-02

8. Inspectors recommendations to person contacted: None

9. Verbal commitments of person contacted to correct problems: N/A

10. General comments: None

11. Does this situation warrant action from the Jackson Office: Yes___ No X

12. Follow-up inspection scheduled: Yes___ Date___ No X

Inspector: Errol White

Date: 10-24-00 Time: 2:30 p.m.

BUREAU OF POLLUTION CONTROL
SAMPLE REQUEST FORM

Lab Bench No. _____

I. GENERAL INFORMATION: Facility Name HATTIESBURG AERATED LAGOON - NORTH
County Code 0800 NPDES Permit No. 20826
Discharge No. 001 Date Requested _____
Sample Point Identification _____
Requested By COMPLIANCE MONITORING Data To MIKE FREIMAN
Type of Sample: Grab (X) Composite (Flow) (Time) Other ( ) _____

II. SAMPLE IDENTIFICATION:
Environment Condition CLEAR Collected By ERROL WHITE
Where Taken Effluent structure

	Type	Parameters	Preservative	Date	Time
1.	GRAB	BOD-SS	COOL	10-24-00	1330
2.	GRAB	FECAL	COOL	10-24-00	1330
3.					
4.					
5.					

III. FIELD:

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	(X)	7.2	EW	10-24-00
D.O.	(000300)	( )			
Temperature	(000010)	( )			
Residual Chlorine	(050060)	(X)	0.25	EW	10-24-00
? Flow	(074060)	(X)	0.7931 MGD	EW	10-24-00

IV. TRANSPORTATION OF SAMPLE: Bus ( ) RO Vehicle ( ) Other (X) _____
V. LABORATORY: Received By Kathy Farris Date 10-26-00 Time 0930
Recorded By _____ Date Sent to State Office _____

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD_5	(000310)	(X)	5.0 mg/l	KF	*10-26-00
COD	(000340)	( )	mg/l		
TOC	(000680)	( )	mg/l		
Suspended Solids	(099000)	(X)	17.0 mg/l	KF	10-27-00
TKN	(000625)	( )	mg/l		
Ammonia-N	(000610)	( )	mg/l		
Fecal Coliform(1)	(074055)	(X)	110 colonies/100 ml	~~KF~~ BDR	*10-24-00
Fecal Coliform(2)	(074055)	( )	colonies/100 ml		*
Total Phosphorus	(000665)	( )	mg/l		
Oil and Grease(1)	(000550)	( )	mg/l		
Oil and Grease(2)	(000550)	( )	mg/l		
Chlorides	(099016)	( )	mg/l		
Phenol	(032730)	( )	mg/l		
Total Chromium	(001034)	( )	mg/l		
Hex. Chromium	(001032)	( )	mg/l		
Zinc	(001092)	( )	mg/l		
Copper	(001042)	( )	mg/l		
Lead	(017501)	( )	mg/l		
Cyanide	(000722)	( )	mg/l		
		( )			
		( )			
		( )			
		( )			
		( )			
		( )			
		( )			
		( )			
		( )			
		( )			

Remarks _____

*Date of Test Initiation

7700

6586

BUREAU OF POLLUTION CONTROL
SAMPLE REQUEST FORM

Lab Bench No.: 6586
Cost Code:

I. GENERAL INFORMATION:

Facility Name: Hattiesburg Aerated Lagoon - North
County Code: 0800 NPDES Permit No.: 20826
Discharge No: 001 Date Requested:
Sample Point Identification:
Requested By: Compliance Monitoring Data To: Mike Freiman
Type of Sample: Grab: (X) Composite: Flow: Time: Other:

II. SAMPLE IDENTIFICATION:

Environment Condition: Clear Collected By: E. White
Where Taken: Effluent Structure

	Type	Parameters	Preservative	Date	Time
1.	Grab	BOD-SS	Cool	10-24-00	1330
2.	Grab	Fecal	Cool	10-24-00	1330
3.					
4.					
5.					
6.					

III. FIELD:

Analysis	Computer Code	Req	Results	Analyst	Date
PH	000400	X	7.2	EW	10-24-00
D.O.	000300				
Temperature	000010				
Residual Chlorine	050060	X	.0.25	EW	10-24-00
Flow	074060	X	0.7936 MGD	EW	10-24-00

IV. TRANSPORTATION OF SAMPLE:

Bus: RO Vehicle: Other: (X)

V. LABORATORY:

Received by: Kathy Farris Date: 10-26-00 Time: 0930
Recorded by: Tammy Sawyer Date Sent to State Office: 11-7-00

VI. Remarks:

TARGET COMPOUND LIST
WET CHEMISTRY PARAMETERS

Lab Bench No.: 6586

Analysis	Computer Code	Req	Result	Analyst	Date Measured or Date Test Initiated
BOD	000310	X	5.0 mg/l	KF	10-26-00
COD	000340		mg/l		
TOC	000680		mg/l		
Suspended Solids	099000	X	17.0 mg/l	KF	10-27-00
TKN	000625		mg/l		
Ammonia-N	000610		mg/l		
Fecal Coliform	074055	X	110 Colonies/100ml	DR	10-24-00
Total Phosphorous	000665		mg/l		
Oil & Grease	000550		mg/l		
Chlorides	099016		mg/l		
Phenol	032730		mg/l		
Cyanide	000722		mg/l		
Nitrate-Nitrite	000630		mg/l		
Alkalinity	000410		mg/l		
Hardness	000900		mg/l		
Hex. Chromium	001032		mg/l		
pH					
Conductance					

BUREAU OF POLLUTION CONTROL
SAMPLE REQUEST FORM

Lab Bench No. _____

I. GENERAL INFORMATION: Facility Name HATTIESBURG AERATED LAGOON - SOUTH
County Code 0800 NPDES Permit No. 20303
Discharge No. 001 Date Requested _____
Sample Point Identification EFFLUENT - ~~NORTH DISCHARGE~~
Requested By COMPLIANCE MONITORING Data To MIKE FREIMAN
Type of Sample: Grab (X) Composite (Flow) (Time) Other ( )

II. SAMPLE IDENTIFICATION:
Environment Condition CLEAR Collected By ERON WHITE
Where Taken Effluent structure

	Type	Parameters	Preservative	Date	Time
1.	GRAB	BOD-SS	COOL	10-24-00	1415
2.	GRAB	FECAL	COOL	10-24-00	1415
3.					
4.					
5.					

III. FIELD:

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	(X)	7.6	EW	10-24-00
D.O.	(000300)	( )			
Temperature	(000010)	( )			
Residual Chlorine	(050060)	( )			
? Flow	(074060)	(X)	7.69 MGD	EW	10-24-00

IV. TRANSPORTATION OF SAMPLE: Bus ( ) RO Vehicle ( ) Other (✓)
V. LABORATORY: Received By Kathy Farris Date 10-26-00 Time 0930
Recorded By _____ Date Sent to State Office _____

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD_5	(000310)	(X)	25.0 mg/l	KF	*10-26-00
COD	(000340)	( )	mg/l		
TOC	(000680)	( )	mg/l		
Suspended Solids	(099000)	(X)	47.0 mg/l	KF	10-27-00
TKN	(000625)	( )	mg/l		
Ammonia-N	(000610)	( )	mg/l		
Fecal Coliform(1)	(074055)	(X)	500 colonies/100 ml	DR	*10-24-00
Fecal Coliform(2)	(074055)	( )	colonies/100 ml		*
Total Phosphorus	(000665)	( )	mg/l		
Oil and Grease(1)	(000550)	( )	mg/l		
Oil and Grease(2)	(000550)	( )	mg/l		
Chlorides	(099016)	( )	mg/l		
Phenol	(032730)	( )	mg/l		
Total Chromium	(001034)	( )	mg/l		
Hex. Chromium	(001032)	( )	mg/l		
Zinc	(001092)	( )	mg/l		
Copper	(001042)	( )	mg/l		
Lead	(017501)	( )	mg/l		
Cyanide	(000722)	( )	mg/l		
		( )			
		( )			
		( )			
		( )			
		( )			
		( )			
		( )			
		( )			
		( )			
		( )			

Remarks _____

*Date of Test Initiation

7700

6587

BUREAU OF POLLUTION CONTROL
SAMPLE REQUEST FORM

Lab Bench No.: 6587
Cost Code:

I. GENERAL INFORMATION:

Facility Name: Hattiesburg Aerated Lagoon - South
County Code: 0800 NPDES Permit No.: 20303
Discharge No: 001 Date Requested:
Sample Point Identification: Effluent
Requested By: Compliance Monitoring Data To: Mike Freiman
Type of Sample: Grab: (X) Composite: Flow: Time: Other:

II. SAMPLE IDENTIFICATION:

Environment Condition: Clear Collected By: E. White
Where Taken: Effluent Structure

	Type	Parameters	Preservative	Date	Time
1.	Grab	BOD-SS	Cool	10-24-00	1415
2.	Grab	Fecal	Cool	10-24-00	1415
3.					
4.					
5.					
6.					

III. FIELD:

Analysis	Computer Code	Req	Results	Analyst	Date
PH	000400	X	7.6	EW	10-24-00
D.O.	000300				
Temperature	000010				
Residual Chlorine	050060				
Flow	074060	X	7.69 MGD	EW	10-24-00

IV. TRANSPORTATION OF SAMPLE:

Bus: RO Vehicle: Other: (X)

V. LABORATORY:

Received by: Kathy Farris Date: 10-26-00 Time: 0930
Recorded by: Tammy Sawyer Date Sent to State Office: 11-7-00

VI. Remarks:

TARGET COMPOUND LIST
WET CHEMISTRY PARAMETERS

Lab Bench No.: 6587

Analysis	Computer Code	Req	Result	Analyst	Date Measured or Date Test Initiated
BOD	000310	X	25.0 mg/l	KF	10-26-00
COD	000340		mg/l		
TOC	000680		mg/l		
Suspended Solids	099000	X	47.0 mg/l	KF	10-27-00
TKN	000625		mg/l		
Ammonia-N	000610		mg/l		
Fecal Coliform	074055	X	500 Colonies/100ml	DR	10-24-00
Total Phosphorous	000665		mg/l		
Oil & Grease	000550		mg/l		
Chlorides	099016		mg/l		
Phenol	032730		mg/l		
Cyanide	000722		mg/l		
Nitrate-Nitrite	000630		mg/l		
Alkalinity	000410		mg/l		
Hardness	000900		mg/l		
Hex. Chromium	001032		mg/l		
pH					
Conductance					

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
James I. Palmer, Jr., Executive Director

May 17, 1999

Mr. Chuck Henderson, Manager
Water and Sewer Department
City of Hattiesburg
P. O. Box 1898
Hattiesburg, Mississippi 39403

Dear Mr. Henderson:

Re: NPDES Permit No. MS002303 001 & 002
Hattiesburg South Facility
Compliance Inspection (CEI/3560)

Enclosed is a copy of the compliance inspection report that was performed at the above referenced facility on March 23, 1999. The results of this inspection should be used by you as a guide for complying with requirements found in your NPDES permit.

If you have any questions concerning this matter, please contact us at (601)961-5271.

Sincerely,

Michael J. Freiman
Municipal Permit Compliance Branch

Enclosure
cc: SRO
Mr. Michael Hom, USEPA THIS COPY FOR

OFFICE OF POLLUTION CONTROL
P.O. Box 10385 Jackson, MS 39289.0385 Phone 601.961.5171 Fax 601.354.6612

United States Environmental Protection Agency, Washington, D.C., 20460

EPA NPDES Compliance Inspection Report

Form Approved
OMB No.2040-0003
Approval Expires
7-31-85

Section A: National Data System Coding

Transaction Code	NPDES	YR/MO/DAY	Inspection Type	Inspector	Facility Type	Sched'd
N	MS0020303	99/03/23	C	S	1	FEB

Reserved	Facility Evaluation Rating	BI	QA	Reserved
	3			

Section B: Facility Data

Name and Location of Facility Inspected	Entry Time:	Permit Effective Date:
HATTIESBURG - SOUTH WWTF HATTIESBURG, MISSISSIPPI	8:00 A.M.	7/14/92
	Exit Time/Date: 10:00 3/23/99	Permit Expiration Date: 7/13/97

Name(s) of On-Site Representative(s)	Title(s)	Phone No(s)
MR. CHUCK HENDERSON	MANAGER, WATER & SEWER DEPT.	545-4530

Name,Address of Responsible Official	Title	
HON. J. ED MORGAN P O BOX 1898 HATTIESBURG MS 39403-1898	MAYOR	
	Phone No. 545-4501	Contacted YES__ NO_X_

Section C: Areas Evaluated During Inspection (S-Satisfactory, M-Marginal, U-Unsatisfactory, N-Not Evaluated)

S Permit	S Flow Measurement	N Pretreatment	S Operations & Maintenance
S Records/Reports	N Laboratory	N Compliance Schedules	N Sludge Disposal
S Facility Site Review	S Effluent/Receiving Waters	S Self-Monitoring Program	Other

Section D: Summary of Findings/Comments

(SEE LETTER)

Names and Signatures of Inspectors	Agency/Office/Telephone	Date
MICHAEL J. FREIMAN	DEQ/Office of Pollution Control	5/17/99
Signature of Reviewer	Agency/Office	Date
GLENN L. ODOM	DEQ/Office of Pollution Control	

Regulatory Office Use Only

Action Taken	Date	
		Noncompliance Compliance

NPDES COMPLIANCE INSPECTION REPORT

Date: 3-23-99 Inspector: M. FREIMAN

PERMITTEE:

HATTIESBURG - SOUTH

MAILING ADDRESS:

BRIEF FACILITY DESCRIPTION:

AERATED LAGOON

I. PERMIT CHECKLIST

YES NO N/A 1. Correct name and mailing address of permittee.

YES NO N/A 2. Facility is as described in permit.

YES NO N/A 3. Notification has been given to EPA/State of new, different, increased discharges.

YES NO N/A 4. Number and location of discharge points are as described in the permit.

YES NO N/A 5. Name and location of receiving waters are correct.

YES NO N/A 6. All discharges are permitted.

YES NO N/A 7. All records required by permit are available for a minimum of three years.

II. SELF-MONITORING PROGRAM

A. General

YES NO N/A 1. Samples are taken at sites specified in permit.

YES NO N/A 2. Locations are adequate for representative samples.

YES NO N/A 3. Sampling and analysis completed on parameters specified by permit.

YES NO N/A 4. Sampling and analysis done in frequency specified by permit.

YES NO N/A 5. Permittee is using method of sample collection required by permit.

6. Sample collection procedures are adequate:

YES NO N/A a. Samples refrigerated during compositing

YES NO N/A b. Proper preservation techniques used

YES NO N/A c. Containers and sample holding times before analyses conform with 40 CFR 136.3

YES NO N/A 7. Monitoring and analyses are performed more often then required by permit. If so, results reported in permittee's self-monitoring report.

YES NO N/A 8. Analytical results are consistent with the data reported on the DMR's.

9. Sampling and Analysis Data are adequate and include:

YES NO N/A a. Dates, times, location of sampling

YES NO N/A b. Name of individual performing sampling

YES NO N/A c. Analytical methods and techniques

YES NO N/A d. Results of analysis

YES NO N/A e. Dates of analysis

YES NO N/A f. Name of person performing analysis

NOT TESTED ONSITE

B. BOD_5 Test Evaluation - ~~NOT TESTED~~ (CONTRACT LAB)

1. D.O. method used;
   a. Winkler Titration _____
   b. D.O. Probe _____
   c. Other _____

2. If probe list calibration method;
   a. Air _____
   b. Saturated Water _____
   c. Winkler _____

YES NO N/A 3. Holding time; < 48 hrs

YES NO N/A 4. Preservation; 4 degree C

YES NO N/A 5. Incubation; 20 degree C

YES NO N/A 6. Sample D.O. depletions; between 2 mg/l and 6 mg/l

YES NO N/A 7. Blank D.O. variation; < 0.2 mg/l

8. If effluent is chlorinated:
   YES NO N/A a. Sample dechlorinated. How? _____
   YES NO N/A b. Sample seeded.

C. Total Suspended Solids Test Evaluation - CONTRACT LAB

YES NO N/A 1. Holding time; < 7 days

YES NO N/A 2. Oven temperature; 103 degree - 105 degree C

YES NO N/A 3. Balance Calibrated. Frequency? _____

YES NO N/A 4. Balance Serviced at least yearly.

D. Ammonia Nitrogen Test Evaluation - CONTRACT LAB

1. Method used; _____

YES NO N/A 2. Holding time; < 28 days

YES NO N/A 3. Preservative; 4 degree C, H_2SO_4 to pH < 2

E. Fecal Coliform Test Evaluation

1. Method used;
   a. MPN _____
   b. MF _____
   c. Other _____

YES NO N/A 2. Holding time; < 6 hrs

YES NO N/A 3. Preservative; Sterile container, 4 degree C

YES NO N/A 4. 0.008% $Na_2S_2O_3$[5] added if sample chlorinated.

YES NO N/A 5. Water bath temperature; 44.5 degree C

F. Dissolved Oxygen Test Evaluation

1. Method used;
   a. Winkler Titration _____
   b. D.O Probe _____
   c. Other _____

2. Calibration (See B. BOD_5 Test Evaluation #2)

G. pH Test Evaluation

YES NO N/A 1. EPA approved method used.
If not, method used: _____

YES NO N/A 2. Holding time; analyzed immediately

H. Aeration Tank Settleability Test Evaluation

YES NO N/A 1. 1000 ml graduated cylinders used

YES NO N/A 2. Time of test; 30 minutes

I. Residual Chlorine Test Evaluation

YES NO N/A 1. EPA approved method used.
If not, method used: HACH - COLORIMETER

YES NO N/A 2. Holding time; analyzed immediately

III. LABORATORY CHECKLIST

A. General

YES NO N/A 1. Written laboratory quality assurance manual is available.

B. Laboratory Procedures - NOT EVALUATED

YES NO N/A 1. EPA approved analytical testing procedures are used.

YES NO N/A 2. Standard Methods (lastest edition) is available.

YES NO N/A 3. If alternate analytical procedures are used, proper approval has been obtained.

YES NO N/A 4. Calibration and maintenance of instruments and equipment is satisfactory and records are adequate.

YES NO N/A 5. Quality control procedures are used.

YES NO N/A 6. Commercial laboratory is used

Name BONNER ANALYTICAL
2703 OAK GROVE ROAD
Address HATTIESBURG, MS 39402

Contact DR. MICHAEL BONNER

Phone 601-264-2854

C. Laboratory Facilities and Equipment - NOT

YES NO N/A 1. Proper grade distilled water is available for specific analysis.

YES NO N/A 2. Fume hood has enough ventilation capacity.

YES NO N/A 3. The laboratory has sufficient lighting.

YES NO N/A 4. Adequate electrical sources are available.

YES NO N/A 5. Instruments/equipment are in good condition.

YES NO N/A 6. Written requirements for daily operation of instruments are available.

YES NO N/A 7. Standards are available to perform daily check procedure.

YES NO N/A 8. Written trouble-shooting procedures for instruments are available.

YES NO N/A 9. Schedule for required maintenance exists.

YES NO N/A 10. Working standards are frequently checked.

YES NO N/A 11. Standards are discarded after recommended shelf life has expired.

YES NO N/A 12. Background reagents and solvents run with every series of samples.

YES NO N/A 13. Written procedures exist for cleanup, hazard response methods, and applications of correction methods for reagents and solvents.

IV. FACILITY SITE REVIEW CHECKLIST

YES NO N/A 1. Standby power or other equivalent provision is provided. PUMP STATIONS ONLY

YES NO N/A 2. Adequate alarm system for power or equipment failures is available.

YES NO N/A 3. All treatment units, other than back-up units, are in service.

YES NO N/A 4. Procedures for facility operation and maintenance exist.

YES NO N/A 5. Organization plan (chart) for operation and maintenance is provided.

YES NO N/A 6. Operating schedules are established.

YES NO N/A 7. Emergency plan for treatment control is established.

8. Operating management control documents are current and include:

YES NO N/A a. Operating report
YES NO N/A b. Work schedule
YES NO N/A c. Activity report (time cards)

YES NO N/A 9. Adequate number of qualified operators are on-hand.

YES NO N/A 10. Established procedures are available for training new operators.

YES NO N/A 11. Adequate spare parts and supplies inventory and major equipment specifications are maintained.

YES NO N/A 12. Instruction files are kept for operation and maintenance of each item of major equipment.

YES NO N/A 13. Regulatory agency was notified of by-passing. (Dates_____)

YES NO N/A 14. Hydraulic and/or organic overloads are experienced. Reasons for overloads _____

MINOR Hydraulic during RAINFALL

YES NO N/A 15. Dated tags show out of service equipment.

YES NO N/A 16. Routine and preventive maintenance are scheduled/performed on time.

17. Plant Records are adequate and include:

YES NO N/A a. O&M Manual

YES NO N/A b. "As-built" engineering drawings

YES NO N/A c. Schedules and dates of equipment maintenance and repairs including cost.

YES NO N/A d. Equipment supplies manual

YES NO N/A e. Equipment data cards

V. SLUDGE DISPOSAL – N/A

1. Amount of sludge wasted daily from clarifier:
   a. _____ gallons/day
   b. _____ lbs/day (dry weight)

2. Check the method(s) utilizing for sludge handling:
   a. aerobic digestion ( )
   b. anaerobid digestion ( )
   c. filter press ( )
   d. drying bed ( )
   e. sludge lagoon ( )
   f. other _____ ( )

3. If sludge is hauled offsite for ultimate disposal, what is the quantity and frequency of hauling?
   a. Quantity: _____ tons
   b. Frequency: ( ) daily ( ) monthly
      ( ) weekly ( ) annually
   c. Ultimate Disposal Site:
      Name _____

      Location _____

YES (NO) N/A

4. If sludge is stored in an on-site lagoon or holding pond, has it ever been dredged or otherwise cleaned out? If so, when and where was the sludge disposed?
   When: _____

   Where: _____

VI. FLOW MEASUREMENT CHECKLIST

A. General

YES NO N/A 1. Primary flow measuring device is properly installed and maintained.

YES NO N/A 2. Flow records are properly kept.

YES NO N/A 3. Sharp drops or increases in flow values are accounted for.

YES NO N/A 4. Actual flow discharged is measured.

YES NO N/A 5. Influent flow is measured before all return lines.

YES NO N/A 6. Effluent flow is measured after all return lines.

YES NO N/A 7. Secondary instruments (totalizers, recorders, etc.) are properly operated and maintained.

YES NO N/A 8. Spare parts are stocked.

YES NO N/A 9. Flow monitoring records and charts are properly kept.

B. Flumes

YES NO N/A 1. Flow entering flume appears reasonable well distributed across the channel and free of turbulence, boils, or other distortions.

YES NO N/A 2. Cross-sectional velocities at entrance are relatively uniform.

YES NO N/A 3. Flume is clean and free of debris or deposits.

YES NO N/A 4. All dimensions of flume are accurate.

YES NO N/A 5. Side walls of flume are vertical and smooth.

YES NO N/A 6. Sides of flume throat are vertical and parallel.

YES NO N/A 7. Flume head is being measured at proper location.

YES NO N/A 8. Measurement of flume head is zeroed to flume crest.

YES NO N/A 9. Flume is of proper size to measure range of existing flow.

YES NO N/A 10. Flume is operating under free-flow conditions over existing range of flows.

C. Wiers

1. Type of weir used: _____

YES NO (N/A) 2. The weir is exactly level.

YES NO (N/A) 3. The weir plate is plumb and its top edges are sharp and clean.

YES NO (N/A) 4. There is free access for air below the nappe of the weir.

YES NO (N/A) 5. Upstream channel of weir is straight for at least four times the depth of water level, and free from disturbing influences.

YES NO (N/A) 6. The stilling basin of the weir is of sufficient size and clear of debris.

YES NO (N/A) 7. Head measurements are properly made by facility personnel.

YES NO (N/A) 8. Proper flow tables are used by facility personnel.

D. Flowmeter

1. Type of flowmeter used: INSTANTANEOUS

2. The most common problems experienced with the flowmeter: _____

3. Measured Wastewater flow: _____ mgd; Recorded flow: _____ mgd; Error _____ %

4. Design flow: _____ mgd.

YES NO (N/A) 5. Flow totalizer is properly calibrated.

6. Frequency of routine inspection by proper operator: _____ /day.

7. Frequency of maintenance inspections by plant personnel: _____ /year.

8. Frequency of flowmeter calibration: _____ /month.

YES NO (N/A) 9. Flowmeter adequate to handle expected ranges of flow rates.

YES NO (N/A) 10. Venturi meter is properly installed and calibrated.

YES NO (N/A) 11. Electromagnetic flowmeter is properly calibrated.

VIII. COMPLIANCE SCHEDULE STATUS REVIEW

YES NO N/A 1. The permittee has obtained necessary approvals to begin construction.

YES NO N/A 2. Financing arrangements are complete.

YES NO N/A 3. Contracts for engineering services have been executed.

YES NO N/A 4. Design plans and specifications have been completed.

YES NO N/A 5. Construction has begun.

YES NO N/A 6. Construction is on schedule.

YES NO N/A 7. Equipment acquisition is on schedule.

YES NO N/A 8. Construction has been completed.

YES NO N/A 9. Start-up has begun.

YES NO N/A 10. The permittee has requested an extension of time.

YES NO N/A 11. The permittee has met compliance schedule.

Scheduled _____ **AERATED LAGOON INSPECTION REPORT** NPDES No _____

Name of Facility (Mun., Ind., Private) HATTIESBURG - SOUTH

County _____ Person Contacted _____ Phone No _____

1. Pumping station Yes X No___
   a. Dual Pumps: Yes___ No___
   b. Pumps Operable: Yes___ No___
   Comment: _____

2. Aeration Cell
   a. Color: CLEAR / GREEN
   b. Odor: NO
   c. Floating Solids: No X Few ___ Many ___
   d. Effluent Structure Condition: Good X Poor___
   e. Dikes:
      Condition: Good
      Freeboard: 10 Ft
      Grass: CUT
   f. Aerators: 36 1ST 36 ND
      Number _____
      Operable: Yes X No___
      Timed: Yes___ No X
   Comment: _____

3. Settling Cell
   a. Color: CLEAR / GREEN
   b. Odor: Yes___ No X
   c. Floating Solids: No X Few___ Many___
   d. Skimming: Yes___ No___
   e. Effluent Structure Condition: Good X Poor___
   f. Dikes:
      Condition: Good X Poor___
      Freeboard: _____ Ft
      Grass: CUT
   Comment: SOME TREES

4. Chlorinator and Contact Chamber Yes___ No___
   a. Operating: Yes___ No___
   b. Baffles Adequate: Yes___ No___
   c. Housing: Yes___ No___
   d. Cylinders on Hand: Yes___ No___
      How many? _____
   e. Solids in Contact chamber: Yes___ No___
   f. Air gap in solution line: Yes___ No___
   g. Chlorine Residual: Yes___ No___
   Comment: UNDER CONS

5. Effluent
   a. Color: Turbid ___ Clear X
   b. Odor: Yes___ No X
   c. Sample Taken: Yes___ No X
   Comment: _____

6. General
   a. Fence: Yes X No___
      Locked: Yes X No___
   b. Upkeep: Good X Poor___
   c. Access Road Condition: Good X Poor___
   d. Safety Hazards: Yes___ No X
   Comment: _____

7. Certified Operator
   Yes X No ___ Date departed: _____
   Name: _____
   Cert. No.: _____ Class: ___ Expires: _____

8. Inspectors recommendations to person contacted: _____

9. Verbal commitments of person contacted to correct problems: _____

10. General comments: _____

11. Does this situation warrant action from the Jackson office: Yes___ No___

12. Follow-up inspection scheduled: Yes___ Date _____ No___

Inspector: M. FREIMAN

Date: _____ Time: _____

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
James I. Palmer, Jr., Executive Director

May 17, 1999

Mr. Chuck Henderson, Manager
Water and Sewer Department
City of Hattiesburg
P. O. Box 1898
Hattiesburg, Mississippi 39403

Dear Mr. Henderson:

Re: NPDES Permit No. MS0020826
Hattiesburg North Facility
Compliance Inspection (CEI/3560)

Enclosed is a copy of the compliance inspection report that was performed at the above referenced facility on March 23, 1999. The results of this inspection should be used by you as a guide for complying with requirements found in your NPDES permit.

If you have any questions concerning this matter, please contact us at (601)961-5271.

Sincerely,

Michael J. Freiman
Municipal Permit Compliance Branch

Enclosure
cc: SRO
Mr. Michael Hom, USEPA

THIS COPY FOR

OFFICE OF POLLUTION CONTROL
P.O. Box 10385 Jackson, MS 39289.0385 Phone 601.961.5171 Fax 601.354.6612

United States Environmental Protection Agency, Washington, D.C., 20460

EPA NPDES Compliance Inspection Report

Form Approved
OMB No.2040-0003
Approval Expires
7-31-85

Section A: National Data System Coding

Transaction Code	NPDES	YR/MO/DAY	Inspection Type	Inspector	Facility Type	Sche d'd
N	MS0020826	99/03/23	C	S	1	FEB

Reserved	Facility Evaluation Rating	BI	QA	Reserved
	3	N	N	

Section B: Facility Data

Name and Location of Facility Inspected	Entry Time:	Permit Effective Date:
HATTIESBURG - NORTH WWTF HATTIESBURG, MISSISSIPPI	10:15 A.M.	10/13/92
	Exit Time/Date: 12:00 3/23/99	Permit Expiration Date: 10/12/97

Name(s) of On-Site Representative(s)	Title(s)	Phone No(s)
MR. CHUCK HENDERSON	OPERATOR	545-4531

Name,Address of Responsible Official	Title	
HON. J. ED MORGAN P O BOX 1898 HATTIESBURG MS 39403	MAYOR	
	Phone No. 545-4501	Contacted YES__ NO_X_

Section C: Areas Evaluated During Inspection (S-Satisfactory, M-Marginal, U-Unsatisfactory, N-Not Evaluated)

S Permit	S Flow Measurement	N Pretreatment	S Operations & Maintenance
S Records/Reports	N Laboratory	N Compliance Schedules	N Sludge Disposal
S Facility Site Review	S Effluent/Receiving Waters	S Self-Monitoring Program	Other

Section D: Summary of Findings/Comments

Names and Signatures of Inspectors	Agency/Office/Telephone	Date
MICHAEL J. FREIMAN	Office of Pollution Control	5/17/99
Signature of Reviewer GLENN L. ODOM	Agency/Office Office of Pollution Control	Date

NPDES COMPLIANCE INSPECTION REPORT

Date: 3-23-91 Inspector: M. FREIMAN

PERMITTEE:

HATTIESBURG - NORTH

MAILING ADDRESS:

BRIEF FACILITY DESCRIPTION:

AERATED LAGOON

I. PERMIT CHECKLIST

YES NO N/A 1. Correct name and mailing address of permittee.

YES NO N/A 2. Facility is as described in permit.

YES NO N/A 3. Notification has been given to EPA/State of new, different, increased discharges.

YES NO N/A 4. Number and location of discharge points are as described in the permit.

YES NO N/A 5. Name and location of receiving waters are correct.

YES NO N/A 6. All discharges are permitted.

YES NO N/A 7. All records required by permit are available for a minimum of three years.

II. SELF-MONITORING PROGRAM

A. General

YES NO N/A 1. Samples are taken at sites specified in permit.

YES NO N/A 2. Locations are adequate for representative samples.

YES NO N/A 3. Sampling and analysis completed on parameters specified by permit.

YES NO N/A 4. Sampling and analysis done in frequency specified by permit.

YES NO N/A 5. Permittee is using method of sample collection required by permit.

6. Sample collection procedures are adequate:

YES NO N/A a. Samples refrigerated during compositing

YES NO N/A b. Proper preservation techniques used

YES NO N/A c. Containers and sample holding times before analyses conform with 40 CFR 136.3

YES NO N/A 7. Monitoring and analyses are performed more often then required by permit. If so, results reported in permittee's self-monitoring report.

YES NO N/A 8. Analytical results are consistent with the data reported on the DMR's.

9. Sampling and Analysis Data are adequate and include:

YES NO N/A a. Dates, times, location of sampling

YES NO N/A b. Name of individual performing sampling

YES NO N/A c. Analytical methods and techniques

YES NO N/A d. Results of analysis

YES NO N/A e. Dates of analysis

YES NO N/A f. Name of person performing analysis

B. BOD_5 Test Evaluation - Contract LAB

1. D.O. method used;
   a. Winkler Titration _____
   b. D.O. Probe _____
   c. Other _____

2. If probe list calibration method;
   a. Air _____
   b. Saturated Water _____
   c. Winkler _____

YES NO N/A 3. Holding time; < 48 hrs

YES NO N/A 4. Preservation; 4 degree C

YES NO N/A 5. Incubation; 20 degree C

YES NO N/A 6. Sample D.O. depletions; between 2 mg/l and 6 mg/l

YES NO N/A 7. Blank D.O. variation; < 0.2 mg/l

8. If effluent is chlorinated:

YES NO N/A a. Sample dechlorinated. How? _____

YES NO N/A b. Sample seeded.

C. Total Suspended Solids Test Evaluation - Contract LAB

YES NO N/A 1. Holding time; < 7 days

YES NO N/A 2. Oven temperature; 103 degree - 105 degree C

YES NO N/A 3. Balance Calibrated. Frequency? _____

YES NO N/A 4. Balance Serviced at least yearly.

D. Ammonia Nitrogen Test Evaluation - Contract LAB

1. Method used; _____

YES NO N/A 2. Holding time; < 28 days

YES NO N/A 3. Preservative; 4 degree C, H_2SO_4 to pH < 2

E. Fecal Coliform Test Evaluation

1. Method used;
   a. MPN _____
   b. MF _____
   c. Other _____

YES NO N/A 2. Holding time; < 6 hrs

YES NO N/A 3. Preservative; Sterile container, 4 degree C

YES NO N/A 4. 0.008% $Na_2S_2O_3$ added if sample chlorinated.

YES NO N/A 5. Water bath temperature; 44.5 degree C

F. Dissolved Oxygen Test Evaluation

1. Method used;
   a. Winkler Titration _____
   b. D.O Probe _____
   c. Other _____

2. Calibration (See B. BOD_5 Test Evaluation #2)

G. pH Test Evaluation

YES NO N/A 1. EPA approved method used.
If not, method used: _____

YES NO N/A 2. Holding time; analyzed immediately

H. Aeration Tank Settleability Test Evaluation

YES NO N/A 1. 1000 ml graduated cylinders used

YES NO N/A 2. Time of test; 30 minutes

I. Residual Chlorine Test Evaluation

YES NO N/A 1. EPA approved method used.
If not, method used: HACH - COLORIMETER

YES NO N/A 2. Holding time; analyzed immediately

III. LABORATORY CHECKLIST

A. General

YES NO N/A 1. Written laboratory quality assurance manual is available.

B. Laboratory Procedures - NOT EVALUATED (CONTRACT LAB)

YES NO N/A 1. EPA approved analytical testing procedures are used.

YES NO N/A 2. Standard Methods (lastest edition) is available.

YES NO N/A 3. If alternate analytical procedures are used, proper approval has been obtained.

YES NO N/A 4. Calibration and maintenance of instruments and equipment is satisfactory and records are adequate.

YES NO N/A 5. Quality control procedures are used.

YES NO N/A 6. Commercial laboratory is used

Name BONNER ANALYTICAL
2703 OAK GROVE ROAD
Address HATTIESBURG MS 39402

Contact DR. MICHAEL BONNER

Phone 601-264-2854

C. Laboratory Facilities and Equipment

YES NO N/A 1. Proper grade distilled water is available for specific analysis.

YES NO N/A 2. Fume hood has enough ventilation capacity.

YES NO N/A 3. The laboratory has sufficient lighting.

YES NO N/A 4. Adequate electrical sources are available.

YES NO N/A 5. Instruments/equipment are in good condition.

YES NO N/A 6. Written requirements for daily operation of instruments are available.

YES NO N/A 7. Standards are available to perform daily check procedure.

YES NO N/A 8. Written trouble-shooting procedures for instruments are available.

YES NO N/A 9. Schedule for required maintenance exists.

YES NO N/A 10. Working standards are frequently checked.

YES NO N/A 11. Standards are discarded after recommended shelf life has expired.

YES NO N/A 12. Background reagents and solvents run with every series of samples.

YES NO N/A 13. Written procedures exist for cleanup, hazard response methods, and applications of correction methods for reagents and solvents.

IV. FACILITY SITE REVIEW CHECKLIST

YES NO N/A 1. Standby power or other equivalent provision is provided.

YES NO N/A 2. Adequate alarm system for power or equipment failures is available.

YES NO N/A 3. All treatment units, other than back-up units, are in service.

YES NO N/A 4. Procedures for facility operation and maintenance exist.

YES NO N/A 5. Organization plan (chart) for operation and maintenance is provided.

YES NO N/A 6. Operating schedules are established.

YES NO N/A 7. Emergency plan for treatment control is established.

8. Operating management control documents are current and include:

YES NO N/A a. Operating report
YES NO N/A b. Work schedule
YES NO N/A c. Activity report (time cards)

YES NO N/A 9. Adequate number of qualified operators are on-hand.

YES NO N/A 10. Established procedures are available for training new operators.

YES NO N/A 11. Adequate spare parts and supplies inventory and major equipment specifications are maintained.

YES NO N/A 12. Instruction files are kept for operation and maintenance of each item of major equipment.

YES NO N/A 13. Regulatory agency was notified of by-passing. (Dates_____)

YES NO N/A 14. Hydraulic and/or organic overloads are experienced. Reasons for overloads _____

Hydraulic + Organic - Growth in Area and Rainfall

YES NO N/A 15. Dated tags show out of service equipment.

YES NO N/A 16. Routine and preventive maintenance are scheduled/performed on time.

17. Plant Records are adequate and include:

YES NO N/A a. O&M Manual

YES NO N/A b. "As-built" engineering drawings

YES NO N/A c. Schedules and dates of equipment maintenance and repairs including cost.

YES NO N/A d. Equipment supplies manual

YES NO N/A e. Equipment data cards

V. SLUDGE DISPOSAL

1. Amount of sludge wasted daily from clarifier:
   a. _____ gallons/day
   b. _____ lbs/day (dry weight)

2. Check the method(s) utilizing for sludge handling:
   a. aerobic digestion ( )
   b. anaerobid digestion ( )
   c. filter press ( )
   d. drying bed ( )
   e. sludge lagoon ( )
   f. other _____ ( )

3. If sludge is hauled offsite for ultimate disposal, what is the quantity and freguency of hauling?
   a. Quantity: _____ tons
   b. Frequency: ( ) daily ( ) monthly
      ( ) weekly ( ) annually
   c. Ultimate Disposal Site:
      Name _____

      Location _____

YES (NO) N/A 4. If sludge is stored in an on-site lagoon or holding pond, has it ever been dredged or otherwise cleaned out? If so, when and where was the sludge disposed?
   When: _____

   Where: _____

VI. FLOW MEASUREMENT CHECKLIST

A. General

YES NO N/A 1. Primary flow measuring device is properly installed and maintained.

YES NO N/A 2. Flow records are properly kept.

YES NO N/A 3. Sharp drops or increases in flow values are accounted for.

YES NO N/A 4. Actual flow discharged is measured.

YES NO N/A 5. Influent flow is measured before all return lines.

YES NO N/A 6. Effluent flow is measured after all return lines.

YES NO N/A 7. Secondary instruments (totalizers, recorders, etc.) are properly operated and maintained.

YES NO N/A 8. Spare parts are stocked.

YES NO N/A 9. Flow monitoring records and charts are properly kept.

B. Flumes

YES NO N/A 1. Flow entering flume appears reasonable well distributed across the channel and free of turbulence, boils, or other distortions.

YES NO N/A 2. Cross-sectional velocities at entrance are relatively uniform.

YES NO N/A 3. Flume is clean and free of debris or deposits.

YES NO N/A 4. All dimensions of flume are accurate.

YES NO N/A 5. Side walls of flume are vertical and smooth.

YES NO N/A 6. Sides of flume throat are vertical and parallel.

YES NO N/A 7. Flume head is being measured at proper location.

YES NO N/A 8. Measurement of flume head is zeroed to flume crest.

YES NO N/A 9. Flume is of proper size to measure range of existing flow.

YES NO N/A 10. Flume is operating under free-flow conditions over existing range of flows.

C. Wiers

1. Type of weir used: Rectangular

YES NO N/A 2. The weir is exactly level.

YES NO N/A 3. The weir plate is plumb and its top edges are sharp and clean.

YES NO N/A 4. There is free access for air below the nappe of the weir.

YES NO N/A 5. Upstream channel of weir is straight for at least four times the depth of water level, and free from disturbing influences.

YES NO N/A 6. The stilling basin of the weir is of sufficient size and clear of debris.

YES NO N/A 7. Head measurements are properly made by facility personnel.

YES NO N/A 8. Proper flow tables are used by facility personnel.

D. Flowmeter

1. Type of flowmeter used: -N/A- INSTANTANEOUS

2. The most common problems experienced with the flowmeter: _____

3. Measured Wastewater flow: _____ mgd; Recorded flow: _____ mgd; Error _____ %

4. Design flow: _____ mgd.

YES NO N/A 5. Flow totalizer is properly calibrated.

6. Frequency of routine inspection by proper operator: _____ /day.

7. Frequency of maintenance inspections by plant personnel: _____ /year.

8. Frequency of flowmeter calibration: _____ /month.

YES NO N/A 9. Flowmeter adequate to handle expected ranges of flow rates.

YES NO N/A 10. Venturi meter is properly installed and calibrated.

YES NO N/A 11. Electromagnetic flowmeter is properly calibrated.

VIII. COMPLIANCE SCHEDULE STATUS REVIEW

YES NO N/A 1. The permittee has obtained necessary approvals to begin construction.

YES NO N/A 2. Financing arrangements are complete.

YES NO N/A 3. Contracts for engineering services have been executed.

YES NO N/A 4. Design plans and specifications have been completed.

YES NO N/A 5. Construction has begun.

YES NO N/A 6. Construction is on schedule.

YES NO N/A 7. Equipment acquisition is on schedule.

YES NO N/A 8. Construction has been completed.

YES NO N/A 9. Start-up has begun.

YES NO N/A 10. The permittee has requested an extension of time.

YES NO N/A 11. The permittee has met compliance schedule.

Scheduled _____ **AERATED LAGOON INSPECTION REPORT** NPDES No _____

Name of Facility (Mun., Ind., Private) Hattiesburg - North

County _____ Person Contacted _____ Phone No _____

1. Pumping station Yes X No___
   a. Dual Pumps: Yes X No___
   b. Pumps Operable: Yes X No___
   Comment: _____

2. Aeration Cell
   a. Color: Gray 1st Green 2nd
   b. Odor: Some
   c. Floating Solids: No___ Few ___ Many ___
   d. Effluent Structure Condition: Good___ Poor___
   e. Dikes:
      Condition: Good
      Freeboard: 6 Ft
      Grass: Cut
   f. Aerators:
      Number 9/cell
      Operable: Yes X No___
      Timed: Yes___ No X
   Comment: _____

3. Settling Cell
   a. Color: Lt. Green
   b. Odor: Yes___ No X
   c. Floating Solids: No___ Few X Many___
   d. Skimming: Yes___ No___
   e. Effluent Structure Condition: Good X Poor___
   f. Dikes:
      Condition: Good___ Poor___
      Freeboard: 12 Ft
      Grass: Cut
   Comment: Dike Erosion

4. Chlorinator and Contact Chamber Yes X No___
   a. Operating: Yes___ No___
   b. Baffles Adequate: Yes___ No___
   c. Housing: Yes X No___
   d. Cylinders on Hand: Yes___ No___
      How many? _____
   e. Solids in Contact chamber: Yes___ No___
   f. Air gap in solution line: Yes___ No___
   g. Chlorine Residual: Yes___ No___
   Comment: Water line out

5. Effluent
   a. Color: Turbid ___ Clear X
   b. Odor: Yes___ No X
   c. Sample Taken: Yes___ No X
   Comment: _____

6. General
   a. Fence: Yes X No___
      Locked: Yes X No___
   b. Upkeep: Good X Poor___
   c. Access Road Condition: Good X Poor___
   d. Safety Hazards: Yes___ No___
   Comment: _____

7. Certified Operator
   Yes X No ___ Date departed: _____
   Name: _____
   Cert. No.: _____ Class: ___ Expires: _____

8. Inspectors recommendations to person contacted: _____

9. Verbal commitments of person contacted to correct problems: _____

10. General comments: _____

11. Does this situation warrant action from the Jackson office: Yes___ No___

12. Follow-up inspection scheduled: Yes___ Date _____ No___

Inspector: M. Freiman

Date: _____ Time: _____

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
James I. Palmer, Jr., Executive Director

August 6, 1999

Mr. Chuck Henderson, Manager
Water and Sewer Department
City of Hattiesburg
P. O. Box 1898
Hattiesburg, Mississippi 39403

Dear Mr. Henderson:

Re: NPDES Permit No. MS0020303
Hattiesburg South Facility
Compliance Inspection (CMI)

Enclosed is a copy of the compliance inspection report and sampling results that were taken at the above referenced facility on February 2, 1999.

The results of this inspection should be used by you as a guide for complying with requirements found in your NPDES permit.

If you have any questions concerning this matter, please contact us at (601)961-5271.

Sincerely,

Michael J. Freiman
Municipal Permit Compliance Branch

Enclosure
cc: Mr. Michael Hom, USEPA

THIS COPY FOR

OFFICE OF POLLUTION CONTROL
P.O. Box 10385 Jackson, MS 39289.0385 Phone 601.961.5171 Fax 601.354.6612

Scheduled Feb. 1999 AERATED LAGOON INSPECTION REPORT NPDES NO. 20303

Name of Facility (Mun., Ind., Private) Hattiesburg South Lagoon
County Forrest Person Contacted Leroy Scott Phone No. 545-4531

1. Pumping Station: Yes X No___
   a. Dual Pumps: Yes X No___
   b. Pumps Operable: Yes X No___
   Comment: Main pump just put back on line after severe weather.
2. Aeration Cell:
   a. Color: Green
   b. Odor: Yes___ No X
   c. Floating solids: None X Few___ Many___
   d. Effluent structure condition: Good X Poor___
   e. Dikes:
      Condition: Good
      Freeboard: 10-15 FT.
      Grass: O.K.
   f. Aerators:
      Number: 72
      Operable: Yes___ No X
      Timed: Yes___ No X
      Comment: Switched off at time of inspection & sampling (see comments).
3. Settling Cell:
   a. Color: Green
   b. Odor: Yes___ No X
   c. Floating solids: None X Few___ Many___
   d. Skimming: Yes X No___
   e. Effluent structure condition: Good X Poor___
   f. Dikes:
      Condition: Good
      Freeboard: 10-15 FT.
      Grass: O.K.
      Comment: *
4. Chlorinator and Contact Chamber: Yes___ No X
   a. Operating: Yes___ No___
   b. Baffles adequate: Yes___ No___
   c. Housing: Yes___ No___
   d. Cylinder on hand: Yes___ No___
      How many:
   e. Solids in contact chamber: Yes___ No___
   f. Air gap in solution line: Yes___ No___
   g. Chlorine residual: ___Mg/l Yes___ No___
   Comment: Chlorination system being installed.
5. Effluent:
   a. Color: Turbid X Clear___
   b. Odor: Yes___ No X
   c. Sample taken: Yes X No___
   Comment: Light transparent green effluent. Grab samples: BOD-SS, fecal
6. General:
   a. Fence: Yes X No___
      Locked: Yes X No___
   b. Upkeep: Good X Poor___
   c. Access road condition: Good X Poor___
   d. Safety hazards: Yes___ No X
   Comment: None
7. Certified Operator:
   Yes X No___ Date departed
   Name: Chuck Henderson
   Cert. No.: 3033 Class: III Exp: 10-1-99

8. Inspectors recommendations to person contacted: As planned restore aeration units to normal operation.

9. Verbal commitments of person contacted to correct problems: Will comply.

10. General comments: About 12 aerators out of service, five of which flipped over during recent severe weather on 1-30-99. Plant lift station being operated manually until new switchboard installed.
*High flow after heavy rain allowing some overflow over skimmer on north outfall structure.

11. Does this situation warrant action from the Jackson Office: Yes___ No X

12. Follow-up inspection scheduled: Yes___ Date___ No X

Inspector: Mike Egan

Date: 2-2-99 Time: 10:45 a.m.

BUREAU OF POLLUTION CONTROL
SAMPLE REQUEST FORM

Lab Bench No.: 0397
Cost Code: 3700

I. GENERAL INFORMATION:

Facility Name: Hattiesburg Aerated Lagoon
County Code: 0800
Discharge No: 001
Sample Point Identification:

NPDES Permit No.: 20826
Date Requested:

Data To: M. Freiman

Type of Sample: Grab: X Composite: Flow: Time: Other:

II. SAMPLE IDENTIFICATION:

Environment Condition: Good
Where Taken: Final outfall structure near Bowie River

Collected By: M. Egan

	Type	Parameters	Preservative	Date	Time
1.	Grab	BOD,SS	Cool	2-2-99	1155
2.	Grab	Fecal	Cool	2-2-99	1155
3.					
4.					
5.					
6.					

III. FIELD:

Analysis	Computer Code	Req	Results	Analyst	Date
pH	000400	X	7.1	ME	2-2-99
D.O.	000300				
Temperature	000010				
ResidualChlorine	050060	X	0.27	ME	2-2-99
Flow	074060	X	1.94 MGD	ME	2-2-99

IV. TRANSPORTATION OF SAMPLE:

Bus: X RO Vehicle: Other:

V. LABORATORY:

Received by: Otis Clark Date: 2-3-99 Time: 1030
Recorded by: T. Sawyer Date Sent to State Office: 2-24-99

Remarks:

TARGET COMPOUND LIST
WET CHEMISTRY PARAMETERS

Lab Bench No.: 0397

Analysis	Computer Code	Req	Result	Analyst	Date Measured or Date Test Initiated
BOD	000310	X	11.0 mg/l	VS	2-4-99
COD	000340		mg/l		
TOC	000680		mg/l		
Suspended Solids	099000	X	25.0 mg/l	VS	2-4-99
TKN	000625		mg/l		
Ammonia-N	000610		mg/l		
Fecal Coliform	074055	X	800 colonies/100ml	MJ	2-5-99
Total Phosphorous	000665		mg/l		
Oil & Grease	000550		mg/l		
Chlorides	099016		mg/l		
Phenol	032730		mg/l		
Cyanide	000722		mg/l		
Nitrate-Nitrite	000630		mg/l		
Alkalinity	000410		mg/l		
Hardness	000900		mg/l		

BUREAU OF POLLUTION CONTROL
SAMPLE REQUEST FORM

Lab Bench No.: 0395
Cost Code: 3700

I. GENERAL INFORMATION:

Facility Name: Hattiesburg Aerated Lagoon
County Code: 0800 NPDES Permit No.: 20303
Discharge No: 002 Date Requested:
Sample Point Identification: Effluent - South discharge
Requested By: Compliance Monitor Data To: M. Freiman
Type of Sample: Grab: X Composite: Flow: Time: Other:

II. SAMPLE IDENTIFICATION:

Environment Condition: Good Collected By: M. Egan
Where Taken: Oulfall structure of lagoon

	Type	Parameters	Preservative	Date	Time
1.	Grab	BOD,SS	Cool	2-2-99	1145
2.	Grab	Fecal	Cool	2-2-99	1145
3.					
4.					
5.					
6.					

III. FIELD:

Analysis	Computer Code	Req	Results	Analyst	Date
pH	000400	X	7.24	ME	2-2-99
D.O.	000300				
Temperature	000010				
ResidualChlorine	050060				
Flow	074060	X	7.24 MGD	ME	2-2-99

IV. TRANSPORTATION OF SAMPLE:

Bus: X RO Vehicle: Other:

V. LABORATORY:

Received by: Otis Clark Date: 2-3-99 Time: 1030
Recorded by: T. Sawyer Date Sent to State Office: 2-24-99

Remarks: Flow taken by inserting measuring stick in pvc pipe that connects to underground parshall flume channell

TARGET COMPOUND LIST
WET CHEMISTRY PARAMETERS

Lab Bench No.: 0395

Analysis	Computer Req Code		Result	Analyst	Date Measured or Date Test Initiated
BOD	000310	X	9.0 mg/l	VS	2-4-99
COD	000340		mg/l		
TOC	000680		mg/l		
Suspended Solids	099000	X	7.0 mg/l	VS	2-4-99
TKN	000625		mg/l		
Ammonia-N	000610		mg/l		
Fecal Coliform	074055	X	170 colonies/100ml	MJ	2-5-99
Total Phosphorous	000665		mg/l		
Oil & Grease	000550		mg/l		
Chlorides	099016		mg/l		
Phenol	032730		mg/l		
Cyanide	000722		mg/l		
Nitrate-Nitrite	000630		mg/l		
Alkalinity	000410		mg/l		
Hardness	000900		mg/l		

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
James I. Palmer, Jr., Executive Director

August 5, 1999

Mr. Chuck Henderson, Manager
Water and Sewer Department
City of Hattiesburg
P. O. Box 1898
Hattiesburg, Mississippi 39403

Dear Mr. Henderson:

Re: NPDES Permit No. MS0020826
Hattiesburg North Facility
Compliance Inspection (CMI)

Enclosed is a copy of the compliance inspection report and sampling that was performed at the above referenced facility on February 2, 1999. The results of this inspection should be used by you as a guide for complying with requirements found in your NPDES permit.

If you have any questions concerning this matter, please contact us at (601)961-5271.

Sincerely,

Michael J. Freiman
Municipal Permit Compliance Branch

Enclosure
cc: SRO
Mr. Michael Hom, USEPA ← THIS COPY FOR

OFFICE OF POLLUTION CONTROL
P.O. Box 10385 Jackson, MS 39289.0385 Phone 601.961.5171 Fax 601.354.6612

Scheduled Feb. 1999 AERATED LAGOON INSPECTION REPORT NPDES NO. 20826

Name of Facility (Mun/,Ind.,Private) Hattiesburg North Lagoon
County Forrest Person Contacted Leroy Scott Phone No. 545-4531

1. Pumping Station: Yes X No
   a. Dual Pumps: Yes X No
   b. Pumps Operable: Yes X No
   Comment: None

2. Aeration Cell:
   a. Color: Dark gray
   b. Odor: Yes X No
   c. Floating solids: None Few X Many
   d. Effluent structure condition: Good X Poor
   e. Dikes:
      Condition: Good
      Freeboard: 12 FT.
      Grass: O.K.
   f. Aerators:
      Number: 18
      Operable: Yes No X
      Timed: Yes No X
      Comment: Two of 18 aerators out of service; one pulled and in shop for repair

3. Settling Cell:
   a. Color: Dark green
   b. Odor: Yes No X
   c. Floating solids: None Few X Many
   d. Skimming: Yes X No
   e. Effluent structure condition: Good X Poor
   f. Dikes:
      Condition: Fair - some erosion of banks
      Freeboard: 10-12 FT.
      Grass: O.K.
      Comment: None

4. Chlorinator and Contact Chamber: Yes X No
   a. Operating: Yes X No
   b. Baffles adequate: Yes X No
   c. Housing: Yes X No
   d. Cylinder on hand: Yes X No
      How many: 2 on line, 4 spare
   e. Solids in contact chamber: Yes X No
   f. Air gap in solution line: Yes X No
   g. Chlorine residual: 0.27 Mg/l Yes X No
   Comment: None

5. Effluent:
   a. Color: Turbid X Clear
   b. Odor: (Slight) Yes X No
   c. Sample taken: Yes X No
   Comment: Grabs collected: BOD-SS, fecal. Slight discoloration of river at discharge point.

6. General:
   a. Fence: Yes X No
      Locked: Yes X No
   b. Upkeep: Good X Poor
   c. Access road condition: Good X Poor
   d. Safety hazards: Yes No X
   Comment: None

7. Certified Operator:
   Yes X No Date departed
   Name: Chuck Henderson
   Cert. No.: 3033 Class: III Exp: 10-1-99

8. Inspectors recommendations to person contacted: None

9. Verbal commitments of person contacted to correct problems: N/A

10. General comments: None

11. Does this situation warrant action from the Jackson Office: Yes No X

12. Follow-up inspection scheduled: Yes Date No X

Inspector: Mike Egan

Date: 2-2-99 Time: 11:15 a.m.

BUREAU OF POLLUTION CONTROL
SAMPLE REQUEST FORM

Lab Bench No.: 0396
Cost Code: 3700

I. GENERAL INFORMATION:

Facility Name: Hattiesburg Aerated Lagoon
County Code: 0800 NPDES Permit No.: 20303
Discharge No: 001 Date Requested:
Sample Point Identification: Effluent - North discharge
Requested By: Compliance Monitoring Data To: M. Freiman
Type of Sample: Grab: X Composite: Flow: Time: Other:

II. SAMPLE IDENTIFICATION:

Environment Condition: Good Collected By: M. Egan
Where Taken: Effluent structure at Lagoon

	Type	Parameters	Preservative	Date	Time
1.	Grab	BOD,SS	Cool	2-2-99	1155
2.	Grab	Fecal	Cool	2-2-99	1155
3.					
4.					
5.					
6.					

III. FIELD:

Analysis	Computer Code	Req	Results	Analyst	Date
pH	000400	X	7.5	ME	2-2-99
D.O.	000300				
Temperature	000010				
ResidualChlorine	050060				
Flow	074060	X	4.39 MGD	ME	2-2-99

IV. TRANSPORTATION OF SAMPLE:

Bus: X RO Vehicle: Other:

V. LABORATORY:

Received by: Otis Clark Date: 2-3-99 Time: 1030
Recorded by: T. Sawyer Date Sent to State Office: 2-24-99

Remarks:

TARGET COMPOUND LIST
WET CHEMISTRY PARAMETERS

Lab Bench No.: 0396

Analysis	Computer Req Code		Result		Analyst	Date Measured or Date Test Initiated
BOD	000310	X	< 2.0	mg/l	VS	2-4-99
COD	000340	X	57.0	mg/l	VS	2-16-99
TOC	000680			mg/l		
Suspended Solids	099000	X	30.0	mg/l	VS	2-4-99
TKN	000625			mg/l		
Ammonia-N	000610			mg/l		
Fecal Coliform	074055	X	1,300	colonies/100ml	MJ	2-5-99
Total Phosphorous	000665			mg/l		
Oil & Grease	000550			mg/l		
Chlorides	099016			mg/l		
Phenol	032730			mg/l		
Cyanide	000722			mg/l		
Nitrate-Nitrite	000630			mg/l		
Alkalinity	000410			mg/l		
Hardness	000900			mg/l		

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

April 21, 1997

Mr. Charles Henderson, Division Manager
City of Hattiesburg
P. O. Box 1898
Hattiesburg, Mississippi 39401

Dear Mr. Henderson:

Re: NPDES Permit No. MS0020303
Hattiesburg South Facility
NPDES Permit No. MS0020826
Hattiesburg North Facility
Compliance Inspections (CMI)

Enclosed are copies of the compliance inspection reports and sampling results that were performed at the above referenced facilities on March 5, and April 4, 1997. The results of these inspections should be used by you as a guide for complying with requirements and limitations as stated by your NPDES permits. The inspections indicated that the facility was in compliance.

If you have any questions concerning this matter, please contact us at 961-5171.

Respectfully,

Michael J. Freiman
Municipal Permit Compliance Branch

MJF
Enclosures
cc: Mr. Michael Hom EPA (w/enclosures) THIS COPY FOR SRO
Mr. Paul Zetterholm (w/attachment)

Scheduled April 1997 **AERATED LAGOON INSPECTION REPORT** NPDES No 20303

Name of Facility (Mun., Ind., Private) Hattiesburg South (001)

County Forrest Person Contacted Brian Childress Phone No 545-4531

1. Pumping station: Yes X No___
   a. Dual Pumps: Yes X No___
   b. Pumps Operable: Yes X No___
   Comment: None

2. Aeration Cell: (2)
   a. Color: Green
   b. Odor: None
   c. Floating Solids: No X Few ___ Many ___
   d. Effluent Structure Condition: Good X Poor___
   e. Dikes:
      Condition: Good
      Freeboard: 16 Ft
      Grass: Good
   f. Aerators:
      Number 72
      Operable: (58) Yes X No___
      Timed: Yes___ No X
   Comment: 58 operating, 24 hours

3. Settling Cell:
   a. Color: Green
   b. Odor: Yes___ No X
   c. Floating Solids: No X Few___ Many___
   d. Skimming: N/A Yes___ No___
   e. Effluent Structure Condition: Good X Poor___
   f. Dikes:
      Condition: Good X Poor___
      Freeboard: 16 Ft
      Grass: Good
   Comment: None

4. Chlorinator and Contact Chamber: Yes___ No X
   a. Operating: Yes___ No___
   b. Baffles Adequate: Yes___ No___
   c. Housing: Yes___ No___
   d. Cylinders on Hand: Yes___ No___
      How many? ___
   e. Solids in Contact chamber: Yes___ No___
   f. Air gap in solution line: Yes___ No___
   g. Chlorine Residual: Yes___ No___
   Comment: None

5. Effluent: (2)
   a. Color: Turbid ___ Clear X
   b. Odor: Yes___ No X
   c. Sample Taken: Yes___ No X
   Comment: Clear green

6. General:
   a. Fence: Yes X No___
      Locked: Yes X No___
   b. Upkeep: Good X Poor___
   c. Access Road Condition: Good X Poor___
   d. Safety Hazards: Yes___ No X
   Comment: None

7. Certified Operator:
   Yes X No ___ Date departed: ___
   Name: Chuck Henderson
   Cert. No.: 3033 Class: III Expires: 10-1-99

8. Inspectors recommendations to person contacted: None

9. Verbal commitments of person contacted to correct problems: None

10. General comments: None

11. Does this situation warrant action from the Jackson office: Yes___ No X

12. Follow-up inspection scheduled: Yes___ Date ___ No X

Inspector: Jeff Bonck

Date: 4-4-97 Time: 11:00 a.m.

BUREAU OF POLLUTION CONTROL
SAMPLE REQUEST FORM

Lab Bench No.: 391
Cost Code: 3200

I. GENERAL INFORMATION:

Facility Name: Hattiesburg Aerated Lagoon - South
County Code: 0800 NPDES Permit No.: 20303
Discharge No: 001 Date Requested:
Sample Point Identification: Effluent - north discharge
Requested By: Compliance Monitoring Data To:Mike Freiman
Type of Sample: Grab: X Composite: Flow: Time: Other:

II. SAMPLE IDENTIFICATION:

Environment Condition: Sunny/clear Collected By: J.Bonck
Where Taken: Effluent pipe

	Type	Parameters	Preservative	Date	Time
1.	Grab	BOD,SS	Cool	3/3/97	140
2.	Gran	Fecal	Cool	3/3/97	140
3.					
4.					
5.					

III. FIELD:

Analysis	Computer Code	Req	Results	Analyst	Date
pH	000400	X	8.5	JB	3/3/97
D.O.	000300				
Temperature	000010				
ResidualChlorine	050060				
Flow	074060	X	2.93 mgd	JB	3/3/97

IV. TRANSPORTATION OF SAMPLE:

Bus: X RO Vehicle: Other:

V. LABORATORY:

Received by: Kathy Farris Date: 3/5/97 Time: 1030
Recorded by: Dot Lewis Date Sent to State Office: 4/2/97

VI. Remarks:

TARGET COMPOUND LIST
WET CHEMISTRY PARAMETERS

Lab Bench No.: 391

Analysis	Computer Req Code		Result		Analyst	Date Measured or Date Test Initiated
BOD	000310	X	<9.0	mg/l	VS	3/5/97
COD	000340	X	93.0	mg/l	VS	3/12/97
TOC	000680			mg/l		
Suspended Solids	099000	X	25.0	mg/l	KF	3/7/97
TKN	000625			mg/l		
Ammonia-N	000610			mg/l		
Fecal Coliform	074055	X	1300	colonies/100ml	SN	3/3/97
Total Phosphorous	000665			mg/l		
Oil & Grease	000550			mg/l		
Chlorides	099016			mg/l		
Phenol	032730			mg/l		
Cyanide	000722			mg/l		

Remarks: _____

BUREAU OF POLLUTION CONTROL
SAMPLE REQUEST FORM

Lab Bench No.: 392
Cost Code: 3200

I. GENERAL INFORMATION:

Facility Name: Hattiesburg Aerated Lagoon - South
County Code: 0800 NPDES Permit No.: 20303
Discharge No: 002 Date Requested:
Sample Point Identification: Effluent - south discharge
Requested By: Compliance Monitoring Data To:Mike Freiman
Type of Sample: Grab: X Composite: Flow: Time: Other:

II. SAMPLE IDENTIFICATION:

Environment Condition: Sunny/clear Collected By: J.Bonck
Where Taken: Effluent pipe

	Type	Parameters	Preservative	Date	Time
1.	Grab	BOD,SS	Cool	3/3/97	200
2.	Gran	Fecal	Cool	3/3/97	200
3.					
4.					
5.					

III. FIELD:

Analysis	Computer Code	Req	Results	Analyst	Date
pH	000400	X	7.3	JB	3/3/97
D.O.	000300				
Temperature	000010				
ResidualChlorine	050060				
Flow	074060	X	7.235 mgd	JB	3/3/97

IV. TRANSPORTATION OF SAMPLE:

Bus: X RO Vehicle: Other:

V. LABORATORY:

Received by: Kathy Farris Date: 3/5/97 Time: 1030
Recorded by: Dot Lewis Date Sent to State Office: 4/2/97

VI. Remarks:

TARGET COMPOUND LIST
WET CHEMISTRY PARAMETERS

Lab Bench No.: 392

Analysis	Computer Code	Req	Result	Analyst	Date Measured or Date Test Initiated
BOD	000310	X	<8.0 mg/l	VS	3/5/97
COD	000340	X	82.0 mg/l	VS	3/12/97
TOC	000680		mg/l		
Suspended Solids	099000	X	26.0 mg/l	KF	3/7/97
TKN	000625		mg/l		
Ammonia-N	000610		mg/l		
Fecal Coliform	074055	X	300 colonies/100ml	SN	3/3/97
Total Phosphorous	000665		mg/l		
Oil & Grease	000550		mg/l		
Chlorides	099016		mg/l		
Phenol	032730		mg/l		
Cyanide	000722		mg/l		

Remarks: _____

BUREAU OF POLLUTION CONTROL
SAMPLE REQUEST FORM

Lab Bench No.: 393
Cost Code: 3200

I. GENERAL INFORMATION:

Facility Name: Hattiesburg Aerated Lagoon - North
County Code: 0800 NPDES Permit No.: 20826
Discharge No: 002 Date Requested:
Sample Point Identification: Effluent - south discharge
Requested By: Compliance Monitoring Data To:Mike Freiman
Type of Sample: Grab: X Composite: Flow: Time: Other:

II. SAMPLE IDENTIFICATION:

Environment Condition: Clear sky Collected By: J.Bonck
Where Taken: Rectangular weir

	Type	Parameters	Preservative	Date	Time
1.	Grab	BOD,SS	Cool	3/3/97	1235
2.	Gran	Fecal	Cool	3/3/97	1235
3.					
4.					
5.					

III. FIELD:

Analysis	Computer Code	Req	Results	Analyst	Date
pH	000400	X	7.07	JB	3/3/97
D.O.	000300				
Temperature	000010				
ResidualChlorine	050060	X	.21	JB	3/3/97
Flow	074060	X	1.94 mgd	JB	3/3/97

IV. TRANSPORTATION OF SAMPLE:

Bus: X RO Vehicle: Other:

V. LABORATORY:

Received by: Kathy Farris Date: 3/5/97 Time: 1030
Recorded by: Dot Lewis Date Sent to State Office: 4/2/97

VI. Remarks:

TARGET COMPOUND LIST
WET CHEMISTRY PARAMETERS

Lab Bench No.: 393

Analysis	Computer Req Code		Result		Analyst	Date Measured or Date Test Initiated
BOD	000310	X	22.0	mg/l	VS	3/5/97
COD	000340			mg/l		
TOC	000680			mg/l		
Suspended Solids	099000	X	15.0	mg/l	KF	3/7/97
TKN	000625			mg/l		
Ammonia-N	000610			mg/l		
Fecal Coliform	074055	X	5000	colonies/100ml	SN	3/3/97
Total Phosphorous	000665			mg/l		
Oil & Grease	000550			mg/l		
Chlorides	099016			mg/l		
Phenol	032730			mg/l		
Cyanide	000722			mg/l		

Remarks: _____

Scheduled April 1997 **AERATED LAGOON INSPECTION REPORT** NPDES No 20826

Name of Facility (Mun., Ind., Private) Hattiesburg North

County Forrest Person Contacted Brian Childress Phone No 545-4531

1. Pumping station: Yes X No___
   a. Dual Pumps: Yes X No___
   b. Pumps Operable: Yes X No___
   Comment: None

2. Aeration Cell: (2)
   a. Color: Green
   b. Odor: None
   c. Floating Solids: No___ Few X Many ___
   d. Effluent Structure Condition: Good X Poor___
   e. Dikes:
      Condition: Good
      Freeboard: 12 Ft
      Grass: Good
   f. Aerators:
      Number 18
      Operable: Yes X No___
      Timed: Yes___ No X
   Comment: None

3. Settling Cell:
   a. Color: Dark green
   b. Odor: Yes___ No X
   c. Floating Solids: No X Few___ Many___
   d. Skimming: Yes X No___
   e. Effluent Structure Condition: Good X Poor___
   f. Dikes:
      Condition: Good X Poor___
      Freeboard: 16 Ft
      Grass: Good
   Comment: Trees growing on levee.

4. Chlorinator and Contact Chamber: Yes X No___
   a. Operating: Yes X No___
   b. Baffles Adequate: Yes X No___
   c. Housing: Yes X No___
   d. Cylinders on Hand: Yes X No___
      How many? 8 - 150 lbs.
   e. Solids in Contact chamber: Yes___ No X
   f. Air gap in solution line: Yes X No___
   g. Chlorine Residual: Yes___ No___
   Comment: Did not perform chlorine residual test.

5. Effluent:
   a. Color: Turbid ___ Clear X
   b. Odor: Yes___ No X
   c. Sample Taken: Yes___ No X
   Comment: None

6. General:
   a. Fence: Yes X No___
      Locked: Yes X No___
   b. Upkeep: Good X Poor___
   c. Access Road Condition: Good X Poor___
   d. Safety Hazards: Yes___ No X
   Comment: None

7. Certified Operator:
   Yes X No ___ Date departed: ___
   Name: Chuck Henderson
   Cert. No.: 3033 Class: III Expires: 10-1-99

8. Inspectors recommendations to person contacted: To remove trees on settling cell.

9. Verbal commitments of person contacted to correct problems: To cut trees.

10. General comments: None

11. Does this situation warrant action from the Jackson office: Yes___ No X

12. Follow-up inspection scheduled: Yes___ Date___ No X

Inspector: Jeff Bonck

Date: 4-4-97 Time: 11:45 a.m.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

NOV 13 1995

CERTIFIED MAIL P124 043257
RETURN RECEIPT REQUESTED

REF: 4WM-WPEB

Honorable J. Ed Morgan
Mayor of City of Hattiesburg
Post Office Box 1898
Hattiesburg, MS 39403

SUBJ: Compliance Evaluation Inspection
NPDES Permit Number MS0020826

Dear Mayor Morgan:

This office would like to thank your staff for their assistance during the Compliance Evaluation Inspection of the City's North Lagoon wastewater treatment facility on August 21, 1995. The inspection results have been summarized for the facility in the enclosed NPDES Compliance Inspection Report. One or more aspects of plant operations or record keeping were observed as being deficient during the inspection. These deficiencies are highlighted in the attached narrative, followed by their Regulatory Requirement. In addition, Suggestions are included to increase the integrity of the City's self-monitoring program.

Please provide us with the corrective actions the City has taken, or will take, to correct the noted deficiencies. This information must be submitted to this office by November 30, 1995. Until such time as the City achieves compliance with all conditions of its NPDES permit, the City is considered to be in violation of and subject to enforcement action pursuant to the Clean Water Act, 33 U.S.C. Section 1319.

If you have any questions as to the requirements of the permits, or the inspection results, please contact Mr. Roy A. Herwig, P.E. at (404) 347-4793, extension 4255.

Sincerely yours,

Michael Hom, Chief
FL/NC/MS Unit
Enforcement Section
Water Permits and Enforcement Branch
Water Management Division

Enclosures
cc: Mississippi Department of Environmental Quality

Cert #:P124043257 Date Mailed:11/13/95

To:HONORABLE MORGAN

Street:P.O. BX 1898

City:HATTIESBURG State:MS Zip:39403

Sender:ROY HERWIG

Division:WMD Unit:GA

Floor:7TH Building:TOWER Ext.:4255

Alternate: Alt-Ext.:

Date Returned: / /

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

CERTIFIED MAIL P 124 043 257 NOV 13 1995
RETURN RECEIPT REQUESTED

REF: 4WM-WPEB

Honorable J. Ed Morgan
Mayor of City of Hattiesburg
Post Office Box 1898
Hattiesburg, MS 39403

SUBJ: Compliance Evaluation Inspection
NPDES Permit Number MS0020826

Dear Mayor Morgan:

This office would like to thank your staff for their assistance during the Compliance Evaluation Inspection of the City's North Lagoon wastewater treatment facility on August 21, 1995. The inspection results have been summarized for the facility in the enclosed NPDES Compliance Inspection Report. One or more aspects of plant operations or record keeping were observed as being deficient during the inspection. These deficiencies are highlighted in the attached narrative, followed by their Regulatory Requirement. In addition, Suggestions are included to increase the integrity of the City's self-monitoring program.

Please provide us with the corrective actions the City has taken, or will take, to correct the noted deficiencies. This information must be submitted to this office by November 30, 1995. Until such time as the City achieves compliance with all conditions of its NPDES permit, the City is considered to be in violation of and subject to enforcement action pursuant to the Clean Water Act, 33 U.S.C. Section 1319.

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Sincerely yours,

Michael Hom, Chief
FL/NC/MS Unit
Enforcement Section
Water Permits and Enforcement Branch
Water Management Division

Enclosures
cc: Mississippi Department of Environmental Quality

RAH
HERWIG
11/6/95

United States Environmental Protection Agency
Washington, D.C., 20460

NPDES Compliance Inspection Report

Form Approved
OMB No.2040-0003
Approval Expires
7-31-85

Section A: National Data System Coding

Transaction Code	NPDES	YR/MO/DAY	Inspection Type	Inspector	Fac Type
N 5	MS0020826	95/08/21	C	R	1

Remarks

Reserved	Facility Evaluation Rating	BI	QA	.....Reserved.....
	3	N	N	

Section B: Facility Data

Name and Location of Facility Inspected	Entry Time/Date:	Permit Effective Date:
City of Hattiesburg North Plant, Lagoon Complex #2	11:30am 8/21/95	10/13/92
	Exit Time/Date: 4:35pm 8/21/95	Permit Expiration Date: 10/12/97

Name(s) of On-Site Representative(s)	Title(s)	Phone No(s)
Charles E. "Chuck" Henderson, II	Water and Wastewater Treatment Division Manager	(601) 545-4630

Name, Address of Responsible Official	Title	
Hon. J. Ed Morgan P.O. Box 1898 Hattiesburg, MS 39403	Mayor	
	Phone No. (601) 545-4501	Contacted? No

Section C: Areas Evaluated During Inspection (S-Satisfactory, M-Marginal, U-Unsatisfactory, N-Not Evaluated)

S Permit	N Flow Measurement	N Pretreatment	S Operations & Maintenance
M Records/Reports	N Laboratory	N Compliance Schedules	N Sludge Disposal
S Facility Site Review	S Effluent/Receiving Waters	M Self-Monitoring Program	N Other

Section D: Summary of Findings/Comments

Note - Public Works Department is located at 900 James Street.
See Attached Narrative

Name(s) and Signature(s) of Inspectors	Agency/Office/Telephone	Date
Roy A. Herwig, P.E.	US-EPA/WMD/(404)- 347-4793 ext. 4255	Oct. 12, 1995
		Date
Signature of Reviewer	Agency/Office	Date

Regulatory Office Use Only

Action Taken	Date	__ Noncompliance __ Compliance

EPA Form 3560-3 (Rev. 3-85) Previous editions are obsolete

City of Hattiesburg, Mississippi
NPDES Permit Number MS0020303
Compliance Evaluation Inspection
August 21, 1995

On August 21, 1995, Mr. Roy A. Herwig, P.E. of the United States Environmental Protection Agency, Region 4, conducted a compliance evaluation inspection at the City of Hattiesburg, Mississippi North Lagoon (Lagoon Complex Number 2). Mr. Chuck Henderson, Division Manager was present during the inspection.

Permit

Permit was located at the Department of Public Works office as there is no control building at the facility site.

Records/Reports

Observation: The City did not maintain a sampling log because the samples are collected by the contract laboratory. City personnel do not routinely accompany contract laboratory personnel during sample collection.

Requirement: The permit requires that the exact place, date and time of sampling be recorded. Further, the name of the individual collecting the sample should be recorded.

Suggestion: A City employee should accompany the contract laboratory employee when samples are collected and should record relevant sampling information in the sampling log.

Observation: Chain-of-custody forms are not kept by the City.

Suggestion: The City should maintain chain-of-custody forms for all samples collected at the facility and analyzed by the contract laboratory.

Facility Site Review

The facility is comprised of two(2) nine acre aerated lagoons in parallel followed by a single polishing pond and disinfection.

Flow Measurement

Flow measured by rectangular weir. The weir appeared to be installed properly and to be well maintained.

Laboratory

Permittee uses a contract laboratory to collect and analyze the samples required by the permit.

Bonner Analytical Testing
2703 Oak Grove Road
Hattiesburg, MS 39402
(601) 264-2854

The contract laboratory also prepares the Discharge Monitoring Reports (DMRs) for signature by the City. Bonner Analytical Testing was not inspected.

Effluent/Receiving Waters

Not evaluated due to inaccessibility.

Pretreatment

The pretreatment program was not evaluated - implemented by the State.

Compliance Schedules

Not applicable.

Self Monitoring Program

Based upon observations noted in the Records/Reports section, the self monitoring report was adjudged to be marginal.

Operations and Maintenance

Observation: Operation and maintenance at this facility was satisfactory.

Sludge Disposal

What sludge is generated remains in the ponds.

United States Environmental Protection Agency, Washington, D.C., 20460

EPA NPDES Compliance Inspection Report

Form Approved
OMB No.2040-0003
Approval Expires 7-31-85

Section A: National Data System Coding

Transaction Code	NPDES	YR/MO/DAY	Inspection Type	Inspector	Facility Type	Sched'd
N	MS0020826	95/05/12	C	S	1	MAY

Reserved	Facility Evaluation Rating	BI	QA	Reserved
	3	N	N	

Section B: Facility Data

Name and Location of Facility Inspected	Entry Time:	Permit Effective Date:
HATTIESBURG - NORTH WWTF HATTIESBURG, MISSISSIPPI	7:30 A.M.	10/13/92
	Exit Time/Date: 11:30 5/12/95	Permit Expiration Date: 10/12/97

Name(s) of On-Site Representative(s)	Title(s)	Phone No(s)
MR. CHUCK HENDERSON	OPERATOR	545-4531

Name,Address of Responsible Official	Title	
HON. J. ED MORGAN P O BOX 1898 HATTIESBURG MS 39403	MAYOR	
	Phone No. 545-4501	Contacted YES_ NO_X_

Section C: Areas Evaluated During Inspection (S-Satisfactory, M-Marginal, U-Unsatisfactory, N-Not Evaluated)

S Permit	S Flow Measurement	N Pretreatment	S Operations & Maintenance
S Records/Reports	N Laboratory	N Compliance Schedules	N Sludge Disposal
S Facility Site Review	S Effluent/Receiving Waters	S Self-Monitoring Program	Other

Section D: Summary of Findings/Comments

Names and Signatures of Inspectors	Agency/Office/Telephone	Date
MICHAEL J. FREIMAN	Office of Pollution Control	5/12/95
Signature of Reviewer	**Agency/Office**	**Date**
GLENN L. ODOM	Office of Pollution Control	

Regulatory Office Use Only

Action Taken	Date	
		Noncompliance Compliance

EPA Form 3560-3 (Rev. 3-85) Previous editions are obsolete

NPDES COMPLIANCE INSPECTION REPORT

Date: 5-12-95 Inspector: M. FREIMAN

PERMITTEE:

CITY OF HATTIESBURG

MAILING ADDRESS:

BRIEF FACILITY DESCRIPTION:

AERATED LAGOON
MS0020826

I. PERMIT CHECKLIST

YES NO N/A 1. Correct name and mailing address of permittee.

YES NO N/A 2. Facility is as described in permit.

YES NO N/A 3. Notification has been given to EPA/State of new, different, increased discharges.

YES NO N/A 4. Number and location of discharge points are as described in the permit.

YES NO N/A 5. Name and location of receiving waters are correct.

YES NO N/A 6. All discharges are permitted.

YES NO N/A 7. All records required by permit are available for a minimum of three years.

II. SELF-MONITORING PROGRAM

A. General

YES NO N/A 1. Samples are taken at sites specified in permit.

YES NO N/A 2. Locations are adequate for representative samples.

YES NO N/A 3. Sampling and analysis completed on parameters specified by permit.

YES NO N/A 4. Sampling and analysis done in frequency specified by permit.

YES NO N/A 5. Permittee is using method of sample collection required by permit.

6. Sample collection procedures are adequate:

YES NO N/A a. Samples refrigerated during compositing

YES NO N/A b. Proper preservation techniques used

YES NO N/A c. Containers and sample holding times before analyses conform with 40 CFR 136.3

YES NO N/A 7. Monitoring and analyses are performed more often then required by permit. If so, results reported in permittee's self-monitoring report.

YES NO N/A 8. Analytical results are consistent with the data reported on the DMR's.

9. Sampling and Analysis Data are adequate and include:

YES NO N/A a. Dates, times, location of sampling

YES NO N/A b. Name of individual performing sampling

YES NO N/A c. Analytical methods and techniques

YES NO N/A d. Results of analysis

YES NO N/A e. Dates of analysis

YES NO N/A f. Name of person performing analysis

B. BOD_5 Test Evaluation – N/A CONTRACT LAB

1. D.O. method used;
   a. Winkler Titration _____
   b. D.O. Probe _____
   c. Other _____

2. If probe list calibration method;
   a. Air _____
   b. Saturated Water _____
   c. Winkler _____

YES NO N/A 3. Holding time; < 48 hrs

YES NO N/A 4. Preservation; 4 degree C

YES NO N/A 5. Incubation; 20 degree C

YES NO N/A 6. Sample D.O. depletions; between 2 mg/l and 6 mg/l

YES NO N/A 7. Blank D.O. variation; < 0.2 mg/l

8. If effluent is chlorinated:
   YES NO N/A a. Sample dechlorinated. How? _____
   YES NO N/A b. Sample seeded.

C. Total Suspended Solids Test Evaluation – N/A CONTRACT LAB

YES NO N/A 1. Holding time; < 7 days

YES NO N/A 2. Oven temperature; 103 degree - 105 degree C

YES NO N/A 3. Balance Calibrated. Frequency? _____

YES NO N/A 4. Balance Serviced at least yearly.

D. Ammonia Nitrogen Test Evaluation – N/A CONTRACT LAB

1. Method used; _____

YES NO N/A 2. Holding time; < 28 days

YES NO N/A 3. Preservative; 4 degree C, H_2SO_4 to pH < 2

E. Fecal Coliform Test Evaluation – N/A CONTRACT LAB

1. Method used;
   a. MPN _____
   b. MF _____
   c. Other _____

YES NO N/A 2. Holding time; < 6 hrs

YES NO N/A 3. Preservative; Sterile container, 4 degree C

YES NO N/A 4. 0.008% $Na_2S_2O_3$[5] added if sample chlorinated.

YES NO N/A 5. Water bath temperature; 44.5 degree C

F. Dissolved Oxygen Test Evaluation – N/A CONTRACT LAB

1. Method used;
   a. Winkler Titration _____
   b. D.O Probe _____
   c. Other _____

2. Calibration (See B. BOD_5 Test Evaluation #2)

G. pH Test Evaluation N/A CONTRACT LAB

YES NO N/A 1. EPA approved method used.
If not, method used: _____

YES NO N/A 2. Holding time; analyzed immediately

H. Aeration Tank Settleability Test Evaluation - N/A

YES NO N/A 1. 1000 ml graduated cylinders used

YES NO N/A 2. Time of test; 30 minutes

I. Residual Chlorine Test Evaluation

YES NO N/A 1. EPA approved method used.
If not, method used: HACH - COLOROMETER

YES NO N/A 2. Holding time; analyzed immediately

III. LABORATORY CHECKLIST

A. General

YES NO N/A 1. Written laboratory quality assurance manual is available.

B. Laboratory Procedures

YES NO N/A 1. EPA approved analytical testing procedures are used.

YES NO N/A 2. Standard Methods (lastest edition) is available.

YES NO N/A 3. If alternate analytical procedures are used, proper approval has been obtained.

YES NO N/A 4. Calibration and maintenance of instruments and equipment is satisfactory and records are adequate.

YES NO N/A 5. Quality control procedures are used.

YES NO N/A 6. Commercial laboratory is used

Name BONNER ANALYTICAL
2703 OAK GROVE RD
Address HATTIESBURG MS 39402

Contact MICHAEL BONNER

Phone 264-2854

C. Laboratory Facilities and Equipment

YES NO N/A 1. Proper grade distilled water is available for specific analysis.

YES NO N/A 2. Fume hood has enough ventilation capacity.

YES NO N/A 3. The laboratory has sufficient lighting.

YES NO N/A 4. Adequate electrical sources are available.

YES NO N/A 5. Instruments/equipment are in good condition.

YES NO N/A 6. Written requirements for daily operation of instruments are available.

YES NO N/A 7. Standards are available to perform daily check procedure.

YES NO N/A 8. Written trouble-shooting procedures for instruments are available.

YES NO N/A 9. Schedule for required maintenance exists.

YES NO N/A 10. Working standards are frequently checked.

YES NO N/A 11. Standards are discarded after recommended shelf life has expired.

YES NO N/A 12. Background reagents and solvents run with every series of samples.

YES NO N/A 13. Written procedures exist for cleanup, hazard response methods, and applications of correction methods for reagents and solvents.

IV. FACILITY SITE REVIEW CHECKLIST

YES NO N/A 1. Standby power or other equivalent provision is provided.

YES NO N/A 2. Adequate alarm system for power or equipment failures is available.

YES NO N/A 3. All treatment units, other than back-up units, are in service.

YES NO N/A 4. Procedures for facility operation and maintenance exist.

YES NO N/A 5. Organization plan (chart) for operation and maintenance is provided.

YES NO N/A 6. Operating schedules are established.

YES NO N/A 7. Emergency plan for treatment control is established.

8. Operating management control documents are current and include:

YES NO N/A a. Operating report
YES NO N/A b. Work schedule
YES NO N/A c. Activity report (time cards)

YES NO N/A 9. Adequate number of qualified operators are on-hand.

YES NO N/A 10. Established procedures are available for training new operators.

YES NO N/A 11. Adequate spare parts and supplies inventory and major equipment specifications are maintained.

YES NO N/A 12. Instruction files are kept for operation and maintenance of each item of major equipment.

YES NO N/A 13. Regulatory agency was notified of by-passing. (Dates No By Pass)

YES NO N/A 14. Hydraulic and/or organic overloads are experienced. Reasons for overloads

Minor Hydraulic due to I & I

YES NO N/A 15. Dated tags show out of service equipment.

YES NO N/A 16. Routine and preventive maintenance are scheduled/performed on time.

17. Plant Records are adequate and include:

YES NO N/A a. O&M Manual

YES NO N/A b. "As-built" engineering drawings

YES NO N/A c. Schedules and dates of equipment maintenance and repairs including cost.

YES NO N/A d. Equipment supplies manual

YES NO N/A e. Equipment data cards

V. SLUDGE DISPOSAL – N/A

1. Amount of sludge wasted daily from clarifier:
   a. _____ gallons/day
   b. _____ lbs/day (dry weight)

2. Check the method(s) utilizing for sludge handling:
   a. aerobic digestion ( )
   b. anaerobid digestion ( )
   c. filter press ( )
   d. drying bed ( )
   e. sludge lagoon ( )
   f. other _____ ( )

3. If sludge is hauled offsite for ultimate disposal, what is the quantity and frequency of hauling?
   a. Quantity: _____ tons
   b. Frequency: ( ) daily ( ) monthly
      ( ) weekly ( ) annually
   c. Ultimate Disposal Site:
      Name _____

      Location _____

YES NO N/A 4. If sludge is stored in an on-site lagoon or holding pond, has it ever been dredged or otherwise cleaned out? If so, when and where was the sludge disposed?
   When: _____

   Where: _____

VI. FLOW MEASUREMENT CHECKLIST

A. General

YES NO N/A 1. Primary flow measuring device is properly installed and maintained.

YES NO N/A 2. Flow records are properly kept.

YES NO N/A 3. Sharp drops or increases in flow values are accounted for.

YES NO N/A 4. Actual flow discharged is measured.

YES NO N/A 5. Influent flow is measured before all return lines.

YES NO N/A 6. Effluent flow is measured after all return lines.

YES NO N/A 7. Secondary instruments (totalizers, recorders, etc.) are properly operated and maintained.

YES NO N/A 8. Spare parts are stocked.

YES NO N/A 9. Flow monitoring records and charts are properly kept.

B. Flumes

YES NO N/A 1. Flow entering flume appears reasonable well distributed across the channel and free of turbulence, boils, or other distortions.

YES NO N/A 2. Cross-sectional velocities at entrance are relatively uniform.

YES NO N/A 3. Flume is clean and free of debris or deposits.

YES NO N/A 4. All dimensions of flume are accurate.

YES NO N/A 5. Side walls of flume are vertical and smooth.

YES NO N/A 6. Sides of flume throat are vertical and parallel.

YES NO N/A 7. Flume head is being measured at proper location.

YES NO N/A 8. Measurement of flume head is zeroed to flume crest.

YES NO N/A 9. Flume is of proper size to measure range of existing flow.

YES NO N/A 10. Flume is operating under free-flow conditions over existing range of flows.

United States Environmental Protection Agency, Washington, D.C., 20460

EPA NPDES Compliance Inspection Report

Form Approved
OMB No.2040-0003
Approval Expires 7-31-85

Section A: National Data System Coding

Transaction Code	NPDES	YR/MO/DAY	Inspection Type	Inspector	Facility Type	Sched'd
N	MS0020826	95/05/12	C	S	1	MAY

Reserved	Facility Evaluation Rating	BI	QA	Reserved
	3	N	N	

Section B: Facility Data

Name and Location of Facility Inspected	Entry Time:	Permit Effective Date:
HATTIESBURG - NORTH WWTF HATTIESBURG, MISSISSIPPI	7:30 A.M.	10/13/92
	Exit Time/Date: 11:30 5/12/95	Permit Expiration Date: 10/12/97

Name(s) of On-Site Representative(s)	Title(s)	Phone No(s)
MR. CHUCK HENDERSON	OPERATOR	545-4531

Name, Address of Responsible Official	Title	
HON. J. ED MORGAN P O BOX 1898 HATTIESBURG MS 39403	MAYOR	
	Phone No. 545-4501	Contacted YES__ NO_X_

Section C: Areas Evaluated During Inspection (S-Satisfactory, M-Marginal, U-Unsatisfactory, N-Not Evaluated)

S Permit	S Flow Measurement	N Pretreatment	S Operations & Maintenance
S Records/Reports	N Laboratory	N Compliance Schedules	N Sludge Disposal
S Facility Site Review	S Effluent/Receiving Waters	S Self-Monitoring Program	Other

Section D: Summary of Findings/Comments

Names and Signatures of Inspectors	Agency/Office/Telephone	Date
MICHAEL J. FREIMAN	Office of Pollution Control	5/12/95
Signature of Reviewer	**Agency/Office**	**Date**
GLENN L. ODOM	Office of Pollution Control	

Regulatory Office Use Only

Action Taken	Date	
		Noncompliance Compliance

EPA Form 3560-3 (Rev. 3-85) Previous editions are obsolete

NPDES COMPLIANCE INSPECTION REPORT

Date: 5-12-95 Inspector: M. FREIMAN

PERMITTEE:

CITY OF HATTIESBURG

MAILING ADDRESS:

BRIEF FACILITY DESCRIPTION:

AERATED LAGOON
MS0020826

I. PERMIT CHECKLIST

YES NO N/A 1. Correct name and mailing address of permittee.

YES NO N/A 2. Facility is as described in permit.

YES NO N/A 3. Notification has been given to EPA/State of new, different, increased discharges.

YES NO N/A 4. Number and location of discharge points are as described in the permit.

YES NO N/A 5. Name and location of receiving waters are correct.

YES NO N/A 6. All discharges are permitted.

YES NO N/A 7. All records required by permit are available for a minimum of three years.

II. SELF-MONITORING PROGRAM

A. General

YES NO N/A 1. Samples are taken at sites specified in permit.

YES NO N/A 2. Locations are adequate for representative samples.

YES NO N/A 3. Sampling and analysis completed on parameters specified by permit.

YES NO N/A 4. Sampling and analysis done in frequency specified by permit.

YES NO N/A 5. Permittee is using method of sample collection required by permit.

6. Sample collection procedures are adequate:

YES NO N/A a. Samples refrigerated during compositing

YES NO N/A b. Proper preservation techniques used

YES NO N/A c. Containers and sample holding times before analyses conform with 40 CFR 136.3

YES NO N/A 7. Monitoring and analyses are performed more often then required by permit. If so, results reported in permittee's self-monitoring report.

YES NO N/A 8. Analytical results are consistent with the data reported on the DMR's.

9. Sampling and Analysis Data are adequate and include:

YES NO N/A a. Dates, times, location of sampling

YES NO N/A b. Name of individual performing sampling

YES NO N/A c. Analytical methods and techniques

YES NO N/A d. Results of analysis

YES NO N/A e. Dates of analysis

YES NO N/A f. Name of person performing analysis

B. BOD_5 Test Evaluation – N/A CONTRACT LAB

1. D.O. method used;
   a. Winkler Titration _____
   b. D.O. Probe _____
   c. Other _____

2. If probe list calibration method;
   a. Air _____
   b. Saturated Water _____
   c. Winkler _____

YES NO N/A 3. Holding time; < 48 hrs

YES NO N/A 4. Preservation; 4 degree C

YES NO N/A 5. Incubation; 20 degree C

YES NO N/A 6. Sample D.O. depletions; between 2 mg/l and 6 mg/l

YES NO N/A 7. Blank D.O. variation; < 0.2 mg/l

8. If effluent is chlorinated:

YES NO N/A a. Sample dechlorinated. How? _____

YES NO N/A b. Sample seeded.

C. Total Suspended Solids Test Evaluation – N/A CONTRACT LAB

YES NO N/A 1. Holding time; < 7 days

YES NO N/A 2. Oven temperature; 103 degree - 105 degree C

YES NO N/A 3. Balance Calibrated. Frequency? _____

YES NO N/A 4. Balance Serviced at least yearly.

D. Ammonia Nitrogen Test Evaluation – N/A CONTRACT LAB

1. Method used; _____

YES NO N/A 2. Holding time; < 28 days

YES NO N/A 3. Preservative; 4 degree C, H_2SO_4 to pH < 2

E. Fecal Coliform Test Evaluation – N/A CONTRACT LAB

1. Method used;
   a. MPN _____
   b. MF _____
   c. Other _____

YES NO N/A 2. Holding time; < 6 hrs

YES NO N/A 3. Preservative; Sterile container, 4 degree C

YES NO N/A 4. 0.008% $Na_2S_2O_3$ added if sample chlorinated.

YES NO N/A 5. Water bath temperature; 44.5 degree C

F. Dissolved Oxygen Test Evaluation – N/A CONTRACT LAB

1. Method used;
   a. Winkler Titration _____
   b. D.O Probe _____
   c. Other _____

2. Calibration (See B. BOD_5 Test Evaluation #2)

G. pH Test Evaluation N/A CONTRACT LAB

YES NO N/A 1. EPA approved method used.
If not, method used: _____

YES NO N/A 2. Holding time; analyzed immediately

H. Aeration Tank Settleability Test Evaluation – N/A

YES NO N/A 1. 1000 ml graduated cylinders used

YES NO N/A 2. Time of test; 30 minutes

I. Residual Chlorine Test Evaluation

YES NO N/A 1. EPA approved method used.
If not, method used: HACH - COLOROMETER

YES NO N/A 2. Holding time; analyzed immediately

III. LABORATORY CHECKLIST

A. General

YES NO N/A 1. Written laboratory quality assurance manual is available.

B. Laboratory Procedures

YES NO N/A 1. EPA approved analytical testing procedures are used.

YES NO N/A 2. Standard Methods (lastest edition) is available.

YES NO N/A 3. If alternate analytical procedures are used, proper approval has been obtained.

YES NO N/A 4. Calibration and maintenance of instruments and equipment is satisfactory and records are adequate.

YES NO N/A 5. Quality control procedures are used.

YES NO N/A 6. Commercial laboratory is used

Name BONNER ANALYTICAL
2703 OAK GROVE Rd
Address HATTIESBURG MS 39402

Contact MICHAEL BONNER

Phone 264-2854

C. Laboratory Facilities and Equipment

YES NO N/A 1. Proper grade distilled water is available for specific analysis.

YES NO N/A 2. Fume hood has enough ventilation capacity.

YES NO N/A 3. The laboratory has sufficient lighting.

YES NO N/A 4. Adequate electrical sources are available.

YES NO N/A 5. Instruments/equipment are in good condition.

YES NO N/A 6. Written requirements for daily operation of instruments are available.

YES NO N/A 7. Standards are available to perform daily check procedure.

YES NO N/A 8. Written trouble-shooting procedures for instruments are available.

YES NO N/A 9. Schedule for required maintenance exists.

YES NO N/A 10. Working standards are frequently checked.

YES NO N/A 11. Standards are discarded after recommended shelf life has expired.

YES NO N/A 12. Background reagents and solvents run with every series of samples.

YES NO N/A 13. Written procedures exist for cleanup, hazard response methods, and applications of correction methods for reagents and solvents.

IV. FACILITY SITE REVIEW CHECKLIST

YES NO N/A 1. Standby power or other equivalent provision is provided.

YES NO N/A 2. Adequate alarm system for power or equipment failures is available.

YES NO N/A 3. All treatment units, other than back-up units, are in service.

YES NO N/A 4. Procedures for facility operation and maintenance exist.

YES NO N/A 5. Organization plan (chart) for operation and maintenance is provided.

YES NO N/A 6. Operating schedules are established.

YES NO N/A 7. Emergency plan for treatment control is established.

8. Operating management control documents are current and include:

YES NO N/A a. Operating report
YES NO N/A b. Work schedule
YES NO N/A c. Activity report (time cards)

YES NO N/A 9. Adequate number of qualified operators are on-hand.

YES NO N/A 10. Established procedures are available for training new operators.

YES NO N/A 11. Adequate spare parts and supplies inventory and major equipment specifications are maintained.

YES NO N/A 12. Instruction files are kept for operation and maintenance of each item of major equipment.

YES NO N/A 13. Regulatory agency was notified of by-passing. (Dates No By Pass)

YES NO N/A 14. Hydraulic and/or organic overloads are experienced. Reasons for overloads

Minor Hydraulic due to I & I

YES NO N/A 15. Dated tags show out of service equipment.

YES NO N/A 16. Routine and preventive maintenance are scheduled/performed on time.

17. Plant Records are adequate and include:

YES NO N/A a. O&M Manual

YES NO N/A b. "As-built" engineering drawings

YES NO N/A c. Schedules and dates of equipment maintenance and repairs including cost.

YES NO N/A d. Equipment supplies manual

YES NO N/A e. Equipment data cards

V. SLUDGE DISPOSAL – N/A

1. Amount of sludge wasted daily from clarifier:
   a. _____ gallons/day
   b. _____ lbs/day (dry weight)

2. Check the method(s) utilizing for sludge handling:
   a. aerobic digestion ( )
   b. anaerobid digestion ( )
   c. filter press ( )
   d. drying bed ( )
   e. sludge lagoon ( )
   f. other _____ ( )

3. If sludge is hauled offsite for ultimate disposal, what is the quantity and freguency of hauling?
   a. Quantity: _____ tons
   b. Frequency: ( ) daily ( ) monthly
      ( ) weekly ( ) annually
   c. Ultimate Disposal Site:
      Name _____

      Location _____

YES NO (N/A) 4. If sludge is stored in an on-site lagoon or holding pond, has it ever been dredged or otherwise cleaned out? If so, when and where was the sludge disposed?
   When: _____

   Where: _____

VI. FLOW MEASUREMENT CHECKLIST

A. General

YES NO N/A 1. Primary flow measuring device is properly installed and maintained.

YES NO N/A 2. Flow records are properly kept.

YES NO N/A 3. Sharp drops or increases in flow values are accounted for.

YES NO N/A 4. Actual flow discharged is measured.

YES NO N/A 5. Influent flow is measured before all return lines.

YES NO N/A 6. Effluent flow is measured after all return lines.

YES NO N/A 7. Secondary instruments (totalizers, recorders, etc.) are properly operated and maintained.

YES NO N/A 8. Spare parts are stocked.

YES NO N/A 9. Flow monitoring records and charts are properly kept.

B. Flumes

YES NO N/A 1. Flow entering flume appears reasonable well distributed across the channel and free of turbulence, boils, or other distortions.

YES NO N/A 2. Cross-sectional velocities at entrance are relatively uniform.

YES NO N/A 3. Flume is clean and free of debris or deposits.

YES NO N/A 4. All dimensions of flume are accurate.

YES NO N/A 5. Side walls of flume are vertical and smooth.

YES NO N/A 6. Sides of flume throat are vertical and parallel.

YES NO N/A 7. Flume head is being measured at proper location.

YES NO N/A 8. Measurement of flume head is zeroed to flume crest.

YES NO N/A 9. Flume is of proper size to measure range of existing flow.

YES NO N/A 10. Flume is operating under free-flow conditions over existing range of flows.

C. Wiers

1. Type of weir used: _____

YES NO N/A 2. The weir is exactly level.

YES NO N/A 3. The weir plate is plumb and its top edges are sharp and clean.

YES NO N/A 4. There is free access for air below the nappe of the weir.

YES NO N/A 5. Upstream channel of weir is straight for at least four times the depth of water level, and free from disturbing influences.

YES NO N/A 6. The stilling basin of the weir is of sufficient size and clear of debris.

YES NO N/A 7. Head measurements are properly made by facility personnel.

YES NO N/A 8. Proper flow tables are used by facility personnel.

D. Flowmeter

1. Type of flowmeter used: Instantaneous Reading

2. The most common problems experienced with the flowmeter: _____

3. Measured Wastewater flow: _____ mgd; Recorded flow: _____ mgd; Error _____ %

4. Design flow: _____ mgd.

YES NO N/A 5. Flow totalizer is properly calibrated.

6. Frequency of routine inspection by proper operator: _____ /day.

7. Frequency of maintenance inspections by plant personnel: _____ /year.

8. Frequency of flowmeter calibration: _____ /month.

YES NO N/A 9. Flowmeter adequate to handle expected ranges of flow rates.

YES NO N/A 10. Venturi meter is properly installed and calibrated.

YES NO N/A 11. Electromagnetic flowmeter is properly calibrated.

VIII. COMPLIANCE SCHEDULE STATUS REVIEW

YES NO N/A 1. The permittee has obtained necessary approvals to begin construction.

YES NO N/A 2. Financing arrangements are complete.

YES NO N/A 3. Contracts for engineering services have been executed.

YES NO N/A 4. Design plans and specifications have been completed.

YES NO N/A 5. Construction has begun.

YES NO N/A 6. Construction is on schedule.

YES NO N/A 7. Equipment acquisition is on schedule.

YES NO N/A 8. Construction has been completed.

YES NO N/A 9. Start-up has begun.

YES NO N/A 10. The permittee has requested an extension of time.

YES NO N/A 11. The permittee has met compliance schedule.

Scheduled _____ AERATED LAGOON INSPECTION REPORT NPDES NO _____

Name of Facility (Mun., Ind., Private) HATTIESBURG - NORTH

City _____ Person Contacted _____ Phone No: _____

1. Pumping Station: Yes X No ___
   a. ~~Dual~~ Pumps Yes X No ___
   b. Pumps Operable: Yes X No ___
   Comment: _____

2. Aeration Cell:
   a. Color: GREEN
   b. Odor: NO
   c. Floating Solids: No X Few ___ Many ___
   d. Effluent Structure Condition:
      Good X Poor ___
   e. Dikes:
      Condition: OK
      Freeboard: 6 ft.
      Grass: CUT
   f. Aerators:
      Number _____
      Operable: Yes ___ No ___
      Timed: Yes ___ No ___
   Comment: _____

3. Settling Cell:
   a. Color: Duckweed
   b. Odor: Yes ___ No X
   c. Floating Solids: No ___ Few ___ Many ___
   d. Skimming: Yes ___ No X
   e. Effluent Structure Condition
      Good X Poor ___
   f. Dikes:
      Condition: _____
      Freeboard: 12 ft.
      Grass: _____
   Comment: _____

4. Chlorinator and Contact Chamber: Yes X No ___
   a. Operating: Yes X No ___
   b. Baffles Adequate: Yes ___ No ___
   c. Housing: Yes X No ___
   d. Cylinders on Hand: Yes X No ___
      150 lb How Many 5
   e. Solids in Contact Chamber: Yes ___ No ___
   f. Air Gap in Solution Line: Yes ___ No ___
   g. Chlorine Residual: .3 Yes X No ___
   Comment: _____

5. Effluent:
   a. Color: Turbid ___ Clear ___
   b. Odor: Yes ___ No ___
   c. Sample Taken: Yes ___ No ___
   Comment: _____

6. General:
   a. Fence: Yes X No ___
      Locked Yes X No ___
   b. Upkeep: Ok X Poor ___
   c. Access Road Condition Good X Poor ___
   d. Safety Hazards: Yes ___ No X
   Comment: _____

← WEIR Discharge

7. Inspectors Recommendations to Person Contacted: _____

8. Verbal Commitments of Person Contacted to Correct Problems: _____

9. General Comments: _____

Does this situation warrant action from the Jackson Office (YES) (NO)

10. Follow-up Inspection Scheduled: YES ___ Date _____ NO ___

11. Is responsible certified operator continuant: YES X NO ___ Date Departed _____

Inspector M. FREIMAN

Date _____

Time _____

Major
Municipal

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

October 3, 1994

Mr. Chuck Henderson, Manager
Water and Sewer Department
City of Hattiesburg
P.O. Box 1898
Hattiesburg, Mississippi 39403

Dear Mr. Henderson:

Re: NPDES Permit No. MS0020826
Hattiesburg North Lagoon/Complex #2
Compliance Inspection(CEI/3560)

Enclosed is a copy of the compliance inspection report that was performed at the above referenced facility on September 15, 1994. The results of this inspection should be used by you as a guide for complying with requirements and limitations as stated by your NPDES permit. The inspection indicated that the facility was in compliance.

If you have any questions concerning this matter, please contact us at 961-5171.

Respectfully,

Michael J. Freiman
Municipal Permit Compliance Branch

MJF:pwt
Enclosures
cc: SRO
Mr. Paul Zetterholm (w/attachment)
Ms. Yvonne Martin, EPA (w/enclosures)

This copy for

United States Environmental Protection Agency, Washington, D.C., 20460

EPA NPDES Compliance Inspection Report

Form Approved
OMB No.2040-0003
Approval Expires 7-31-85

Section A: National Data System Coding

Transaction Code	NPDES	YR/MO/DAY	Inspection Type	Inspector	Facility Type	Sched'd
N	MS0020826	94/09/15	C	S	I	AUG

Reserved	Facility Evaluation Rating	BI	QA	Reserved
	3	N	N	

Section B: Facility Data

Name and Location of Facility Inspected	Entry Time:	Permit Effective Date:
HATTIESBURG - NORTH WWTF HATTIESBURG, MISSISSIPPI	8:30 A.M.	10/13/92
	Exit Time/Date: 11:30 5/6/94	Permit Expiration Date: 10/12/97

Name(s) of On-Site Representative(s)	Title(s)	Phone No(s)
MR. CHUCK HENDERSON	OPERATOR	545-4531

Name,Address of Responsible Official	Title	
HON. J. ED MORGAN P O BOX 1898 HATTIESBURG MS 39403	MAYOR	
	Phone No. 545-4501	Contacted YES__ NO_X_

Section C: Areas Evaluated During Inspection (S-Satisfactory, M-Marginal, U-Unsatisfactory, N-Not Evaluated)

S Permit	S Flow Measurement	N Pretreatment	S Operations & Maintenance
S Records/Reports	N Laboratory	N Compliance Schedules	N Sludge Disposal
S Facility Site Review	S Effluent/Receiving Waters	S Self-Monitoring Program	Other

Section D: Summary of Findings/Comments

Names and Signatures of Inspectors	Agency/Office/Telephone	Date
MICHAEL J. FREIMAN	Office of Pollution Control	9/20/94
Signature of Reviewer	**Agency/Office**	**Date**
GLENN L. ODOM	Office of Pollution Control	

Regulatory Office Use Only

Action Taken	Date	
		Noncompliance Compliance

EPA Form 3560-3 (Rev. 3-85) Previous editions are obsolete

NPDES COMPLIANCE INSPECTION REPORT

Date: 9-15-94 Inspector: M. FREIMAN

PERMITTEE:

HATTIESBURG

MAILING ADDRESS:

BRIEF FACILITY DESCRIPTION:

I. PERMIT CHECKLIST

YES NO N/A 1. Correct name and mailing address of permittee.

YES NO N/A 2. Facility is as described in permit.

YES NO N/A 3. Notification has been given to EPA/State of new, different, increased discharges.

YES NO N/A 4. Number and location of discharge points are as described in the permit.

YES NO N/A 5. Name and location of receiving waters are correct.

YES NO N/A 6. All discharges are permitted.

YES NO N/A 7. All records required by permit are available for a minimum of three years.

II. SELF-MONITORING PROGRAM

A. General

YES NO N/A 1. Samples are taken at sites specified in permit.

YES NO N/A 2. Locations are adequate for representative samples.

YES NO N/A 3. Sampling and analysis completed on parameters specified by permit.

YES NO N/A 4. Sampling and analysis done in frequency specified by permit.

YES NO N/A 5. Permittee is using method of sample collection required by permit.

6. Sample collection procedures are adequate: - Contract LAB

YES NO N/A a. Samples refrigerated during compositing
YES NO N/A b. Proper preservation techniques used
YES NO N/A c. Containers and sample holding times before analyses conform with 40 CFR 136.3

YES NO N/A 7. Monitoring and analyses are performed more often then required by permit. If so, results reported in permittee's self-monitoring report.

YES NO N/A 8. Analytical results are consistent with the data reported on the DMR's.

9. Sampling and Analysis Data are adequate and include:

YES NO N/A a. Dates, times, location of sampling
YES NO N/A b. Name of individual performing sampling
YES NO N/A c. Analytical methods and techniques
YES NO N/A d. Results of analysis
YES NO N/A e. Dates of analysis
YES NO N/A f. Name of person performing analysis

CONTRACT LAB.

B. BOD_5 Test Evaluation — N/A

1. D.O. method used;
   a. Winkler Titration _____
   b. D.O. Probe _____
   c. Other _____

2. If probe list calibration method;
   a. Air _____
   b. Saturated Water _____
   c. Winkler _____

YES NO N/A 3. Holding time; < 48 hrs

YES NO N/A 4. Preservation; 4 degree C

YES NO N/A 5. Incubation; 20 degree C

YES NO N/A 6. Sample D.O. depletions; between 2 mg/l and 6 mg/l

YES NO N/A 7. Blank D.O. variation; < 0.2 mg/l

8. If effluent is chlorinated:

YES NO N/A a. Sample dechlorinated. How? _____

YES NO N/A b. Sample seeded.

C. Total Suspended Solids Test Evaluation — N/A

YES NO N/A 1. Holding time; < 7 days

YES NO N/A 2. Oven temperature; 103 degree - 105 degree C

YES NO N/A 3. Balance Calibrated. Frequency? _____

YES NO N/A 4. Balance Serviced at least yearly.

D. Ammonia Nitrogen Test Evaluation — N/A

1. Method used; _____

YES NO N/A 2. Holding time; < 28 days

YES NO N/A 3. Preservative; 4 degree C, H_2SO_4 to pH < 2

E. Fecal Coliform Test Evaluation — N/A

1. Method used;
   a. MPN _____
   b. MF _____
   c. Other _____

YES NO N/A 2. Holding time; < 6 hrs

YES NO N/A 3. Preservative; Sterile container, 4 degree C

YES NO N/A 4. 0.008% $Na_2S_2O_3$[5] added if sample chlorinated.

YES NO N/A 5. Water bath temperature; 44.5 degree C

F. Dissolved Oxygen Test Evaluation – N/A

1. Method used;
   a. Winkler Titration _____
   b. D.O Probe _____
   c. Other _____

2. Calibration (See B. BOD_5 Test Evaluation #2)

G. pH Test Evaluation – N/A

YES NO N/A 1. EPA approved method used.
If not, method used: _____

YES NO N/A 2. Holding time; analyzed immediately

H. Aeration Tank Settleability Test Evaluation

YES NO N/A 1. 1000 ml graduated cylinders used

YES NO N/A 2. Time of test; 30 minutes

I. Residual Chlorine Test Evaluation

YES NO N/A 1. EPA approved method used.
If not, method used: Hach Colorimeter

YES NO N/A 2. Holding time; analyzed immediately

III. LABORATORY CHECKLIST

A. General

YES NO N/A 1. Written laboratory quality assurance manual is available.

B. Laboratory Procedures

YES NO N/A 1. EPA approved analytical testing procedures are used.

YES NO N/A 2. Standard Methods (lastest edition) is available.

YES NO N/A 3. If alternate analytical procedures are used, proper approval has been obtained.

YES NO N/A 4. Calibration and maintenance of instruments and equipment is satisfactory and records are adequate.

YES NO N/A 5. Quality control procedures are used.

YES NO N/A 6. Commercial laboratory is used

Name BONNER ANALYTICAL

Address HATTIESBURG

Contact MIKE BONNER

Phone _____

C. Laboratory Facilities and Equipment

YES NO N/A 1. Proper grade distilled water is available for specific analysis.

YES NO N/A 2. Fume hood has enough ventilation capacity.

YES NO N/A 3. The laboratory has sufficient lighting.

YES NO N/A 4. Adequate electrical sources are available.

YES NO N/A 5. Instruments/equipment are in good condition.

YES NO N/A 6. Written requirements for daily operation of instruments are available.

YES NO N/A 7. Standards are available to perform daily check procedure.

YES NO N/A 8. Written trouble-shooting procedures for instruments are available.

YES NO N/A 9. Schedule for required maintenance exists.

YES NO N/A 10. Working standards are frequently checked.

YES NO N/A 11. Standards are discarded after recommended shelf life has expired.

YES NO N/A 12. Background reagents and solvents run with every series of samples.

YES NO N/A 13. Written procedures exist for cleanup, hazard response methods, and applications of correction methods for reagents and solvents.

IV. FACILITY SITE REVIEW CHECKLIST

YES NO N/A 1. Standby power or other equivalent provision is provided.

YES NO N/A 2. Adequate alarm system for power or equipment failures is available.

YES NO N/A 3. All treatment units, other than back-up units, are in service.

YES NO N/A 4. Procedures for facility operation and maintenance exist.

YES NO N/A 5. Organization plan (chart) for operation and maintenance is provided.

YES NO N/A 6. Operating schedules are established.

YES NO N/A 7. Emergency plan for treatment control is established.

8. Operating management control documents are current and include:

YES NO N/A a. Operating report

YES NO N/A b. Work schedule

YES NO N/A c. Activity report (time cards)

YES NO N/A 9. Adequate number of qualified operators are on-hand.

YES NO N/A 10. Established procedures are available for training new operators.

YES NO N/A 11. Adequate spare parts and supplies inventory and major equipment specifications are maintained.

YES NO N/A 12. Instruction files are kept for operation and maintenance of each item of major equipment.

YES NO N/A 13. Regulatory agency was notified of by-passing. (Dates None)

YES NO N/A 14. Hydraulic and/or organic overloads are experienced. Reasons for overloads

I + I Problem

Organic Loads from Marshall Durbin

YES NO N/A 15. Dated tags show out of service equipment.

YES NO N/A 16. Routine and preventive maintenance are scheduled/performed on time.

17. Plant Records are adequate and include:

YES NO N/A a. O&M Manual

YES NO N/A b. "As-built" engineering drawings

YES NO N/A c. Schedules and dates of equipment maintenance and repairs including cost.

YES NO N/A d. Equipment supplies manual

YES NO N/A e. Equipment data cards

V. SLUDGE DISPOSAL — N/A

1. Amount of sludge wasted daily from clarifier:
   a. _____ gallons/day
   b. _____ lbs/day (dry weight)

2. Check the method(s) utilizing for sludge handling:
   a. aerobic digestion ( )
   b. anaerobid digestion ( )
   c. filter press ( )
   d. drying bed ( )
   e. sludge lagoon ( )
   f. other _____ ( )

3. If sludge is hauled offsite for ultimate disposal, what is the quantity and freguency of hauling?
   a. Quantity: _____ tons
   b. Frequency: ( ) daily ( ) monthly
      ( ) weekly ( ) annually
   c. Ultimate Disposal Site:
      Name _____

      Location _____

YES NO N/A

4. If sludge is stored in an on-site lagoon or holding pond, has it ever been dredged or otherwise cleaned out? If so, when and where was the sludge disposed?
   When: _____

   Where: _____

VI. FLOW MEASUREMENT CHECKLIST

A. General

YES NO N/A 1. Primary flow measuring device is properly installed and maintained.

YES NO N/A 2. Flow records are properly kept.

YES NO N/A 3. Sharp drops or increases in flow values are accounted for.

YES NO N/A 4. Actual flow discharged is measured.

YES NO N/A 5. Influent flow is measured before all return lines.

YES NO N/A 6. Effluent flow is measured after all return lines.

YES NO N/A 7. Secondary instruments (totalizers, recorders, etc.) are properly operated and maintained.

YES NO N/A 8. Spare parts are stocked.

YES NO N/A 9. Flow monitoring records and charts are properly kept.

B. Flumes

YES NO N/A 1. Flow entering flume appears reasonable well distributed across the channel and free of turbulence, boils, or other distortions.

YES NO N/A 2. Cross-sectional velocities at entrance are relatively uniform.

YES NO N/A 3. Flume is clean and free of debris or deposits.

YES NO N/A 4. All dimensions of flume are accurate.

YES NO N/A 5. Side walls of flume are vertical and smooth.

YES NO N/A 6. Sides of flume throat are vertical and parallel.

YES NO N/A 7. Flume head is being measured at proper location.

YES NO N/A 8. Measurement of flume head is zeroed to flume crest.

YES NO N/A 9. Flume is of proper size to measure range of existing flow.

YES NO N/A 10. Flume is operating under free-flow conditions over existing range of flows.

C. Wiers

1. Type of weir used: Rectangular

YES NO N/A 2. The weir is exactly level.

YES NO N/A 3. The weir plate is plumb and its top edges are sharp and clean.

YES NO N/A 4. There is free access for air below the nappe of the weir.

YES NO N/A 5. Upstream channel of weir is straight for at least four times the depth of water level, and free from disturbing influences.

YES NO N/A 6. The stilling basin of the weir is of sufficient size and clear of debris.

YES NO N/A 7. Head measurements are properly made by facility personnel.

YES NO N/A 8. Proper flow tables are used by facility personnel.

D. Flowmeter — N/A

1. Type of flowmeter used: Instantaneous Flow Readings

2. The most common problems experienced with the flowmeter: _____

3. Measured Wastewater flow: _____ mgd; Recorded flow: _____ mgd; Error _____ %

4. Design flow: _____ mgd.

YES NO N/A 5. Flow totalizer is properly calibrated.

6. Frequency of routine inspection by proper operator: _____ /day.

7. Frequency of maintenance inspections by plant personnel: _____ /year.

8. Frequency of flowmeter calibration: _____ /month.

YES NO N/A 9. Flowmeter adequate to handle expected ranges of flow rates.

YES NO N/A 10. Venturi meter is properly installed and calibrated.

YES NO N/A 11. Electromagnetic flowmeter is properly calibrated.

VIII. COMPLIANCE SCHEDULE STATUS REVIEW – N/A

YES NO N/A 1. The permittee has obtained necessary approvals to begin construction.

YES NO N/A 2. Financing arrangements are complete.

YES NO N/A 3. Contracts for engineering services have been executed.

YES NO N/A 4. Design plans and specifications have been completed.

YES NO N/A 5. Construction has begun.

YES NO N/A 6. Construction is on schedule.

YES NO N/A 7. Equipment acquisition is on schedule.

YES NO N/A 8. Construction has been completed.

YES NO N/A 9. Start-up has begun.

YES NO N/A 10. The permittee has requested an extension of time.

YES NO N/A 11. The permittee has met compliance schedule.

Scheduled _____ AERATED LAGOON INSPECTION REPORT NPDES NO _____

Name of Facility (Mun., Ind., Private) HATTIESBURG - NORTH

City _____ Person Contacted _____ Phone No: _____

1. Pumping Station: Yes X No ___
   a. 3 ~~Dual~~ Pumps Yes X No ___
   b. Pumps Operable: Yes X No ___
   Comment: _____

2. Aeration Cell:
   a. Color: Green
   b. Odor: No
   c. Floating Solids: No ___ Few ___ Many X
   d. Effluent Structure Condition:
      Good ___ Poor ___
   e. Dikes:
      Condition: Good
      Freeboard: 5 FT ft.
      Grass: CUT
   f. Aerators:
      Number 18
      Operable: Yes X No ___
      Timed: Yes X No ___
   Comment: _____

3. Settling Cell:
   a. Color: Green
   b. Odor: Yes ___ No X
   c. Floating Solids: No ___ Few ___ Many X
   d. Skimming: Yes ___ No X
   e. Effluent Structure Condition
      Good X Poor ___
   f. Dikes:
      Condition: Good
      Freeboard: 10 ft.
      Grass: CUT
   Comment: _____

4. Chlorinator and Contact Chamber: Yes X No
   a. Operating: Yes X No
   b. Baffles Adequate: Yes ___ No
   c. Housing: Yes X No
   d. Cylinders on Hand: Yes X No
      How Many 5
   e. Solids in Contact Chamber: Yes ___ No X
   f. Air Gap in Solution Line: Yes X No ___
   g. Chlorine Residual: Yes ___ No ___
   Comment: _____

5. Effluent:
   a. Color: Turbid ___ Clear X
   b. Odor: Yes ___ No X
   c. Sample Taken: Yes ___ No X
   Comment: _____

6. General:
   a. Fence: Yes X No ___
      Locked Yes X No ___
   b. Upkeep: Ok X Poor ___
   c. Access Road Condition Good X Poor ___
   d. Safety Hazards: Yes ___ No X
   Comment: _____

7. Inspectors Recommendations to Person Contacted: _____

8. Verbal Commitments of Person Contacted to Correct Problems: _____

9. General Comments: _____

   Does this situation warrant action from the Jackson Office (YES) (NO)

10. Follow-up Inspection Scheduled: YES ___ Date _____ NO ___

11. Is responsible certified operator continuant: YES ___ NO ___ Date Departed _____

Inspector _____

Date _____

Time _____

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

Major
Municipal

November 9, 1993

Mr. Chuck Henderson, Manager
Water and Sewer Department
City of Hattiesburg
P.O. Box 1898
Hattiesburg, Mississippi 39403

Dear Mr. Henderson:

Re: NPDES Permit No. MS0020826
Hattiesburg North Lagoon/Complex #2
Compliance Inspection CEI/7500

Enclosed is a copy of the compliance inspection report that was performed at the above referenced facility on October 19, 1993. The results of this inspection should be used by you as a guide for complying with requirements and limitations as stated by your NPDES permit. The inspection indicated that the facility was in compliance.

If you have any questions concerning this matter, please contact us at 961-5171.

Respectfully,

Michael J. Freiman
Municipal Permit Compliance Branch

MJF:ap
Enclosures
cc: Mr. Al Herndon, EPA (w/enclosures)
SRO
Mr. Paul Zetterholm (w/attachment)

Mississippi Department of
Environmental Quality
Office of Pollution Control

Form 7500

Date of Inspection

Sample Taken

REPORT ON OPERATION AND MAINTENANCE OF WASTEWATER TREATMENT FACILITY

10-19-93

___ Yes X No

A. GENERAL INFORMATION

1. Facility

(a.) Name South Lagoon Complex #1

(b.) Owner City of Hattiesburg

(c.) Location City Hall, Hattiesburg, MS, Forrest Co.

2. Type of Facility: Aerated Lagoon

3. Avg. Design Flow (mgd): 10 MGD (per outfall)

4. Design Population Equivalent: 100,000

5. Collection System
Combined ___
Separate X
Both ___

6. Date Present Facility Began Operating: 1965 - In 1991 aeration was added.

7. Permit No. MS0020303

8. In the Space Provided Below, Furnish a Simplied Flow Diagram or a Written Description of the Facility Units in Flow Sequence.

See attached sheet.

9. Identify Receiving Waters Leaf River

B. CURRENT FACILITY LOADING

1. Annual Avg. Daily Flow Rate (mgd)
Outfall 001 - 3.87
Outfall 002 - 4.56

2. Peak Flow Rate (mgd)

	Dry Weather	Wet Weather
Outfall 001	2.71	8.51
Outfall 002	5.75	9.17

3. Population Served: 48,000

4. Annual Avg. BOD5 of Raw Sewage (mg/l)
Outfall 001 - 110
Outfall 002 - 427

5. Annual Avg. Suspended Solids of Raw Sewage (mg/l)
Outfall 001 - 105
Outfall 002 - 198

6. Principal Types of Industrial Waste Discharged to Municipal System
Poultry Processing - 002

7. Population Equivalent (BOD) of Industrial Wastes
Unknown

8. Population Equivalent (SS) of Industrial Wastes
Unknown

9. Volume of Industrial Wastes (mgd)
Unknown

10. Infiltration Problems Minor - Routine repair work being done.

C. FACILITY PERFORMANCE

1. LABORATORY ANALYSIS
(a) Reporting Period **Outfall 001**

From (Month, Year) October 1992 To (Month, Year) October 1993

	Parameter	Actual Facility Performance Data (a)	Facility Design Data (b)	NPDES Permit Requirements (c)	Facility Complies With Permit (d) Indicate One	
(1)	Flow (mgd) (monthly avg.)	3.87	10	10	Yes X	No
(2)	Peak Flow (mgd) (maximum day)	9.17	10		Yes	No
(3)	Suspended Solids (monthly avg.) Influent (mg/l)	104.5			Yes	No
	Effluent (mg/l)	48.8		90	Yes X	No
	% Removal	45			Yes	No
(4)	BOD5 (mo. avg.) Influent (mg/l)	109.6			Yes	No
	Effluent (mg/l)	25.1		45	Yes	No X
	% Removal	72.3		65% Monthly Avg.	Yes	No X
(5)	Dissolved Oxygen Effluent (mg/l) Minimum				Yes	No
(6)	Chlorine Residual Effluent (mg/l) Maximum				Yes	No
(7)	Fecal Coliform (per 100 ml) Geometric Mean May - October	**Fecal not being taken due to Commission Order by MS DEQ.**			Yes	No
	Nov. - April				Yes	No
(8)	pH Range Effluent Minimum	7.24		6.0	Yes X	No
	Maximum	9.27		8.5	Yes	No X
(9)	Ammonia Nitrogen (monthly avg.) Influent (mg/l)				Yes	No
	Effluent (mg/l)				Yes	No

C. FACILITY PERFORMANCE

1. LABORATORY ANALYSIS
(a) Reporting Period **Outfall 002**

From (Month, Year) October 1992 To (Month, Year) October 1993

	Parameter	Actual Facility Performance Data (a)	Facility Design Data (b)	NPDES Permit Requirements (c)	Facility Complies With Permit (d) Indicate One	
(1)	Flow (mgd) (monthly avg.)	4.56	10	10	Yes	No
(2)	Peak Flow (mgd) (maximum day)	9.17			Yes X	No
(3)	Suspended Solids (monthly avg.) Influent (mg/l)	198			Yes	No
	Effluent (mg/l)	67		90	Yes	No X
	% Removal	65			Yes	No
(4)	BOD5 (mo. avg.) Influent (mg/l)	427			Yes	No
	Effluent (mg/l)	29		45	Yes X	No
	% Removal	90		65% Monthly Avg.	Yes X	No
(5)	Dissolved Oxygen Effluent (mg/l) Minimum				Yes	No
(6)	Chlorine Residual Effluent (mg/l) Maximum				Yes	No
(7)	Fecal Coliform (per 100 ml) Geometric Mean May - October	**Fecal not being taken due to Commission Order by MS DEQ.**			Yes	No
	Nov. - April				Yes	No
(8)	pH Range Effluent Minimum	6.83		6.0	Yes X	No
	Maximum	9.59		8.5	Yes	No X
(9)	Ammonia Nitrogen (monthly avg.) Influent (mg/l)				Yes	No
	Effluent (mg/l)				Yes	No

2. FACILITY RECORDS

Are Discharge Monitoring Reports filed with DEQ/OPC? X Yes ___ No

3. DOES FACILITY HAVE ALTERNATE POWER SOURCE?

___ Dual Feed X Generator ___ None

4. ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES?

X Yes ___ No

Generator operates lift stations but not the aerators in the lagoons.

5. EQUIPMENT PROGRAM

	Adequate	Inadequate
(a.) Routine Maintenance Schedules	X	___
(b.) Records of Maintenance Repairs & Replacement	X	___
(c.) Spare Parts Inventory	X	___

6. IS FACILITY EFFLUENT BEING CHLORINATED?

___ Yes
X No

7. IS FACILITY EFFLUENT BEING DE-CHLORINATED?

___ Yes
X No

8. DOES SEWAGE BYPASS FACILITY IN WET WEATHER?

No

9. DOES SEWAGE BYPASS FACILITY IN DRY WEATHER?

No

10. IS THE DEQ/OPC BEING NOTIFIED OF EACH BYPASS?

N/A

11. BYPASS FREQUENCY (monthly)

N/A

12. AVG. DURATION OF BYPASS (hrs)

N/A

13. REASON FOR BYPASSING N/A

14. CAN BYPASS SEWAGE BE CHLORINATED?

___ Yes X No

15. DO SEWER OVERFLOWS OCCUR UPSTREAM OF FACILITY?

___ Yes X No

16. REASON FOR OVERFLOWS N/A

17. ANY ODOR COMPLAINTS BEYOND FACILITY PROPERTY? (If yes, explain) None

18. OBSERVED APPEARANCE OF EFFLUENT, RECEIVING STREAM OR DRAINAGE WAY High algae content in effluent but being mixed with large volume of water in receiving stream. Slight discoloration at both outfalls.

19. DO OPERATORS AND OTHER PERSONNEL ROUTINELY ATTEND SHORT COURSES, SCHOOL OR OTHER TRAINING? X Yes ___ No

(a.) If yes, cite course sponsor, and date of last course. **Nov. Short Course offered DEQ of MS.**

(b.) If no, are there any courses available in this area?

(c.) Is there an established procedure for training new operators? **On-job-training.**

20. IS LAB TESTING ADEQUATE FOR THE CONTROL REQUIRED FOR THIS SIZE AND TYPE OF FACILITY AND USES OF RECEIVING WATERS?

X Yes ___ No (If no, explain)

21. EXPLAIN MAIN DIFFICULTY EXPERIENCED WITH INDUSTRIAL WASTES Elevated BOD levels (Lagoon 002) sometime attributed to the chicken processing.

22. PERMANENT RECORD FILE

(a.) Facility operation and maintenance manual?	X Yes	___No
(b.) As built plans and specifications?	X Yes	___No
(c.) Manufacturers operation and maintenance specifications?	X Yes	___No
(d.) Flow charts?	X Yes	___No

23. ANNUAL BUDGET FOR MAINTAINING AND OPERATING FACILITY

Salaries & Wages	Electricity	Chemicals	Maintenance	Staffing & Training	Other	Total
119,200	277,000	8,000	56,000	1,000	51,800	513,000

*These figures represent total budget for City of Hattiesburg sewer services (both facilities)

24. STABILIZATION PONDS

(a.) Weeds cut and vegetation growth in ponds removed?

X Yes ___No

(b.) Banks and dikes maintained? (erosion, etc.)

X Yes ___No

(c.) Any reports of ground water contamination from pond? (If yes, give details)

___Yes X No

(d.) Seepage reported?

___Yes X No

(e.) Adequate depth control?

X Yes ___No

(f.) Effluent release is

X Continuous
___Intermittent
___Seasonal

D. LABORATORY CONTROL

CODING INSTRUCTION

Enter test codes opposite appropriate items. If any of the below tests are used to monitor industrial wastes, place an "X" in addition to the test code.

1 - 7 or more per week
2 - 4, 5 or 6 per week
3 - 1, 2 or 3 per week
4 - as required
5 - 2 or 3 per month
6 - 1 per month
7 - Quarterly
8 - Semi-Annually
9 - Annually

Item	Raw (a)	Mixed Liquor (b)	Final (c)	Sludge Super-natant (d)	Digester (e)	Receiving Stream (f)
1. BOD or CBOD	6		6			
2. Suspended Solids	6		6			
3. Settleable Solids						
4. Dissolved Oxygen						
5. Total Solids						
6. Volatile Solids						
7. pH			6			
8. Fecal Coliform						
9. Residual Chlorine						
10. Flow			3			
11. Ammonia Nitrogen						
12.						
13.						

Comments: None

E. FACILITY PERSONNEL INVENTORY

Personnel Classification (a.)	Employment (b.) Actual: Man-Hours Per Week	Actual: Number	Number Budgeted	Class and Certification and Number
1. Management/Supervisor	40	1	1	Class III 2177 Class III 2095
2. Certified Operator in Charge	20	.5	.5	Class II 2122
3. Laboratory				
4. Maintenance	40	1	1	
5. Other Facility Workers	100	2.5	2.5	
6. Other Office/Clerical				
7. Total	200	5	5	

F. GUIDE - VISUAL OBSERVATION - UNIT PROCESS

Rating Codes: S = Satisfactory; U = Unsatisfactory; M = Marginal; IN = In Operation; OUT = Out of Operation

	Condition or Appearance Rating	Comments
1. GENERAL		
Grounds	S	
Buildings	S	
Potable Water Supply Protection	S	
Safety Features	S	
Bypasses	S	
Overflows	S	
2. PRELIMINARY		
Maintenance of Collection Systems	S	
Pump Station	S	
Ventilation	S	
Bar Screen	N/A	

	Condition or Appearance Rating	Comments
2. PRELIMINARY (CONT.)		
Disposal of Screenings	N/A	
Comminutor	N/A	
Grit Chamber	N/A	
Disposal of Grit	N/A	
3. PRIMARY		
Settling Tanks	N/A	
Scum Removal	N/A	
Sludge Removal	N/A	
Effluent	N/A	
4. SLUDGE DISPOSAL		
Digesters	N/A	
Temperature and pH	N/A	
Gas Production	N/A	
Heating Equipment	N/A	
Sludge Pumps	N/A	
Drying Beds	N/A	
Vacuum Filter	N/A	
Incineration	N/A	
Disposal of Sludge	N/A	
5. OTHER		
Flow Meter and Recorder	N/A	Instantaneous readings
Records	S	
Lab Controls	S	Lab work performed by Bonner Analytical of Hattiesburg.

	Condition or Appearance Rating	Comments
6. SECONDARY-TERTIARY (List items as required)		
Aeration Cell No. 1	S	
Aeration Cell No. 2	S	
Polishing Pond No. 1	S	
Polishing Pond No. 2	M	Mild odor due to floating algae mat in one corner.
7. CHLORINE		
Effluent	M	Discoloration of receiving stream at both outfalls.
Chlorinators	N/A	
Effective Dosage	N/A	
Contact Time	N/A	
Contact Tank	N/A	
Dechlorination	N/A	

G. NOTATIONS BY EVALUATOR

1. OPERATION AND MAINTENANCE PROBLEMS/DEFICIENCIES

Check each of the following items in terms of their estimated adverse affect on the performance of the facility.

Item	Major	Minor	None	Item	Major	Minor	None
Staff Complement	___	___	X	Overloads (type):			
Personnel Training	___	___	X	Hydraulic	___	___	X
Operating Budget	___	___	X	Periodic	___	___	X
Laboratory Control	___	___	X	Continuous	___	___	X
Instrumentation	___	___	X	Organic	___	X	___
Industrial Waste	___	X	___	Periodic	___	X	___
Plant Obsolescence	___	X	___	Continuous	___	___	X
Equipment Failure:	___	___	X	Overload Cause(s):			
Treatment Processes	___	___	X	Infiltration	___	X	___
Sludge Handling and Processing	___	___	X	Combined Sewers	___	___	X
				Industrial Growth	___	___	X
Equipment Maintenance	___	___	X	Rapid Population Growth	___	___	X
Spare Parts Inventory	___	___	X	Increased Service Area	___	X	___
Power Failure	___	___	X	Other:	___	___	X

2. DESCRIBE BRIEFLY THE MAJOR PROBLEMS INDICATED ABOVE (include follow-up actions needed)

None

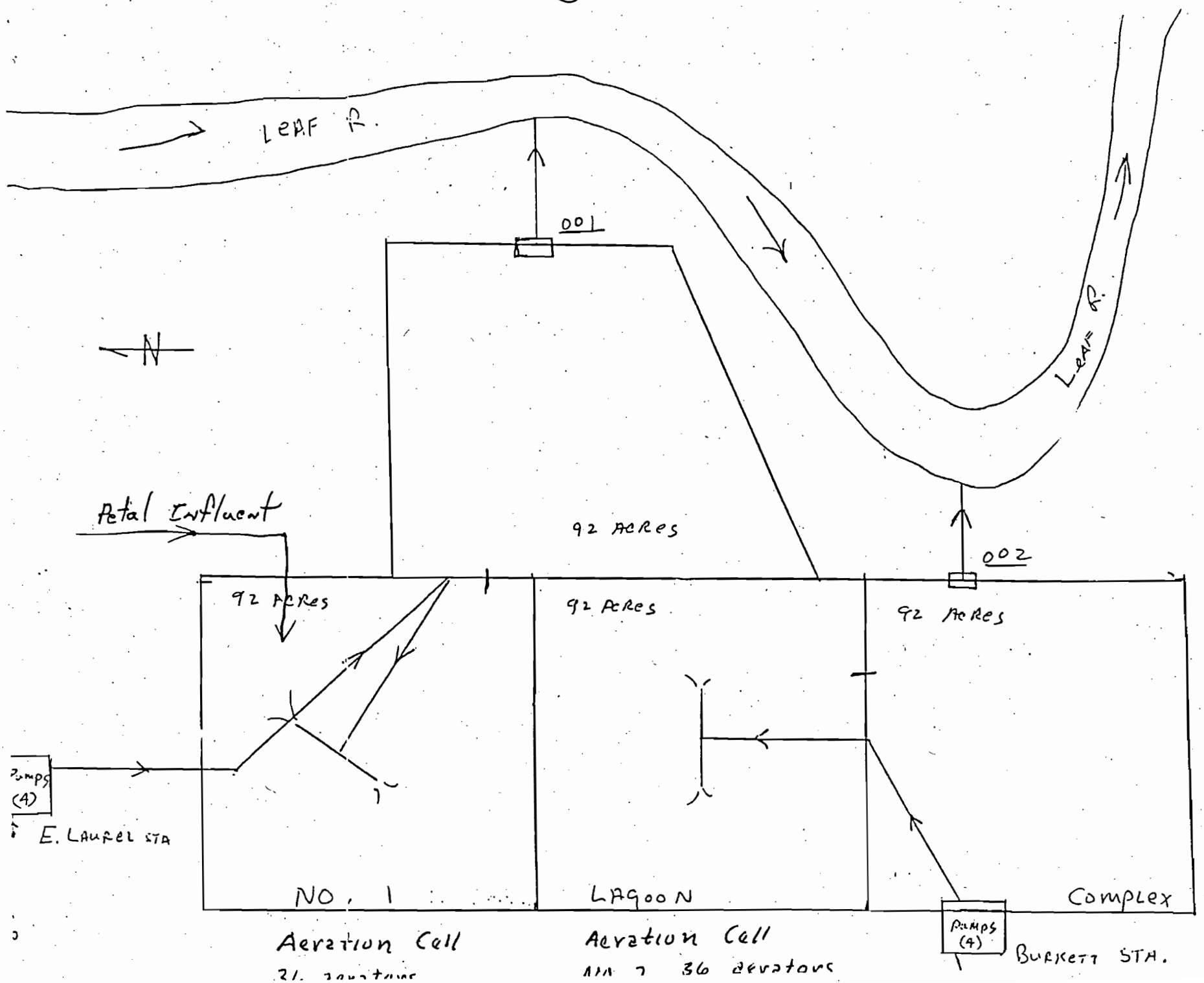
3. GENERAL RATING

Acceptable	
Conditional Acceptance	X
Unacceptable	

Evaluation Performed By	Title	Organization	Date
Errol White	Env. Scientist I	DEQ-OPC	10-19-93

Information Furnished By	Title	Organization	Date
Chuck Henderson	Division Manager for water & sewer	DEQ-OPC	10-19-93

South Lagoon New



7500-5 DATA FORMS

SOUTH REGIONAL OFFICE

FACILITY: South Lagoon Outfall 002

NPDES NUMBER: MS0020303

MONTH	FLOW		BOD			SS			AMMONIA N			FECAL	PH		CL RESIDUAL	
	AVG	HI	INF	EFF	%RED	INF	EFF	%RED	INF	EFF	%RED	COLI	MIN	MAX	MIN	MAX
Oct. 1992	3.04	3.9	854	39	95	194	*115	40.7					8.0	8.0		
Nov.	5.89	7.9	362	33	91	162	81	50					8.45	8.45		
Dec.	4.46	6.63	185	36	81	128	72	43.8					7.44	7.44		
Jan. 1993	7.44	9.17	88	18	80	54	21	61.1					6.83	6.83		
Feb.	3.72	6.04	218	20	91	106	18	83					6.98	6.98		
March	3.72	8.51	370	15	96	185	21	88.7					7.3	7.3		
April	5.66	9.17	512	44	91	137	40	70.8					9.44	*9.44		
May	3.21	4.39	250	45	82	223	88	60.5					9.59	*9.59		
June	3.20	7.24	730	18	98	307	79	74.3					8.88	*8.88		
July	6.02	7.86	502	28	94	285	84	70.5					7.69	7.69		
August	5.71	9.5	532	21	96	330	82	75.2					8.0	8.0		
Sept.	2.59	5.75	520	32	94	262	*105.5	59.7					7.04	7.04		
AVERAGE	4.56	7.17	426.92	29.1	90.8	197.8	67.2	64.9					6.83	9.59		

COMMENTS: Exceeds permitted values.

7500-5 DATA FORMS

SOUTH REGIONAL OFFICE

E: South Lagoon Outfall 001

UMBER: MS0020303

	FLOW		BOD			SS			AMMONIA N			FECAL	PH		CL RESIDUAL		D.O.
	AVG	HI	INF	EFF	%RED	INF	EFF	%RED	INF	EFF	%RED	COLI	MIN	MAX	MIN	MAX	MIN
92	1.69	2.1	119.5	27	77	103.3	72	30.3					8.15	8.15			
	3.7	4.4	79	11	86	127.2	54	57.6					7.48	7.48			
	3.81	5.19	163.4	22	87	117.9	33	72					7.62	7.62			
93	6.46	8.51	43.9	26	*41	41	21	48.8					8.15	8.15			
	4.1	6.93	98	32	67	88.1	28	68.2					7.24	7.24			
	5.56	7.86	77.9	12	85	79.1	40	49.4					7.52	7.52			
	4.98	8.51	94.1	46	*51	54.3	*101	-86					9.23	*9.23			
	2.67	4.39	93.7	67.3	*28	98.5	60	39.1					9.17	*9.17			
	2.19	6.33	144.9	12	92	180.9	50	72.4					9.27	*9.27			
	4.89	6.63	139.7	12	91	106.8	21	80.3					7.89	7.89			
	4.98	9.17	56.6	16	72	84.1	50	40.6					8.66	*8.66			
	1.39	2.71	204.2	18	91	173.3	56	67.7					7.27	7.27			
	3.87	6.06	109.58	25.11	72.3	104.54	48.83	45.03					7.24	9.27			

COMMENTS: *Exceeds permitted values.

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

August 27, 1993

Major. Municipal

Honorable J. Ed Morgan, Mayor
City of Hattiesburg
P. O. Box 1898
Hattiesburg, MS 39403

Dear Mayor Morgan:

Re: DMR/QA Study 13
NPDES Permit No. MS0020826

Early in 1993 you was sent a set of NPDES laboratory performance samples and requested to complete the analysis for those parameters requiring monitoring under the terms and conditions of your NPDES permit. The results of your analysis were sent to the Bionetics Corporation, Cincinnati, Ohio. Bionetics and they have informed us that the following results were outside the range of acceptability:

Parameter	Reported Value	True Value	Acceptance Limits
Residual Chlorine	0.52 mg/l	0.24 mg/l	.0866-.280 mg/l

This program is intended to help both you and the regulatory authorities determine where you may be having analytical problems. The above results in no way represent a violation of your permit limitations. However, we recommend that you review your analytical procedures for these parameters and notify our office by October 1, 1993 of the probable causes these parameters were outside the acceptable range. If you have any questions, please contact Mr. Phillip Bass, DMR QA State Coordinator, Mississippi Office of Pollution Control, phone 601-961-5143.

Sincerely,

Michael J. Freiman
Municipal Permit Compliance Branch

MJF:glm
cc: Mr. Al Herndon, EPA
Mr. Phillip Bass

THIS COPY FOR

PERFORMANCE EVALUATION REPORT DATE: 7/15/9

DMR-QA STUDY NUMBER 013

PERMITTEE: MS0020826 HATTIESBURG AERATED LAGOON #2 CX

ANALYTES	VP	REPORT VALUE	TRUE VALUE*	ACCEPTANCE LIMITS	WARNING LIMITS	PERFORMANC EVALUATION
MISCELLANEOUS ANALYTES:						
PH-UNITS		6.10	6.10	5.96- 6.22	5.99- 6.19	ACCEPTAB
TOTAL SUSPENDED SOLIDS (IN MG/L)		30.5	33.0	24.0- 34.6	25.3- 33.2	ACCEPTAB
DEMANDS IN MILLIGRAMS PER LITER:						
5-DAY BOD		21.0	21.8	11.8- 31.9	14.3- 29.4	ACCEPTABI
ADDITIONAL MISCELLANEOUS ANALYTES:						
TOTAL RESIDUAL CHLORINE (IN MG/L)		0.52	0.240	.0866-0.280	0.112-0.254	NOT ACCEPTABI

* BASED UPON THEORETICAL CALCULATIONS, OR A REFERENCE VALUE WHEN NECESSARY.

Major - Municipal

STATE OF MISSISSIPPI

DEPARTMENT OF ENVIRONMENTAL QUALITY

JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

September 3, 1993

Honorable J. Ed Morgan, Mayor
City of Hattiesburg
P. O. Box 1898
Hattiesburg, MS 39403

Dear Mayor Morgan:

Re: Hattiesburg-North
Wastewater Treatment Facility
NPDES Permit No. MS0020826
Compliance Sampling Inspection (3560/CSI)

Enclosed is a copy of the compliance inspection report and sampling that was performed at the above referenced facility on August 17, 1993 and August 23, 1993, respectively. The sampling results indicate that the effluent was not in compliance with your NPDES permit limits. The results of this inspection should be used by you as a guide for complying with requirements and limitations as stated by your NPDES permit.

The following violation was noted:

Parameter	Permit Requirement	Sample Results	Deviation
TSS	30 mg/l	36 mg/l	20%

If you have any questions concerning this matter, please contact us at 961-5171.

Respectfully,

Shannon E. Williams
Municipal Permit Compliance Branch

SEW:glm
Enclosures
cc: Mr. Al Herndon, EPA (w/enclosures)
SRO
Mr. Paul Zetterholm (w/attachment)

THIS COPY FOR

United States Environmental Protection Agency
Washington, D. C. 20460

EPA NPDES Compliance Inspection Report

Form Approved
OMB No. 2040-0003
Approval Expires 7-31-85

Section A: National Data System Coding

Transaction Code	NPDES	yr/mo/day	Inspection Type	Inspector	Fac Type	Sched'd	Mnth Insp
1 N 2 5	3 MS0020826 11	12 930823 17	18 S	19 S	20 I	A U C	

Remarks 21 66

Reserved	Facility Evaluation Rating	BI	QA	Reserved
67 69	70 3	71 N	72 N	73 74 75 80

Section B: Facility Data

Name and Location of Facility Inspected	Entry Time	Permit Effective Date
HATTIESBURG - NORTH WWTF HATTIESBURG, MS	10:00 ☒ AM ☐ PM	10/13/92
	Exit Time/Date 11:30	Permit Expiration Date 10/12/97

Name(s) of On-Site Representative(s)	Title(s)	Phone No(s)
MR. CHUCK HENDERSON	OPERATOR	545-4531

Name, Address of Responsible Official	Title	Contacted
HON. J. ED MORGAN P O BOX 1898 HATTIESBURG, MS 39403	MAYOR	☐ Yes ☒ No
	Phone No. 545-4501	

Section C: Areas Evaluated During Inspection

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

S	Permit	S	Flow Measurement	N	Pretreatment	S	Operations & Maintenance
S	Records/Reports	N	Laboratory	N	Compliance Schedules	N	Sludge Disposal
S	Facility Site Review	S	Effluent/Receiving Waters	S	Self-Monitoring Program		Other:

Section D: Summary of Findings/Comments *(Attach additional sheets if necessary)*

Name(s) and Signature(s) of Inspector(s)	Agency/Office/Telephone	Date
SHANNON WILLIAMS	OPC	8/23/93
Signature of Reviewer	Agency/Office	Date
GLENN L. ODOM	OPC	

Regulatory Office Use Only

Action Taken	Date	Compliance Status
		☐ Noncompliance ☐ Compliance

EPA Form 3560-3 (Rev. 3-85) Previous editions are obsolete.

DRAFT
11-20-91

NPDES COMPLIANCE INSPECTION REPORT

Date: August 23, 1993 Inspector: Shannon Williams

PERMITTEE:

Hattiesburg - North

MAILING ADDRESS:

City of Hattiesburg
Po Box 1898
Hattiesburg, MS 39403

BRIEF FACILITY DESCRIPTION:

Aerated Lagoon

I. PERMIT CHECKLIST

(YES) NO N/A 1. Correct name and mailing address of permittee.

(YES) NO N/A 2. Facility is as described in permit.

YES NO (N/A) 3. Notification has been given to EPA/State of new, different, increased discharges.

(YES) NO N/A 4. Number and location of discharge points are as described in the permit.

(YES) NO N/A 5. Name and location of receiving waters are correct.

(YES) NO N/A 6. All discharges are permitted.

(YES) NO N/A 7. All records required by permit are available for a minimum of three years.

B. BOD_5 Test Evaluation NA

1. D.O. method used;
   a. Winkler Titration _____
   b. D.O. Probe _____
   c. Other _____

2. If probe list calibration method;
   a. Air _____
   b. Saturated Water _____
   c. Winkler _____

YES NO N/A 3. Holding time; < 48 hrs

YES NO N/A 4. Preservation; 4 degree C

YES NO N/A 5. Incubation; 20 degree C

YES NO N/A 6. Sample D.O. depletions; between 2 mg/l and 6 mg/l

YES NO N/A 7. Blank D.O. variation; < 0.2 mg/l

8. If effluent is chlorinated:
   YES NO N/A a. Sample dechlorinated. How? _____
   YES NO N/A b. Sample seeded.

C. Total Suspended Solids Test Evaluation NA

YES NO N/A 1. Holding time; < 7 days

YES NO N/A 2. Oven temperature; 103 degree - 105 degree C

YES NO N/A 3. Balance Calibrated. Frequency? _____

YES NO N/A 4. Balance Serviced at least yearly.

D. Ammonia Nitrogen Test Evaluation NA

1. Method used; _____

YES NO N/A 2. Holding time; < 28 days

YES NO N/A 3. Preservative; 4 degree C, H_2SO_4 to pH < 2

E. Fecal Coliform Test Evaluation NA

1. Method used;
   a. MPN _____
   b. MF _____
   c. Other _____

III. LABORATORY CHECKLIST

A. General NA

YES NO N/A 1. Written laboratory quality assurance manual is available.

B. Laboratory Procedures NA

YES NO N/A 1. EPA approved analytical testing procedures are used.

YES NO N/A 2. Standard Methods (lastest edition) is available.

YES NO N/A 3. If alternate analytical procedures are used, proper approval has been obtained.

YES NO N/A 4. Calibration and maintenance of instruments and equipment is satisfactory and records are adequate.

YES NO N/A 5. Quality control procedures are used.

YES NO N/A 6. Commercial laboratory is used

Name Bonner Analytical

Address _____

Contact _____

Phone _____

C. Laboratory Facilities and Equipment

YES NO N/A 1. Proper grade distilled water is available for specific analysis.

YES NO N/A 2. Fume hood has enough ventilation capacity.

YES NO N/A 3. The laboratory has sufficient lighting.

YES NO N/A 4. Adequate electrical sources are available.

IV. FACILITY SITE REVIEW CHECKLIST

YES NO N/A 1. Standby power or other equivalent provision is provided.

YES NO N/A 2. Adequate alarm system for power or equipment failures is available.

YES NO N/A 3. All treatment units, other than back-up units, are in service.

YES NO N/A 4. Procedures for facility operation and maintenance exist.

YES NO N/A 5. Organization plan (chart) for operation and maintenance is provided.

YES NO N/A 6. Operating schedules are established.

YES NO N/A 7. Emergency plan for treatment control is established.

8. Operating management control documents are current and include:

YES NO N/A a. Operating report
YES NO N/A b. Work schedule
YES NO N/A c. Activity report (time cards)

YES NO N/A 9. Adequate number of qualified operators are on-hand.

YES NO N/A 10. Established procedures are available for training new operators.

YES NO N/A 11. Adequate spare parts and supplies inventory and major equipment specifications are maintained.

YES NO N/A 12. Instruction files are kept for operation and maintenance of each item of major equipment.

YES NO N/A 13. Regulatory agency was notified of by-passing. (Dates_____)

YES NO N/A 14. Hydraulic and/or organic overloads are experienced. Reasons for overloads _____

_____

_____

_____

V. SLUDGE DISPOSAL NA

1. Amount of sludge wasted daily from clarifier:
   a. _____ gallons/day
   b. _____ lbs/day (dry weight)

2. Check the method(s) utilizing for sludge handling:
   a. aerobic digestion ( )
   b. anaerobid digestion ( )
   c. filter press ( )
   d. drying bed ( )
   e. sludge lagoon ( )
   f. other _____ ( )

3. If sludge is hauled offsite for ultimate disposal, what is the quantity and frequency of hauling?
   a. Quantity: _____ tons
   b. Frequency: ( ) daily ( ) monthly
      ( ) weekly ( ) annually
   c. Ultimate Disposal Site:
      Name _____

      Location _____

YES NO N/A 4. If sludge is stored in an on-site lagoon or holding pond, has it ever been dredged or otherwise cleaned out? If so, when and where was the sludge disposed?
   When: _____

   Where: _____

C. Wiers

1. Type of weir used: Rectangular

YES NO N/A 2. The weir is exactly level.

YES NO N/A 3. The weir plate is plumb and its top edges are sharp and clean.

YES NO N/A 4. There is free access for air below the nappe of the weir.

YES NO N/A 5. Upstream channel of weir is straight for at least four times the depth of water level, and free from disturbing influences.

YES NO N/A 6. The stilling basin of the weir is of sufficient size and clear of debris.

YES NO N/A 7. Head measurements are properly made by facility personnel.

YES NO N/A 8. Proper flow tables are used by facility personnel.

D. Flowmeter NA

1. Type of flowmeter used: _____

2. The most common problems experienced with the flowmeter: _____

3. Measured Wastewater flow: _____ mgd; Recorded flow: _____ mgd; Error _____ %

4. Design flow: _____ mgd.

YES NO N/A 5. Flow totalizer is properly calibrated.

6. Frequency of routine inspection by proper operator: _____ /day.

7. Frequency of maintenance inspections by plant personnel: _____ /year.

8. Frequency of flowmeter calibration: _____ /month.

YES NO N/A 9. Flowmeter adequate to handle expected ranges of flow rates.

YES NO N/A 10. Venturi meter is properly installed and calibrated.

YES NO N/A 11. Electromagnetic flowmeter is properly calibrated.

VIII. COMPLIANCE SCHEDULE STATUS REVIEW NA

YES NO N/A 1. The permittee has obtained necessary approvals to begin construction.

YES NO N/A 2. Financing arrangements are complete.

YES NO N/A 3. Contracts for engineering services have been executed.

YES NO N/A 4. Design plans and specifications have been completed.

YES NO N/A 5. Construction has begun.

YES NO N/A 6. Construction is on schedule.

YES NO N/A 7. Equipment acquisition is on schedule.

YES NO N/A 8. Construction has been completed.

YES NO N/A 9. Start-up has begun.

YES NO N/A 10. The permittee has requested an extension of time.

YES NO N/A 11. The permittee has met compliance schedule.

BUREAU OF POLLUTION CONTROL
SAMPLE REQUEST FORM

Lab Bench No. 1111

I. GENERAL INFORMATION: Facility Name Hattiesburg Aerated Lagoon (North)
County Code 0800 NPDES Permit No. 20826
Discharge No. 001 Date Requested
Sample Point Identification
Requested By Compliance Monitoring Data To Shannon Williams ✓
Type of Sample: Grab (X) Composite (Flow) (Time X) Other ( )

II. SAMPLE IDENTIFICATION:
Environment Condition clear Collected By Errol White
Where Taken effluent sump

	Type	Parameters	Preservative	Date	Time
1.	Grab	BOD, SS	cool	8/17/93	1200
2.	Grab	Fecal	cool	8/17/93	1200
3.					
4.					
5.					

III. FIELD:

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	(X)	7.6	EW	8/17/93
D.O.	(000300)	( )			
Temperature	(000010)	( )			
Residual Chlorine	(050060)	*(X)	0.25	EW	8/17/93
Flow	(074060)	(X)	0.996	EW	8/17/93

IV. TRANSPORTATION OF SAMPLE: Bus (X) RO Vehicle ( ) Other ( )

V. LABORATORY: Received By Otis Clark Date 8/18/93 Time 1300
Recorded By Sandy Hammons Date Sent to State Office 8/31/93

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD_5	(000310)	(X)	15.0 mg/l	KF	*8/19/93
COD	(000340)	( )	mg/l		
TOC	(000680)	( )	mg/l		
Suspended Solids	(099000)	(X)	36.0 mg/l	KF	8/20/93
TKN	(000625)	( )	mg/l		
Ammonia-N	(000610)	( )	mg/l		
Fecal Coliform(1)	(074055)	(X)	70 colonies/100 ml	DR	*8/17/93
Fecal Coliform(2)	(074055)	( )	colonies/100 ml		*
Total Phosphorus	(000665)	( )	mg/l		
Oil and Grease(1)	(000550)	( )	mg/l		
Oil and Grease(2)	(000550)	( )	mg/l		
Chlorides	(099016)	( )	mg/l		
Phenol	(032730)	( )	mg/l		
Total Chromium	(001034)	( )	mg/l		
Hex. Chromium	(001032)	( )	mg/l		
Zinc	(001092)	( )	mg/l		
Copper	(001042)	( )	mg/l		
Lead	(017501)	( )	mg/l		
Cyanide	(000722)	( )	mg/l		
		( )			
		( )			
		( )			
		( )			
		( )			
		( )			
		( )			
		( )			
		( )			
		( )			

SEP - 2 1993

Remarks *Test performed in my presence by operator on a Lamotte O_2 test.

*Date of Test Initiation

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

December 23, 1992

Honorable J. Ed Morgan, Mayor
City of Hattiesburg
P. O. Box 1898
Hattiesburg, MS 39403

Dear Mayor Morgan:

Re: Hattiesburg Wastewater Treatment Facility
NPDES Permit No. MS0020826
Compliance Sampling Inspection (7500/CSI)

Enclosed is a copy of the compliance inspection report and sampling that was performed at the above referenced facility on October 19, 1992. The sampling results indicate that the effluent was not in compliance with your NPDES permit limits. The results of this inspection should be used by you as a guide for complying with requirements and limitations as stated by your NPDES permit.

The following violation is noted:

Parameter	Permit Requirement	Sample Results	Deviation
Fecal Coliform	200 col./100 ml	500 col./100 ml	300 col./100 ml

A review of plant performance for the past 12 months shows the following violation:

Residual Chlorine	1.0 mg/l	1.5 mg/l (Maximum)	0.5 mg/l

If you have any questions concerning this matter, please contact us at 961-5171.

Respectfully,

Shannon E. Williams
Municipal Permit Compliance Branch

SEW:dam
Enclosures
cc: Mr. Pete McGarry, EPA (w/enclosure)
SRO
Mr. Paul Zetterholm (w/attachment)

Mississippi Department of Environmental Quality
Office of Pollution Control

Form 7500

REPORT ON OPERATION AND MAINTENANCE OF WASTEWATER TREATMENT FACILITY

Date of Inspection: 10-19-92

Sample Taken: X Yes ___ No

A. GENERAL INFORMATION

1. Facility: Hattiesburg North Lagoon Complex #2

(a.) Name	(b.) Owner	(c.) Location
North Lagoon	City of Hattiesburg	City Hall, Hattiesburg, MS, Forrest County

2. Type of Facility	3. Avg. Design Flow (mgd)	4. Design Population Equivalent
Aerated Lagoon	2.0 MGD	20,000

5. Collection System	6. Date Present Facility Began Operating	7. Permit No.
Combined ____	1974 Original date	
Separate X	1987 Addition of aeration cell	MS0020826
Both ____		

8. In the Space Provided Below, Furnish a Simplied Flow Diagram or a Written Description of the Facility Units in Flow Sequence.

See attached sheet

9. Identify Receiving Waters

Bowie River

B. CURRENT FACILITY LOADING

1. Annual Avg. Daily Fow Rate (mgd)	2. Peak Flow Rate (mgd)		3. Population Served
	Dry Weather	Wet Weather	
1.26 MGD	0.996	1.800	8,000

4. Annual Avg. BOD5 of Raw Sewage (mg/1)	5. Annual Avg. Suspended Solid of Raw Sewage (mg/1)
134.3	130.8

6. Principal Types of Industrial Waste Discharged to Municipal System	7. Population Equivalent (BOD) of Industrial Wastes
Cardboard Manufacturing Plant	Unknown

8. Population Equivalent (SS) of Industrial Wastes	9. Volume of Industrial Wastes (mgd)
Unknown	Unknown

10. Infiltration Problems

Minor infiltration reported.

C. FACILITY PERFORMANCE

1. LABORATORY ANALYSIS
(a) Reporting Period

From (Month, Year) October 1991 To (Month, Year) September 1992

Parameter (b)	Actual Facility Performance Data (c)	Facility Design Data (d)	NPDES Permit Requirements (e)	Facility Complies With Permit (g) Circle One
(1) Flow (mgd) (monthly avg.)	1.26	2.0	2.0	Yes No
(2) Peak Flow (mgd) (maximum day)	1.83			Yes No
(3) Suspended Solids (monthly avg.) Influent (mg/l)	130.8			Yes No
Effluent (mg/l)	11.8		30	Yes No
% Removal	91%			Yes No
(4) BOD5 (mo. avg.) Influent (mg/l)	134.3			Yes No
Effluent (mg/l)	8.9		30	Yes No
% Removal	93%			Yes No
(5) Dissolved Oxygen Effluent (mg/l) Minimum				Yes No
(6) Chlorine Residual Effluent (mg/l) Maximum	1.5		0.1-1.0	Yes No
(7) Fecal Coliform (per 100 ml) Geometric Mean May - October	< 20		200	Yes No
Nov. - April	< 20		200	Yes No
(8) pH Range Effluent Minimum	6.8		6.0	Yes No
Maximum	7.7		8.5	Yes No
(9) Ammonia Nitrogen (monthly avg.) Influent (mg/l)				Yes No
Effluent (mg/l)				Yes No

2. FACILITY RECORDS

Are Discharge Monitoring Reports filed with DEQ/OPC? X Yes ____ No

3. DOES FACILITY HAVE ALTERNATE POWER SOURCE?

____ Dual Feed X Generator ____ None
Note #1

4. ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES?

X Yes ____ No

5. EQUIPMENT PROGRAM

	Adequate	Inadequate
(a.) Routine Maintenance Schedules	X	
(b.) Records of Maintenance Repairs & Replacement	X	
(c.) Spare Parts Inventory	X	

6. IS FACILITY EFFLUENT BEING CHLORINATED?

X Yes
____ No

7. IS FACILITY EFFLUENT BEING DE-CHLORINATED

____ Yes
X No

8. DOES SEWAGE BYPASS FACILITY IN WET WEATHER?

No

9. DOES SEWAGE BYPASS FACILITY IN DRY WEATHER?

No

10. IS THE DEQ/OPC BEING NOTIFIED OF EACH BYPASS?

N/A

11. BYPASS FREQUENCY (monthly)

N/A

12. AVG. DURATION OF BYPASS (hrs)

N/A

13. REASON FOR BYPASSING

N/A

14. CAN BYPASS SEWAGE BE CHLORINATED?

X Yes ____ No

15. DO SEWER OVERFLOWS OCCUR UPSTREAM OF FACILITY?

____ Yes X No

16. REASON FOR OVERFLOWS

N/A

17. ANY ODOR COMPLAINTS BEYOND FACILITY PROPERTY? (If yes, explain)

No

18. OBSERVED APPEARANCE OF EFFLUENT, RECEIVING STREAM OR DRAINAGE WAY

Clear effluent with slight green tint, no noticeable discoloration of river.

19. DO OPERATORS AND OTHER PERSONNEL ROUTINELY ATTEND SHORT COURSES, SCHOOL OR OTHER TRAINING? X Yes ___ No

(a.) If yes, cite course sponsor, and date of last course.
OPC sponsored workshop Sept. 1992

(b.) If no, are there any courses available in this area?

(c.) Is there an established procedure for training new operators?
On-job-training

20. IS LAB TESTING ADEQUATE FOR THE CONTROL REQUIRED FOR THIS SIZE AND TYPE OF FACILITY AND USES OF RECEIVING WATERS?

X Yes ___ No (If no, explain)

21. EXPLAIN MAIN DIFFICULTY EXPERIENCED WITH INDUSTRIAL WASTES

None

22. PERMANENT RECORD FILE

(a.) Facility operation and maintenance manual? X Yes ___ No
(b.) As built plans and specifications? X Yes ___ No
(c.) Manufacturers operation and maintenance specifications? X Yes ___ No
(d.) Flow charts? X Yes ___ No

23. ANNUAL BUDGET FOR MAINTAINING AND OPERATING FACILITY

Salaries & Wages	Electricity	Chemicals	Maintenance	Staffing & Training (Note #2)	Other	Total
117,600	190,000	10,000	45,000	1,000	46,400	410,000

24. STABILIZATION PONDS

(a.) Weeds cut and vegetation growth in ponds removed?
X Yes ___ No

(b.) Banks and dikes maintained? (erosion, etc.)
X Yes ___ No

(c.) Any reports of ground water contamination from pond? (If yes, give details)
___ Yes X No

(d.) Seepage reported?
___ Yes X No

(e.) Adequate depth control?
X Yes ___ No

(f.) Efflunet release is
X Continuous
___ Intermittent
___ Seasonal

D. LABORATORY CONTROL

CODING INSTRUCTION

Enter test codes opposite appropriate items. If any of the below tests are used to monitor industrial wastes, place an "X" in addition to the test code.

1 - 7 or more per week
2 - 4, 5 or 6 per week
3 - 1, 2 or 3 per week
4 - as required
5 - 2 or 3 per month
6 - 1 per month
7 - Quarterly
8 - Semi-Annual
9 - Annually

Item (a.)	Raw (b.)	Mixed Liquor (c.)	Final (d.)	(e.) Sludge Raw	(e.) Sludge Super-natant	Digester (f.)	Receiving Stream (g.)
1. BOD or CBOD	6		6				
2. Suspended Solids	6		6				
3. Settleable Solids							
4. Dissolved Oxygen							
5. Total Solids							
6. Volatile Solids							
7. pH			6				
8. Fecal Coliform			6				
9. Residual Chlorine			3				
10. Flow			3				
11. Ammonia Nitrogen							
12.							
13.							

Comments

E. FACILITY PERSONNEL INVENTORY

Personnel Classification (a.)	Employment (b.)			
	Actual			
	Man-Hours Per Week	Number	Number Budgeted	Class of Certificatio and Number
1. Management/Supervisor	30	.75	.75	Class 3, 0690
2. Certified Operator in Charge	40	1.00	1.00	Class 1, 0032
3. Laboratory				Class 3, 0589
4. Maintenance	20	.50	.50	
5. Other Facility Workers	120	3.00	3.00	
6. Other Office/Clerical				
7. Total	210	5.25	5.25	

F. GUIDE - VISUAL OBSERVATION - UNIT PROCESS

Rating Codes: S = Satisfactory; U = Unsatisfactory; M = Marginal; IN = In Operation; OUT = Out of Operation

	Condition or Appearance Rating	Comments
1. GENERAL		
Grounds	S	
Buildings	S	
Potable Water Supply Protection	S	
Safety Features	S	
Bypasses	S	
Overflows	N/A	
2. PRELIMINARY		
Maintenance of Collection Systems	S	
Pump Station	S	

	Condition or Appearance Rating	Comments
2. PRELIMINARY (CONT.)		
Ventilation	S	
Bar Screen	N/A	
Disposal of Screenings	N/A	
Comminutor	N/A	
Grit Chamber	N/A	
Disposal of Grit	N/A	
3. PRIMARY		
Settling Tanks	N/A	
Scum Removal	N/A	
Sludge Removal	N/A	
Effluent	N/A	
4. SLUDGE DISPOSAL		
Digesters	N/A	
Temperature and pH	N/A	
Gas Production	N/A	
Heating Equipment	N/A	
Sludge Pumps	N/A	
Drying Beds	N/A	
Vacuum Filter	N/A	
Incineration	N/A	
Disposal of Sludge	N/A	

	Condition or Appearance Rating	Comments
5. OTHER		
Flow Meter and Recorder	N/A	Instantaneous reading
Records	S	of effluent
Lab Controls	S	
Fence	M	
6. SECONDARY-TERTIARY (List items as required)		
Aeration Cell No. 1	S	One of four aerators under
Aeration Cell No. 2	S	repair in each aeration cell
Polishing Pond	S	
7. CHLORINE		
Effluent	S	
Chlorinators	S	
Effective Dosage	S	
Contact Time	S	
Contact Tank	S	
Dechlorination	N/A	

G. NOTATIONS BY EVALUATOR

1. OPERATION AND MAINTENANCE PROBLEMS/DEFICIENCIES

Check each of the following items in terms of their estimated adverse affect on the performance of the facility.

Item	Major	Minor	None	Item	Major	Minor	Nor
Staff Complement			X	Overloads (type)			
Personnel Training			X	Hydraulic			X
Operating Budget			X	Periodic			X
Laboratory Control			X	Continuous			X
Instrumentation			X	Organic			X
Industrial Waste			X	Periodic			X
Plant Obsolesence			X	Continuous			X
Equipment Failure:				Overload Cause(s):			
Treatment Processes			X	Infiltration		X	
Sludge Handling and Processing			X	Combined Sewers			X
				Industrial Growth			X
Equipment Maintenance			X	Rapid Population Growth			X
Spare Parts Inventory			X	Increased Service Area			X
Power Failure			X	Other:			X
				Other:			

2. DESCRIBE BRIEFLY THE MAJOR PROBLEMS INDICATED ABOVE (include follow-up actions needed)

None

3. GENERAL RATING

Acceptable X
Conditional Acceptance ____
Unacceptable ____

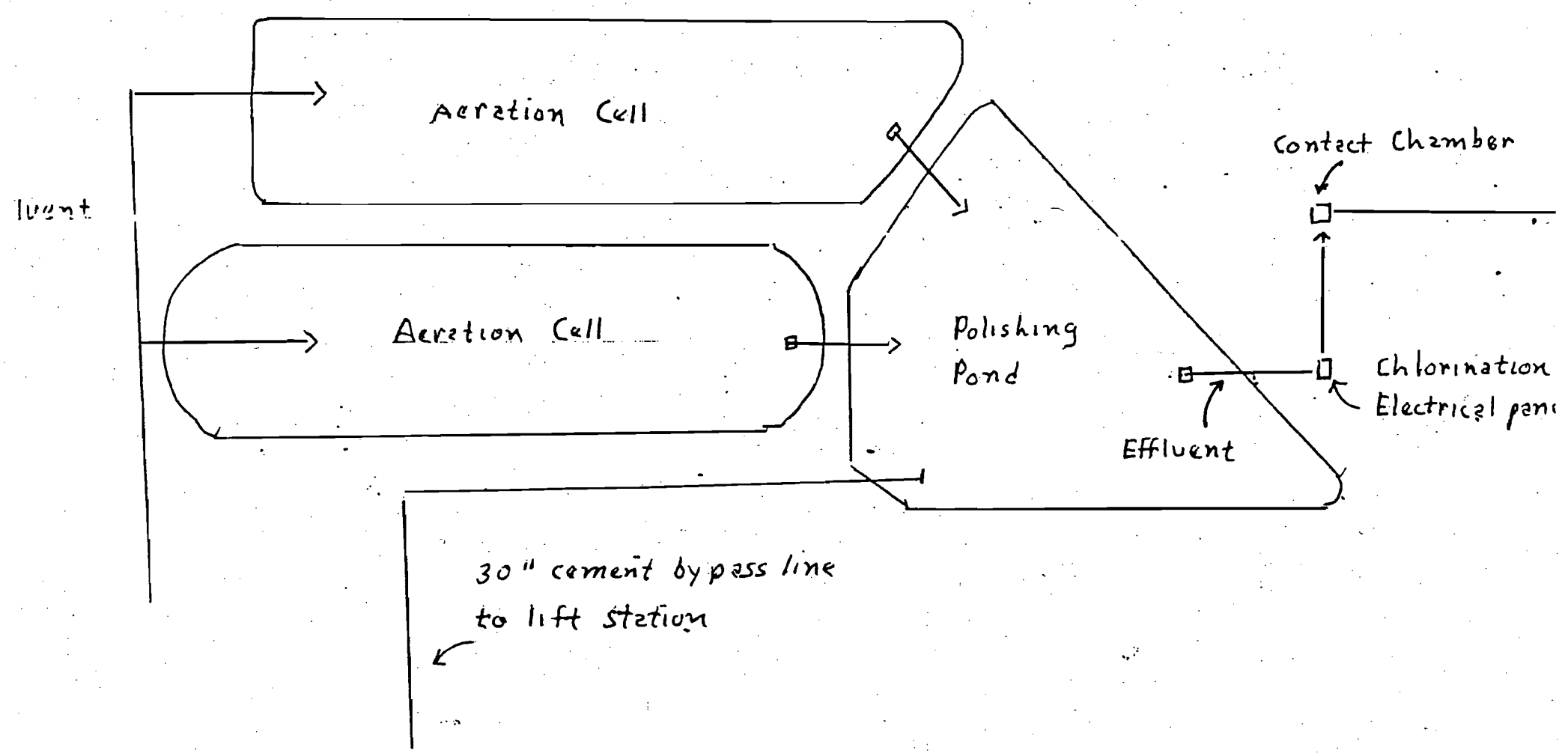
Evaluation Performed By	Title	Organization	Date
MICHAEL EGAN	ENVIRONMENTAL TECHNICIAN, SR.	OFFICE OF POLLUTION CONTROL	10-19-92

Information Furnished By	Title	Organization	Date
CHUCK HENDERSON	DIVISION MANAGER FOR WATER AND SEWER	CITY OF HATTIESBURG	10-19-92

Note #1 - Generator located in lift station house on lagoon grounds supplies power only to lift station pumps not to aerators.

Note #2 - Budget refers to expenditures projected for both lagoon systems Complex #1 and Complex #2.

Note #3 - Man hours refer to personnel who divide time between water and sewer departments.


Aeration Cell
Aeration Cell
Polishing Pond
Contact Chamber
Chlorination
Electrical pan
Effluent
30" cement bypass line to lift station

7500-5 DATA FO

SOUTH REGIONAL C

FACILITY: Hattiesburg Lagoon Complex #2

NPDES NUMBER: MS0020826

MONTH	FLOW		BOD			SS			
	AVG	HI	INF	EFF	%RED	INF	EFF	%RED	INI
Oct. 91	0.929	1.07	96	3.6	96	124	8.6	93	
Nov.	0.874	.996	210	7.5	96	193	12.2	94	
Dec.	1.262	1.37	191	10.6	94	108	12.3	89	
Jan. 91	1.574	1.83	78	10.1	87	198	15.4	92	
Feb.	1.725	1.8	40	7	83	48	16	67	
March	1.495	1.53	39	7	82	68	15	78	
April	1.262	1.37	144	3	98	100	8	92	
May	1.21	1.21	140	26	81	144	18	88	
June	1.21	1.21	219	9	96	134	7	95	
July	1.098	1.21	113	10	91	84	12	86	
August	1.225	1.37	195	8	95.9	301	9	97	
Sept.	1.216	1.27	147	5	96.6	67	8	88.1	
VERAGE	1.26	1.83	134.3	8.9	93%	130.8	11.8	91%	

COMMENTS:

BUREAU OF POLLUTION CONTROL
SAMPLE REQUEST FORM

Lab Bench No. 1445

I. GENERAL INFORMATION: Facility Name Hattiesburg Aerated Lagoon
County Code 0800 NPDES Permit No. 20826
Discharge No. 001 Date Requested
Sample Point Identification
Requested By Compliance Monitoring Data To ~~J.H. Stanton~~ Sec
Type of Sample: Grab ( ) Composite (Flow) (Time X) Other ( )

II. SAMPLE IDENTIFICATION:
Environment Condition Good Collected By M.Egan
Where Taken Final outfall following chlorination

Type	Parameters	Preservative	Date	Time
1. Composite	BOD, SS	Cool	10/20/92	1220
2. Grab	Fecal	Cool	10/20/92	1220
3.				
4.				
5.				

III. FIELD:

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	(X)	7.1/7.2	ME	10/19-20/9
D.O.	(000300)	( )			
Temperature	(000010)	( )			
Residual Chlorine	(050060)	(X)	0.51/0.39	ME	10/19-20/9
Flow	(074060)	(X)	0.996 MGD	ME	10/20/9

IV. TRANSPORTATION OF SAMPLE: Bus ( ) RO Vehicle ( ) Other ( )

V. LABORATORY: Received By David Singleton Date 10/21/92 Time 1330
Recorded By Dorothy Lewis Date Sent to State Office 12-1-92

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD_5	(000310)	(X)	8.0 mg/l	DS	*10/22/9
COD	(000340)	( )	mg/l		
TOC	(000680)	( )	mg/l		
Suspended Solids	(099000)	(X)	7.0 mg/l	DE	10/26/9
TKN	(000625)	( )	mg/l		
Ammonia-N	(000610)	( )	mg/l		
Fecal Coliform(1)	(074055)	(X)	500 colonies/100 ml	LH	*10/20/9
Fecal Coliform(2)	(074055)	( )	colonies/100 ml		*
Total Phosphorus	(000665)	( )	mg/l		
Oil and Grease(1)	(000550)	( )	mg/l		
Oil and Grease(2)	(000550)	( )	mg/l		
Chlorides	(099016)	( )	mg/l		
Phenol	(032730)	( )	mg/l		
Total Chromium	(001034)	( )	mg/l		
Hex. Chromium	(001032)	( )	mg/l		
Zinc	(001092)	( )	mg/l		
Copper	(001042)	( )	mg/l		
Lead	(017501)	( )	mg/l		
Cyanide	(000722)	( )	mg/l		
		( )			
		( )			
		( )			
		( )			
		( )			
		( )			
		( )			
		( )		DEC - 2 1992	
		( )			
		( )			

Remarks

*Date of Test Initiation

United States Environmental Protection Agency
Washington, D. C. 20460

EPA NPDES Compliance Inspection Report

Form Approved
OMB No. 2040-0003
Approval Expires 7-31-85

Section A: National Data System Coding

Transaction Code	NPDES	yr/mo/day	Inspection Type	Inspector	Fac Type	Mnth Insp Sched'd
1 N 2 5	3 MS0020826 11	12 920824 17	18 C	19 S	20 I	Jul

Remarks 21 — 66

Reserved	Facility Evaluation Rating	BI	QA	Reserved
67 — 69	70 3	71 N	72 N	73 — 74 / 75 — 80

Section B: Facility Data

Name and Location of Facility Inspected	Entry Time	Permit Effective Date
Hattiesburg Aerated Lagoon Hattiesburg, MS	[X] AM [ ] PM 9:55	1/26/88
	Exit Time/Date 11:35	Permit Expiration Date 1/25/93

Name(s) of On-Site Representative(s)	Title(s)	Phone No(s)
Mr. Charles Henderson	Operator	545-4531

Name, Address of Responsible Official	Title	
Hon. J. Ed Morgan City Hall Hattiesburg, MS	Mayor	
	Phone No.	Contacted [ ] Yes [X] No

Section C: Areas Evaluated During Inspection

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

S	Permit	S	Flow Measurement	N	Pretreatment	S	Operations & Maintenance
S	Records/Reports	N	Laboratory	N	Compliance Schedules	N	Sludge Disposal
S	Facility Site Review	S	Effluent/Receiving Waters	S	Self-Monitoring Program		Other:

Section D: Summary of Findings/Comments *(Attach additional sheets if necessary)*

(See Attached Letter)

Name(s) and Signature(s) of Inspector(s)	Agency/Office/Telephone	Date
Shannon Williams	OPC	8/24/92
S. Williams		
Signature of Reviewer Glenn L. Odom	Agency/Office OPC	Date

Regulatory Office Use Only

Action Taken	Date	Compliance Status
		[ ] Noncompliance [ ] Compliance

EPA Form 3560-3 (Rev. 3-85) Previous editions are obsolete.

NPDES COMPLIANCE INSPECTION REPORT

Date: August 24 [illegible] Inspector: Brenner Williams

PERMITTEE:

City of Hattiesburg MS0020526

MAILING ADDRESS:

P.O. Box 1393

Hattiesburg, MS 39403

BRIEF FACILITY DESCRIPTION:

Pathogen Treatment by Aerated Lagoon

I. PERMIT CHECKLIST

YES NO N/A 1. Correct name and mailing address of permittee.

YES NO N/A 2. Facility is as described in permit.

YES NO N/A 3. Notification has been given to EPA/State of new, different, increased discharges.

YES NO N/A 4. Number and location of discharge points are as described in the permit.

YES NO N/A 5. Name and location of receiving waters are correct.

YES NO N/A 6. All discharges are permitted.

YES NO N/A 7. All records required by permit are available for a minimum of three years.

II. SELF-MONITORING PROGRAM

A. General

YES NO N/A 1. Samples are taken at sites specified in permit.

YES NO N/A 2. Locations are adequate for representative samples.

YES NO N/A 3. Sampling and analysis completed on parameters specified by permit.

YES NO N/A 4. Sampling and analysis done in frequency specified by permit.

YES NO N/A 5. Permittee is using method of sample collection required by permit.

6. Sample collection procedures are adequate:

YES NO N/A a. Samples refrigerated during compositing
YES NO N/A b. Proper preservation techniques used
YES NO N/A c. Containers and sample holding times before analyses conform with 40 CFR 136.3

YES NO N/A 7. Monitoring and analyses are performed more often then required by permit. If so, results reported in permittee's self-monitoring report.

YES NO N/A 8. Analytical results are consistent with the data reported on the DMR's.

9. Sampling and Analysis Data are adequate and include:

YES NO N/A a. Dates, times, location of sampling
YES NO N/A b. Name of individual performing sampling
YES NO N/A c. Analytical methods and techniques
YES NO N/A d. Results of analysis
YES NO N/A e. Dates of analysis
YES NO N/A f. Name of person performing analysis

B. BOD_5 Test Evaluation N/A

1. D.O. method used;
   a. Winkler Titration _____
   b. D.O. Probe _____
   c. Other _____

2. If probe list calibration method;
   a. Air _____
   b. Saturated Water _____
   c. Winkler _____

YES NO N/A 3. Holding time; < 48 hrs

YES NO N/A 4. Preservation; 4 degree C

YES NO N/A 5. Incubation; 20 degree C

YES NO N/A 6. Sample D.O. depletions; between 2 mg/l and 6 mg/l

YES NO N/A 7. Blank D.O. variation; < 0.2 mg/l

8. If effluent is chlorinated:
   YES NO N/A a. Sample dechlorinated. How? _____
   YES NO N/A b. Sample seeded.

C. Total Suspended Solids Test Evaluation N/A

YES NO N/A 1. Holding time; < 7 days

YES NO N/A 2. Oven temperature; 103 degree - 105 degree C

YES NO N/A 3. Balance Calibrated. Frequency? _____

YES NO N/A 4. Balance Serviced at least yearly.

D. Ammonia Nitrogen Test Evaluation N/A

1. Method used; _____

YES NO N/A 2. Holding time; < 28 days

YES NO N/A 3. Preservative; 4 degree C, H_2SO_4 to pH < 2

E. Fecal Coliform Test Evaluation N/A

1. Method used;
   a. MPN _____
   b. MF _____
   c. Other _____

YES NO N/A 2. Holding time; < 6 hrs

YES NO N/A 3. Preservative; Sterile container, 4 degree C

YES NO N/A 4. 0.008% $Na_2S_2O_3$[5] added if sample chlorinated.

YES NO N/A 5. Water bath temperature; 44.5 degree C

F. Dissolved Oxygen Test Evaluation N/A

1. Method used;
   a. Winkler Titration _____
   b. D.O Probe _____
   c. Other _____

2. Calibration (See B. BOD_5 Test Evaluation #2)

G. pH Test Evaluation N/A

YES NO N/A 1. EPA approved method used.
If not, method used: _____

YES NO N/A 2. Holding time; analyzed immediately

H. Aeration Tank Settleability Test Evaluation N/A

YES NO N/A 1. 1000 ml graduated cylinders used

YES NO N/A 2. Time of test; 30 minutes

I. Residual Chlorine Test Evaluation

YES NO N/A 1. EPA approved method used.
If not, method used: _____

YES NO N/A 2. Holding time; analyzed immediately

III. LABORATORY CHECKLIST

A. General

YES NO N/A 1. Written laboratory quality assurance manual is available.

B. Laboratory Procedures

YES NO N/A 1. EPA approved analytical testing procedures are used.

YES NO N/A 2. Standard Methods (lastest edition) is available.

YES NO N/A 3. If alternate analytical procedures are used, proper approval has been obtained.

YES NO N/A 4. Calibration and maintenance of instruments and equipment is satisfactory and records are adequate.

YES NO N/A 5. Quality control procedures are used.

YES NO N/A 6. Commercial laboratory is used

Name Bonner Analytical Testing

Address Rte 14 Box 588 Lewisburg

Contact _____

Phone 264-2354

C. Laboratory Facilities and Equipment N/A

YES NO N/A 1. Proper grade distilled water is available for specific analysis.

YES NO N/A 2. Fume hood has enough ventilation capacity.

YES NO N/A 3. The laboratory has sufficient lighting.

YES NO N/A 4. Adequate electrical sources are available.

YES NO N/A 5. Instruments/equipment are in good condition.

YES NO N/A 6. Written requirements for daily operation of instruments are available.

YES NO N/A 7. Standards are available to perform daily check procedure.

YES NO N/A 8. Written trouble-shooting procedures for instruments are available.

YES NO N/A 9. Schedule for required maintenance exists.

YES NO N/A 10. Working standards are frequently checked.

YES NO N/A 11. Standards are discarded after recommended shelf life has expired.

YES NO N/A 12. Background reagents and solvents run with every series of samples.

YES NO N/A 13. Written procedures exist for cleanup, hazard response methods, and applications of correction methods for reagents and solvents.

IV. FACILITY SITE REVIEW CHECKLIST

YES NO N/A 1. Standby power or other equivalent provision is provided.

YES NO N/A 2. Adequate alarm system for power or equipment failures is available.

YES NO N/A 3. All treatment units, other than back-up units, are in service.

YES NO N/A 4. Procedures for facility operation and maintenance exist.

YES NO N/A 5. Organization plan (chart) for operation and maintenance is provided.

YES NO N/A 6. Operating schedules are established.

YES NO N/A 7. Emergency plan for treatment control is established.

8. Operating management control documents are current and include:

YES NO N/A a. Operating report
YES NO N/A b. Work schedule
YES NO N/A c. Activity report (time cards)

YES NO N/A 9. Adequate number of qualified operators are on-hand.

YES NO N/A 10. Established procedures are available for training new operators.

YES NO N/A 11. Adequate spare parts and supplies inventory and major equipment specifications are maintained.

YES NO N/A 12. Instruction files are kept for operation and maintenance of each item of major equipment.

YES NO N/A 13. Regulatory agency was notified of by-passing. (Dates_____)

YES NO N/A 14. Hydraulic and/or organic overloads are experienced. Reasons for overloads _____

_____

_____

_____

YES NO N/A 15. Dated tags show out of service equipment.

YES NO N/A 16. Routine and preventive maintenance are scheduled/performed on time.

17. Plant Records are adequate and include:

YES NO N/A a. O&M Manual

YES NO N/A b. "As-built" engineering drawings

YES NO N/A c. Schedules and dates of equipment maintenance and repairs including cost.

YES NO N/A d. Equipment supplies manual

YES NO N/A e. Equipment data cards

V. SLUDGE DISPOSAL N/A

1. Amount of sludge wasted daily from clarifier:
   a. _____ gallons/day
   b. _____ lbs/day (dry weight)

2. Check the method(s) utilizing for sludge handling:
   a. aerobic digestion ( )
   b. anaerobid digestion ( )
   c. filter press ( )
   d. drying bed ( )
   e. sludge lagoon ( )
   f. other _____ ( )

3. If sludge is hauled offsite for ultimate disposal, what is the quantity and freguency of hauling?
   a. Quantity: _____ tons
   b. Frequency: ( ) daily ( ) monthly
      ( ) weekly ( ) annually
   c. Ultimate Disposal Site:
      Name _____

      Location _____

YES NO N/A 4. If sludge is stored in an on-site lagoon or holding pond, has it ever been dredged or otherwise cleaned out? If so, when and where was the sludge disposed?
   When: _____

   Where: _____

VI. FLOW MEASUREMENT CHECKLIST

A. General

YES NO N/A 1. Primary flow measuring device is properly installed and maintained.

YES NO N/A 2. Flow records are properly kept.

YES NO N/A 3. Sharp drops or increases in flow values are accounted for.

YES NO N/A 4. Actual flow discharged is measured.

YES NO N/A 5. Influent flow is measured before all return lines.

YES NO N/A 6. Effluent flow is measured after all return lines.

YES NO N/A 7. Secondary instruments (totalizers, recorders, etc.) are properly operated and maintained.

YES NO N/A 8. Spare parts are stocked.

YES NO N/A 9. Flow monitoring records and charts are properly kept.

B. Flumes

YES NO N/A 1. Flow entering flume appears reasonable well distributed across the channel and free of turbulence, boils, or other distortions.

YES NO N/A 2. Cross-sectional velocities at entrance are relatively uniform.

YES NO N/A 3. Flume is clean and free of debris or deposits.

YES NO N/A 4. All dimensions of flume are accurate.

YES NO N/A 5. Side walls of flume are vertical and smooth.

YES NO N/A 6. Sides of flume throat are vertical and parallel.

YES NO N/A 7. Flume head is being measured at proper location.

YES NO N/A 8. Measurement of flume head is zeroed to flume crest.

YES NO N/A 9. Flume is of proper size to measure range of existing flow.

YES NO N/A 10. Flume is operating under free-flow conditions over existing range of flows.

C. Wiers

1. Type of weir used: V-notch

YES NO N/A 2. The weir is exactly level.

YES NO N/A 3. The weir plate is plumb and its top edges are sharp and clean.

YES NO N/A 4. There is free access for air below the nappe of the weir.

YES NO N/A 5. Upstream channel of weir is straight for at least four times the depth of water level, and free from disturbing influences.

YES NO N/A 6. The stilling basin of the weir is of sufficient size and clear of debris.

YES NO N/A 7. Head measurements are properly made by facility personnel.

YES NO N/A 8. Proper flow tables are used by facility personnel.

D. Flowmeter N/A

1. Type of flowmeter used: _____

2. The most common problems experienced with the flowmeter: _____

3. Measured Wastewater flow: _____ mgd; Recorded flow: _____ mgd; Error _____ %

4. Design flow: _____ mgd.

YES NO N/A 5. Flow totalizer is properly calibrated.

6. Frequency of routine inspection by proper operator: _____ /day.

7. Frequency of maintenance inspections by plant personnel: _____ /year.

8. Frequency of flowmeter calibration: _____ /month.

YES NO N/A 9. Flowmeter adequate to handle expected ranges of flow rates.

YES NO N/A 10. Venturi meter is properly installed and calibrated.

YES NO N/A 11. Electromagnetic flowmeter is properly calibrated.

Scheduled July 1992 AERATED LAGOON INSPECTION REPORT NPDES NO MS0022[illegible]

Name of Facility (Mun., Ind., Private) Lt. Hesson Aerated Lagoon [illegible]

City Forest Person Contacted Chuck Henderson Phone No: 545-[illegible]

1. Pumping Station: Yes X No ___
   a. Dual Pumps Yes X No ___
   b. Pumps Operable: Yes X No ___
   Comment: 3 pumps [illegible]

2. Aeration Cell: 1
   a. Color: green
   b. Odor: No
   c. Floating Solids: No ___ Few ___ Many X
   d. Effluent Structure Condition:
      Good X Poor ___
   e. Dikes:
      Condition: good
      Freeboard: 10 ft.
      Grass: good
   f. Aerators:
      Number 9 in each cell
      Operable: Yes X No ___
      Timed: Yes ___ No X
   Comment: aerators [illegible]

3. Settling Cell:
   a. Color: green
   b. Odor: Yes ___ No X
   c. Floating Solids: No ___ Few ___ Many X
   d. Skimming: Yes ___ No X
   e. Effluent Structure Condition
      Good X Poor ___
   f. Dikes:
      Condition: good
      Freeboard: 10 ft.
      Grass: good
   Comment:

4. Chlorinator and Contact Chamber: Yes X No ___
   a. Operating: Yes X No ___
   b. Baffles Adequate: Yes ___ No ___
   c. Housing: Yes X No ___
   d. Cylinders on Hand: Yes X No ___
      How Many 6
   e. Solids in Contact Chamber: Yes ___ No X
   f. Air Gap in Solution Line: Yes X No ___
   g. Chlorine Residual: Yes ___ No ___
   Comment:

5. Effluent:
   a. Color: Turbid ___ Clear X
   b. Odor: Yes ___ No X
   c. Sample Taken: Yes ___ No X
   Comment:

6. General:
   a. Fence: Yes X No ___
      Locked Yes X No ___
   b. Upkeep: Ok X Poor ___
   c. Access Road Condition Good X Poor ___
   d. Safety Hazards: Yes ___ No X
   Comment:

Aeration Cell 2:
a. Color: brown
b. Odor: No
c. Floating solids: No
d. Effluent structure: good

. Inspectors Recommendations to Person Contacted:

. Verbal Commitments of Person Contacted to Correct Problems:

. General Comments:

Does this situation warrant action from the Jackson Office (YES) (NO)
). Follow-up Inspection Scheduled: YES ___ Date ___ NO X
.. Is responsible certified operator continuant: YES X NO ___ Date Departed ___

Inspector Shannon Williams
Date August 24 1992
Time

VIII. COMPLIANCE SCHEDULE STATUS REVIEW N/A

YES NO N/A 1. The permittee has obtained necessary approvals to begin construction.

YES NO N/A 2. Financing arrangements are complete.

YES NO N/A 3. Contracts for engineering services have been executed.

YES NO N/A 4. Design plans and specifications have been completed.

YES NO N/A 5. Construction has begun.

YES NO N/A 6. Construction is on schedule.

YES NO N/A 7. Equipment acquisition is on schedule.

YES NO N/A 8. Construction has been completed.

YES NO N/A 9. Start-up has begun.

YES NO N/A 10. The permittee has requested an extension of time.

YES NO N/A 11. The permittee has met compliance schedule.

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

May 21, 1992

Honorable J. Ed Morgan, Mayor
City of Hattiesburg
305 Sixth Street
Hattiesburg, MS 39403

Dear Mayor Morgan:

Re: Hattiesburg Wastewater Treatment Facility
NPDES Permit No. MS0020826
Reconnaissance Inspection

Enclosed is a copy of the reconnaissance inspection report that was performed at the above referenced facility on April 16, 1992. The results of this inspection should be used by you as a guide for complying with requirements and limitations as stated by your NPDES permit.

If you have any questions concerning this matter, please contact us at 961-5171.

Respectfully,

J. H. Stanton, P.E.
Municipal Permit Compliance Branch

JHS:dam
Enclosures
cc: Mr. Pete McGarry, EPA (w/enclosures)
SRO
Mr. Paul Zetterholm (w/attachment)

THIS COPY FOR

Scheduled APRIL 1992 AERATED LAGOON INSPECTION REPORT NPDES NO 20826

Name of Facility (Mun., Ind., Private) HATTIESBURG AERATED LAGOON (NORTH)

County FORREST Person Contacted CHUCK HENDERSON Phone No 545-4540

1. Pumping Station: Yes X No
   a. Dual Pumps: Yes X No
   b. Pumps Operable: Yes X No
   Comment: STATION AT LAGOON HAS THREE PUMPS, HAS BYPASS TO POLISHING POND.
2. Aeration Cell
   a. Color: LIGHT GREEN
   b. Odor: NO
   c. Floating Solids: No X Few Many
   d. Effluent Structure Condition: Good X Poor
   e. Dikes:
      Condition: GOOD
      Freeboard: 12-15 Ft.
      Grass: GOOD
   f. Aerators:
      Number 9 IN EACH OF DUAL CELLS
      Operable: Yes X No
      Timed: Yes No X
      Comment: CONTINUOUS RUNNING OF ALL 18 AERATORS.
3. Settling Cell
   a. Color: TRANSPARENT GREEN
   b. Odor: Yes No X
   c. Floating Solids: No X Few Many
   d. Skimming: Yes X No
   e. Effluent Structure Condition Good X Poor
   f. Dikes:
      Condition: GOOD
      Freeboard: 15 Ft.
      Grass GOOD, BEING CUT AT TIME OF INSPECTION.
      Comment: NONE
4. Chlorinator and Contact Chamber: Yes X No
   a. Operating: Yes X No
   b. Baffles Adequate: Yes X No
   c. Housing: Yes X No
   d. Cylinders on Hand: Yes X No
      How Many: 25
   e. Solids in Contact Chamber Yes No
   f. Air Gap in Solution Line: Yes X No
   g. Chlorine Residual: 1.2 Yes X No
   Comment: DUAL CHLORINATORS WITH AUTO CROSS-OVER.
5. Effluent
   a. Color: Turbid Clear X
   b. Odor: Yes No
   c. Sample Taken: Yes No
   Comment: SLIGHT GREEN TINT TO EFFLUENT
6. General
   a. Fence: Yes X No
      Locked: Yes X No
   b. Upkeep: OK X Poor
   c. Access Road Condition: Good X Poor
   d. Safety Hazards: Yes No
   Comment: NONE

7. Inspectors Recommendations to Person Contacted: KEEP UP GOOD OPERATION.

8. Verbal Commitments of Person Contacted to Correct Problems: N/A

9. General Comments: GOOD EFFLUENT QUALITY. NO DISCOLORATION OF WATER IN BOWIE RIVER.

Does this situation warrant action from the Jackson Office (Yes) (No)

10. Follow-up Inspection Scheduled: Yes Date No X

11. Is responsible certified operator continuant: Yes X No Date Departed

INSPECTOR MIKE EGAN RC DATE 4-16-92 TIME 11:00 A.M.

STATE OF MISSISSIPPI

DEPARTMENT OF ENVIRONMENTAL QUALITY

RAY MABUS
GOVERNOR

September 13, 1991

Honorable J. Ed Morgan, Mayor
City of Hattiesburg
P. O. Box 1898
Hattiesburg, Mississippi 39403

Dear Mayor Morgan:

Re: DMR/QA Study 011
NPDES Permit Nos. MS0020826 and MS0020303

Early in 1991 you were sent a set of NPDES laboratory performance samples and requested to complete the analysis for the parameters requiring monitoring under the terms and conditions of your NPDES permits. The results of your analysis were sent to Bionetics Corporations, Cincinnati, Ohio, and they have informed us that your results were in the acceptable range for all permitted parameters analyzed. We congratulate you on these results and encourage you to continue your successful laboratory program.

If you have any questions, do not hesitate to call me at 961-5171.

Sincerely,

Glenn L. Odom, P.E., Chief
Municipal Permit Compliance Branch

GLO:RL:els
cc: Mr. Pete McGarry, EPA ← THIS COPY FOR

Mr. Kay A. Herring, P.E.

THE CITY OF HATTIESBURG

November 30, 1995

United States Environmental Protection Agency
Region 4
Attention: Mr. Michael Hom, Chief
FL/NC/MS Unit
Enforcement Station
Water Permits and Enforcement Branch
Water Management Division
345 Courtland Street, N.E.
Atlanta, Georgia 30365

RE: Compliance Inspection - NPDES Permit No. MS0020303 and No. MS0020826

Dear Mr. Hom:

With reference to your letters dated November 13, 1995 regarding the Compliance Inspection - NPDES Permit No. MS0020303 and No. MS0020826, I am attaching a copy of a memorandum from Chuck Henderson, Division Manager, Sewer Lagoon as to the actions that have been taken to correct the deficiencies stated in your letters.

I can assure you the City of Hattiesburg is committed to properly maintaining their facilities and to stay in compliance with all conditions of the NPDES Permits.

Post Office Box 1898, Hattiesburg, Mississippi 39403-1898, 601 545-4501 FAX 601 545-4608

If you should have any questions or comments pertaining to this matter, please do not hesitate to contact me (601) 545-4640.

Sincerely,

Bennie J. Sellers

Bennie J. Sellers, P.E., P.L.S.
Director of Public Services

BJS/kac

xc: Mayor J. Ed Morgan
Clarice Wansley, Director of Administration/City Clerk
Joseph C. Townsend, Chief Financial Officer/Comptroller
Bobby West, General Manager, W&S O&M
Chuck Henderson, Division Manager, Sewer Lagoon
Roy A. Herwig, P.E., Water Permits and Enforcement Branch, USEPA

attachments

MEMO

TO: Bennie Sellers, Director, Public Services

FROM: Chuck Henderson, Division Manager

DATE: November 28, 1995

RE: E.P.A. Compliance Evaluation Inspection

In response to the letter from E.P.A. dated 11-13-95, the suggestions and deficiencies have been addressed as follows:

The contract lab has been contacted, and chain of custody forms along with sampling logs will be kept on file in my office. A city employee will accompany lab personnel when samples are collected.

The excessive vegetation and small trees have been removed from the lagoon dikes.

A service barge has been purchased to service aerators at the south lagoon. This barge should arrive within a few weeks and repairs will be made at that time.

THE CITY OF HATTIESBURG

MEMORANDUM

TO: Bennie Sellers, Director of Public Services

FROM: J. Ed Morgan, Mayor

RE: Compliance Evaluation Inspection NPTES Permit No. MS0020303 and No. MS0020826

DATE: November 20, 1995

Please see attached hereto the original documentation on the above referenced inspections. Please note that corrected actions should be taken and the information submitted to the U. S. Environmental Protection Agency Region IV Office not later than November 30, 1995. Please handle this on behalf of the City, advising me when you report.

JEM/tbv

cc: Clarice Wansley, Director of Administration/City Clerk
Joe Townsend, Comptroller/Chief Financial Officer

Post Office Box 1898, Hattiesburg, Mississippi 39403-1898, 601 545-4501 FAX 601 545-4608

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

NOV 13 1995

CERTIFIED MAIL P124 043257
RETURN RECEIPT REQUESTED

REF: 4WM-WPEB

Honorable J. Ed Morgan
Mayor of City of Hattiesburg
Post Office Box 1898
Hattiesburg, MS 39403

SUBJ: Compliance Evaluation Inspection
NPDES Permit Number MS0020826

Dear Mayor Morgan:

This office would like to thank your staff for their assistance during the Compliance Evaluation Inspection of the City's North Lagoon wastewater treatment facility on August 21, 1995. The inspection results have been summarized for the facility in the enclosed NPDES Compliance Inspection Report. One or more aspects of plant operations or record keeping were observed as being deficient during the inspection. These deficiencies are highlighted in the attached narrative, followed by their Regulatory Requirement. In addition, Suggestions are included to increase the integrity of the City's self-monitoring program.

Please provide us with the corrective actions the City has taken, or will take, to correct the noted deficiencies. This information must be submitted to this office by November 30, 1995. Until such time as the City achieves compliance with all conditions of its NPDES permit, the City is considered to be in violation of and subject to enforcement action pursuant to the Clean Water Act, 33 U.S.C. Section 1319.

If you have any questions as to the requirements of the permits, or the inspection results, please contact Mr. Roy A. Herwig, P.E. at (404) 347-4793, extension 4255.

Sincerely yours,

Michael Hom, Chief
FL/NC/MS Unit
Enforcement Section
Water Permits and Enforcement Branch
Water Management Division

Enclosures
cc: Mississippi Department of Environmental Quality

United States Environmental Protection Agency
Washington, D.C., 20460

NPDES Compliance Inspection Report

Form Approved
OMB No.2040-0003
Approval Expires
7-31-85

Section A: National Data System Coding

Transaction Code	NPDES	YR/MO/DAY	Inspection Type	Inspector	Fac Type
N 5	MS0020826	95/08/21	C	R	1

Remarks

Reserved	Facility Evaluation Rating	BI	QA	.....Reserved.....
	3	N	N	

Section B: Facility Data

Name and Location of Facility Inspected	Entry Time/Date:	Permit Effective Date:
City of Hattiesburg North Plant, Lagoon Complex #2	11:30am 8/21/95	10/13/92
	Exit Time/Date: 4:35pm 8/21/95	Permit Expiration Date: 10/12/97

Name(s) of On-Site Representative(s)	Title(s)	Phone No(s)
Charles E. "Chuck" Henderson, II	Water and Wastewater Treatment Division Manager	(601) 545-4630

Name, Address of Responsible Official	Title	
Hon. J. Ed Morgan P.O. Box 1898 Hattiesburg, MS 39403	Mayor	
	Phone No. (601) 545-4501	Contacted? No

Section C: Areas Evaluated During Inspection (S-Satisfactory, M-Marginal, U-Unsatisfactory, N-Not Evaluated)

S Permit	N Flow Measurement	N Pretreatment	S Operations & Maintenance
M Records/Reports	N Laboratory	N Compliance Schedules	N Sludge Disposal
S Facility Site Review	S Effluent/Receiving Waters	M Self-Monitoring Program	N Other

Section D: Summary of Findings/Comments

Note - Public Works Department is located at 900 James Street.
See Attached Narrative

Name(s) and Signature(s) of Inspectors	Agency/Office/Telephone	Date
Roy A. Herwig, P.E.	US-EPA/WMD/(404)- 347-4793 ext. 4255	Oct. 12, 1995
		Date
Signature of Reviewer Michael Mm	Agency/Office	Date 11/13/95

Regulatory Office Use Only

Action Taken	Date	
		__ Noncompliance __ Compliance

EPA Form 3560-3 (Rev. 3-85) Previous editions are obsolete

City of Hattiesburg, Mississippi
NPDES Permit Number MS0020303
Compliance Evaluation Inspection
August 21, 1995

On August 21, 1995, Mr. Roy A. Herwig, P.E. of the United States Environmental Protection Agency, Region 4, conducted a compliance evaluation inspection at the City of Hattiesburg, Mississippi North Lagoon (Lagoon Complex Number 2). Mr. Chuck Henderson, Division Manager was present during the inspection.

Permit

Permit was located at the Department of Public Works office as there is no control building at the facility site.

Records/Reports

Observation: The City did not maintain a sampling log because the samples are collected by the contract laboratory. City personnel do not routinely accompany contract laboratory personnel during sample collection.

Requirement: The permit requires that the exact place, date and time of sampling be recorded. Further, the name of the individual collecting the sample should be recorded.

Suggestion: A City employee should accompany the contract laboratory employee when samples are collected and should record relevant sampling information in the sampling log.

Observation: Chain-of-custody forms are not kept by the City.

Suggestion: The City should maintain chain-of-custody forms for all samples collected at the facility and analyzed by the contract laboratory.

Facility Site Review

The facility is comprised of two(2) nine acre aerated lagoons in parallel followed by a single polishing pond and disinfection.

Flow Measurement

Flow measured by rectangular weir. The weir appeared to be installed properly and to be well maintained.

Laboratory

Permittee uses a contract laboratory to collect and analyze the samples required by the permit.

Bonner Analytical Testing
2703 Oak Grove Road
Hattiesburg, MS 39402
(601) 264-2854

The contract laboratory also prepares the Discharge Monitoring Reports (DMRs) for signature by the City. Bonner Analytical Testing was not inspected.

Effluent/Receiving Waters

Not evaluated due to inaccessibility.

Pretreatment

The pretreatment program was not evaluated - implemented by the State.

Compliance Schedules

Not applicable.

Self Monitoring Program

Based upon observations noted in the Records/Reports section, the self monitoring report was adjudged to be marginal.

Operations and Maintenance

Observation: Operation and maintenance at this facility was satisfactory.

Sludge Disposal

What sludge is generated remains in the ponds.

FORM APPROVED
OMB No. 158- 0100

FOR AGENCY USE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER

STANDARD FORM A – MUNICIPAL

SECTION I. APPLICANT AND FACILITY DESCRIPTION

Unless otherwise specified on this form all items are to be completed. If an item is not applicable indicate 'NA.'

ADDITIONAL INSTRUCTIONS FOR SELECTED ITEMS APPEAR IN SEPARATE INSTRUCTION BOOKLET AS INDICATED. REFER TO BOOKLET BEFORE FILLING OUT THESE ITEMS.

Please Print or Type

1. Legal Name of Applicant (see instructions)	101	City of Hattiesburg
2. Mailing Address of Applicant (see instructions) Number & Street	102a	P.O. Box 1898
City	102b	Hattiesburg
State	102c	Mississippi
Zip Code	102d	39403
3. Applicant's Authorized Agent (see instructions) Name and Title	103a	Charles Henderson Division Manager
Number & Street	103b	900 James Street
City	103c	Hattiesburg
State	103d	Mississippi
Zip Code	103e	39401
Telephone	103f	601 (Area Code) 545-4530 (Number)
4. Previous Application If a previous application for a permit under the National Pollutant Discharge Elimination System has been made, give the date of application.	104	87 05 19 (YR MO DAY)

I certify that I am familiar with the information contained in this application and that to the best of my knowledge and belief such information is true, complete, and accurate.

Charles Henderson Printed Name of Person Signing	102e	Division Manager Title
Signature of Applicant or Authorized Agent	102f	92 06 08 YR MO DAY Date Application Signed

18 U.S.C. Section 1001 provides that:

Whoever, in any matter within the jurisdiction of any department or agency of the United States knowingly and wilfully falsifies, conceals or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious or fraudulent statement or representation, or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statement or entry, shall be fined not more than $10,000 or imprisoned not more than five years, or both.

FOR AGENCY USE

OFFICE: ____ EPA Region Number
____ State

Received ____ ____ ____
YR MO DAY

FOR AGENCY USE

11. **Average Daily Industrial Flow**
Total estimated average daily waste flow from all industrial sources. | 111 | .05 mgd

Note: All major industries (as defined in Section IV) discharging to the municipal system must be listed in Section IV.

12. **Permits, Licenses and Applications**
List all existing, pending or denied permits, licenses and applications related to discharges from this facility. (see instructions)

	Issuing Agency	For Agency Use	Type of Permit or License	ID Number	Date Filed YR/MO/DA	Date Issued YR/MO/DA	Date Denied YR/MO/DA	Expiration Date YR/MO/DA
112	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1.			NPDES	MS0020826		88/01/26		93/01/25
2.								
3.								

13. **Maps and Drawings**
Attach all required maps and drawings to the back of this application. (see instructions)

14. **Additional Information**

114 Item Number	Information

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STANDARD FORM A—MUNICIPAL

FOR AGENCY USE

SECTION II. BASIC DISCHARGE DESCRIPTION

Complete this section for each present or proposed discharge indicated in Section I, Items 7 and 8, that is to surface waters. This includes discharges to other municipal sewerage systems in which the waste water does not go through a treatment works prior to being discharged to surface waters. Discharges to wells must be described where there are also discharges to surface waters from this facility. Separate descriptions of each discharge are required even if several discharges originate in the same facility. All values for an existing discharge should be representative of the twelve previous months of operation. If this is a proposed discharge, values should reflect best engineering estimates.

ADDITIONAL INSTRUCTIONS FOR SELECTED ITEMS APPEAR IN SEPARATE INSTRUCTION BOOKLET AS INDICATED. REFER TO BOOKLET BEFORE FILLING OUT THESE ITEMS.

1. **Discharge Serial No. and Name**		
a. **Discharge Serial No.** (see instructions)	201a	001
b. **Discharge Name** Give name of discharge, if any (see instructions)	201b	Bouie River Discharge 001
c. **Previous Discharge Serial No** If a previous NPDES permit application was made for this discharge (Item 4, Section I) provide previous discharge serial number.	201c	001
2. **Discharge Operating Dates**		
a. **Discharge to Begin Date** If the discharge has never occurred but is planned for some future date, give the date the discharge will begin.	202a	YR MO
b. **Discharge to End Date** If the discharge is scheduled to be discontinued within the next 5 years, give the date (within best estimate) the discharge will end. Give reason for discontinuing this discharge in Item 17.	202b	YR MO
3. **Discharge Location** Name the political boundaries within which the point of discharge is located:		Agency Use
State	203a	Mississippi — 203d
County	203b	Forrest — 203e
(If applicable) City or Town	203c	Hattiesburg — 203f
4. **Discharge Point Description** (see instructions) Discharge is into (check one)		
Stream (includes ditches, arroyos, and other watercourses)	204a	☑ STR
Estuary		☐ EST
Lake		☐ LKE
Ocean		☐ OCE
Well (Injection)		☐ WEL
Other		☐ OTH
If 'other' is checked, specify type	204b	
5. **Discharge Point — Lat/Long.** State the precise location of the point of discharge to the nearest second. (see instructions)		
Latitude	205a	31 DEG. 21 MIN. 37 SEC
Longitude	205b	89 DEG. 20 MIN. 5 SEC

DISCHARGE SERIAL NUMBER

001

FOR AGENCY USE

6. **Discharge Receiving Water Name** Name the waterway at the point of discharge.(see instructions) — 206a: Rouie River

If the discharge is through an outfall that extends beyond the shoreline or is below the mean low water line, complete item 7. — 206b

For Agency Use		
Major	Minor	Sub

206c

For Agency Use
303e

7. **Offshore Discharge**
   a. **Discharge Distance from Shore** — 207a: _____ feet
   b. **Discharge Depth Below Water Surface** — 207b: _____ feet

If discharge is from a bypass or an overflow point or is a seasonal discharge from a lagoon, holding pond, etc., complete items 8, 9 or 10, as applicable, and continue with item 11.

8. **Bypass Discharge** (see instructions)
   a. **Bypass Occurrence** Check when bypass occurs
      - Wet weather — 208a1: ☐ Yes ☐ No
      - Dry weather — 208a2: ☐ Yes ☐ No
   b. **Bypass Frequency** Give the actual or approximate number of bypass incidents per year.
      - Wet Weather — 208b1: _____ times per year
      - Dry weather — 208b2: _____ times per year
   c. **Bypass Duration** Give the average bypass duration in hours.
      - Wet weather — 208c1: _____ hours
      - Dry weather — 208c2: _____ hours
   d. **Bypass Volume** Give the average volume per bypass incident, in thousand gallons.
      - Wet weather — 208d1: _____ thousand gallons per incident
      - Dry weather — 208d2: _____ thousand gallons per incident
   e. **Bypass Reasons** Give reasons why bypass occurs. — 208e: _____

Proceed to item 11.

9. **Overflow Discharge** (see instructions)
   a. **Overflow Occurrence** Check when overflow occurs.
      - Wet weather — 209a1: ☐ Yes ☐ No
      - Dry weather — 209a2: ☐ Yes ☐ No
   b. **Overflow Frequency** Give the actual or approximate incidents per year.
      - Wet weather — 209b1: _____ times per year
      - Dry weather — 209b2: _____ times per year

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DISCHARGE SERIAL NUMBER

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FOR AGENCY USE

c. **Overflow Duration** Give the average overflow duration in hours.

Wet weather — 209c1 — _____ hours

Dry weather — 209c2 — _____ Hours

d. **Overflow Volume** Give the average volume per overflow incident in thousand gallons.

Wet weather — 209d1 — _____ thousand gallons per incident

Dry weather — 209d2 — _____ thousand gallons per incident

Proceed to Item 11

10. **Seasonal/Periodic Discharges**

a. **Seasonal/Periodic Discharge Frequency** If discharge is intermittent from a holding pond, lagoon, etc., give the actual or approximate number of times this discharge occurs per year. — 210a — _____ times per year

b. **Seasonal/Periodic Discharge Volume** Give the average volume per discharge occurrence in thousand gallons. — 210b — _____ thousand gallons per discharge occurrence

c. **Seasonal/Periodic Discharge Duration** Give the average duration of each discharge occurrence in days. — 210c — _____ days

d. **Seasonal/Periodic Discharge Occurrence—Months** Check the months during the year when the discharge normally occurs. — 210d

☐ JAN ☐ FEB ☐ MAR
☐ APR ☐ MAY ☐ JUN
☐ JUL ☐ AUG ☐ SEP
☐ OCT ☐ NOV ☐ DEC

11. **Discharge Treatment**

a. **Discharge Treatment Description** Describe waste abatement practices used on this discharge with a brief narrative. (See instructions) — 211a

Treatment for this discharge is provided by aerated lagoons

DISCHARGE SERIAL NUMBER

001

FOR AGENCY USE

b. **Discharge Treatment Codes** Using the codes listed in Table I of the Instruction Booklet, describe the waste abatement processes applied to this discharge in the order in which they occur, if possible. Separate all codes with commas except where slashes are used to designate parallel operations. — 211b: LA

If this discharge is from a municipal waste treatment plant (not an overflow or bypass), complete items 12 and 13

12. **Plant Design and Operation Manuals** Check which of the following are currently available

a. Engineering Design Report — 212a: ☑

b. Operation and Maintenance Manual — 212b: ☐

13. **Plant Design Data** (see instructions)

a. Plant Design Flow (mgd) — 213a: 2.0 mgd

b. Plant Design BOD Removal (%) — 213b: 85 %

c. Plant Design N Removal (%) — 213c: ____ %

d. Plant Design P Removal (%) — 213d: ____ %

e. Plant Design SS Removal (%) — 213e: 85 %

f. Plant Began Operation (year) — 213f: ____

g. Plant Last Major Revision (year) — 213g: 1-87

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001

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FOR AGENCY USE

14. Description of Influent and Effluent (see instructions)

Parameter and Code	Influent	Effluent					
	Annual Average Value (1)	Annual Average Value (2)	Lowest Monthly Average Value (3)	Highest Monthly Average Value (4)	Frequency of Analysis (5)	Number of Analyses (6)	Sample Type (7)
Flow Million gallons per day 50050		1.4	0.874	2.127	3/7	156	G
pH Units 00400			6.55	8.35	1/30	12	G
Temperature (winter) ° F 74028							
Temperature (summer) ° F 74027							
Fecal Streptococci Bacteria Number/100 ml 74054 (Provide if available)							
Fecal Coliform Bacteria Number/100 ml 74055 (Provide if available)				220	1/30	12	G
Total Coliform Bacteria Number/100 ml 74056 (Provide if available)							
BOD 5-day mg/l 00310	139.6	10.1	3.6	2.2	1/30	12	24hr Comp.
Chemical Oxygen Demand (COD) mg/l 00340 (Provide if available)							
OR							
Total Organic Carbon (TOC) mg/l 00680 (Provide if available) (Either analysis is acceptable)							
Chlorine-Total Residual mg/l 50060		.52	.13	.78	3/7	156	G

DISCHARGE SERIAL NUMBER

001

FOR AGENCY USE

14. Description of Influent and Effluent (see instructions) (Continued)

Parameter and Code	Influent	Effluent					
	Annual Average Value (1)	Annual Average Value (2)	Lowest Monthly Average Value (3)	Highest Monthly Average Value (4)	Frequency of Analysis (5)	Number of Analyses (6)	Sample Type (7)
Total Solids mg/l 00500							
Total Dissolved Solids mg/l 70300							
Total Suspended Solids mg/l 00530	112.3	18.3	8.6	33	1/30	12	24hr. Comp.
Settleable Matter (Residue) ml/l 00545							
Ammonia (as N) mg/l 00610 (Provide if available)							
Kjeldahl Nitrogen mg/l 00625 (Provide if available)							
Nitrate (as N) mg/l 00620 (Provide if available)							
Nitrite (as N) mg/l 00615 (Provide if available)							
Phosphorus Total (as P) mg/l 00665 (Provide if available)							
Dissolved Oxygen (DO) mg/l 00300	X						

EPA Form 7550-22 (7-73)

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FOR AGENCY USE

15. Additional Wastewater Characteristics

Check the box next to each parameter if it is present in the effluent. (see instructions)

Parameter (215)	Present	Parameter (215)	Present	Parameter (215)	Present
Bromide 71870		Cobalt 01037		Thallium 01059	
Chloride 00940		Chromium 01034		Titanium 01152	
Cyanide 00720		Copper 01042		Tin 01102	
Fluoride 00951		Iron 01045		Zinc 01092	
Sulfide 00745		Lead 01051		Algicides* 74051	
Aluminum 01105		Manganese 01055		Chlorinated organic compounds* 74052	
Antimony 01097		Mercury 71900		Oil and grease 00550	
Arsenic 01002		Molybdenum 01062		Pesticides* 74053	
Beryllium 01012		Nickel 01067		Phenols 32730	
Barium 01007		Selenium 01147		Surfactants 38260	
Boron 01022		Silver 01077		Radioactivity* 74050	
Cadmium 01027					

*Provide specific compound and/or element in Item 17, if known.

Pesticides (Insecticides, fungicides, and rodenticides) must be reported in terms of the acceptable common names specified in *Acceptable Common Names and Chemical Names for the Ingredient Statement on Pesticide Labels*, 2nd Edition, Environmental Protection Agency, Washington, D.C. 20250, June 1972, as required by Subsection 162.7(b) of the Regulations for the Enforcement of the Federal Insecticide, Fungicide, and Rodenticide Act.

DISCHARGE SERIAL NUMBER

001

FOR AGENCY USE

16. **Plant Controls** Check if the following plant controls are available for this discharge

	216
Alternate power source for major pumping facility including those for collection system lift stations	☑ APS
Alarm for power or equipment failure	☑ ALM

17. **Additional Information**

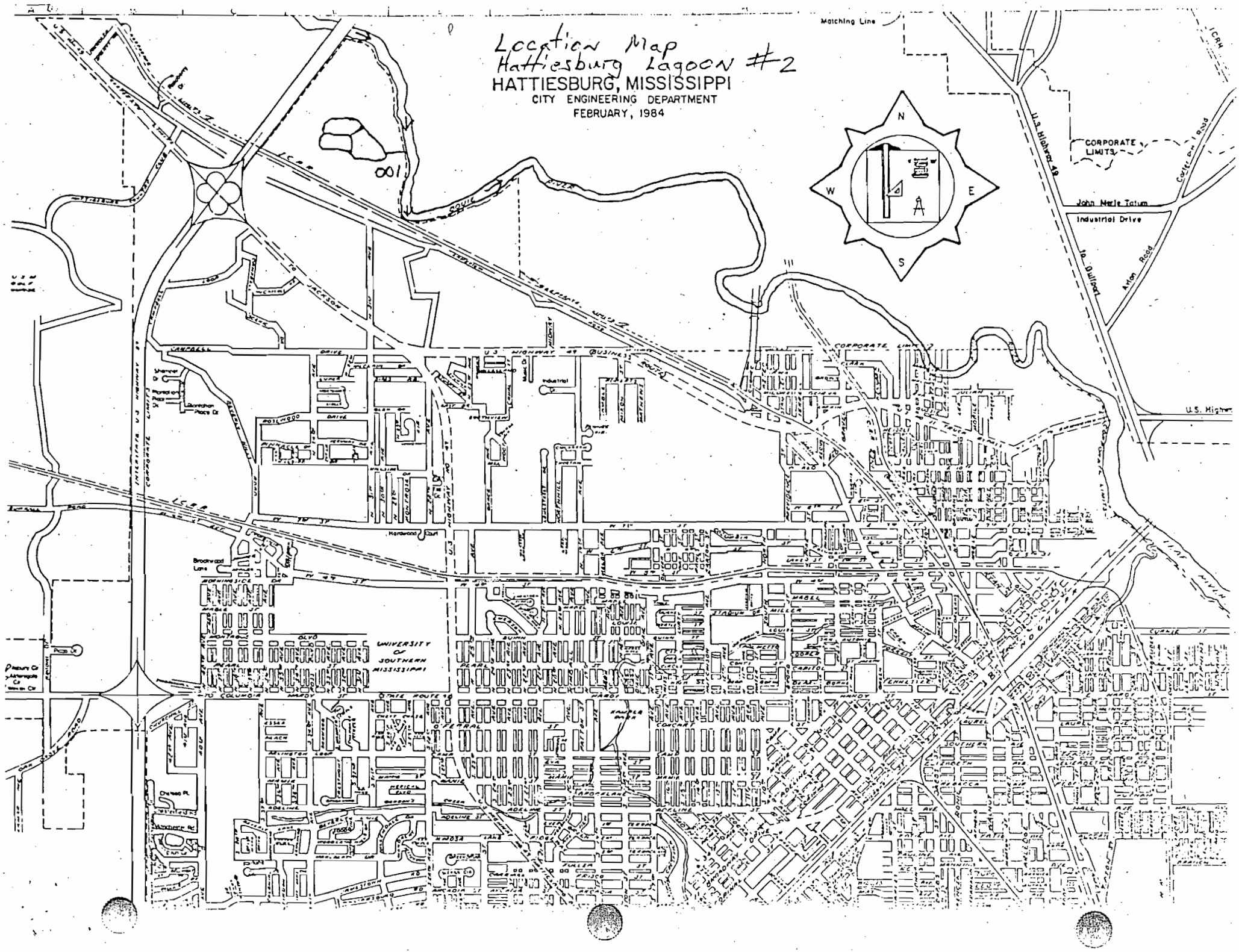
217 Item Number	Information

Location Map
Hattiesburg Lagoon #2

HATTIESBURG, MISSISSIPPI

CITY ENGINEERING DEPARTMENT

FEBRUARY, 1984



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 4 Science and Ecosystem Support Division
980 College Station Road, Athens, Georgia 30605-2700
D.A.R.T. Id: 11-0592
Project: 11-0592, Hattiesburg North Lagoon CSI - Reported by Jenny Scifres

September 8, 2011

4SESD-ASB

MEMORANDUM

SUBJECT: FINAL Analytical Report
Project: 11-0592, Hattiesburg North Lagoon CSI
Compliance Monitoring

FROM: Jenny Scifres
ASB Inorganic Chemistry Section Chief

FILE COPY

THRU: Gary Bennett, Chief
Analytical Support Branch

TO: Richard Elliott

Attached are the final results for the analytical groups listed below. These analyses were performed in accordance with the Analytical Support Branch's (ASB) Laboratory Operations and Quality Assurance Manual (ASB LOQAM) found at www.epa.gov/region4/sesd/asbsop. Any unique project data quality objectives specified in writing by the data requestor have also been incorporated into the data unless otherwise noted in the Report Narrative. Chemistry data have been verified based on the ASB LOQAM specifications and may have been qualified if the applicable quality control criteria were not met. For a listing of specific data qualifiers and explanations, please refer to the Data Qualifier Definitions included in this report. The reported results are accurate within the limits of the method(s) and are representative only of the samples as received by the laboratory.

Analyses Included in this report:	Method Used:
Classical/Nutrient Analyses (CNA)	
Ammonia/TKN	EPA 350.1
Ammonia/TKN	EPA 351.2
Demand	SM 5210B
Nitrate and/or Nitrite	EPA 353.2
Phosphorous	EPA 365.1
Solids	SM 2540D

Sample Disposal Policy

Because of the laboratory's limited space for long term sample storage, our policy is to dispose of samples on a periodic schedule. Please note that within 60 days of this memo, the original samples and all sample extracts and/or sample digestates will be disposed of in accordance with applicable regulations. The 60-day sample disposal policy does not apply to criminal samples which are held until the laboratory is notified by the criminal investigators that case development and litigation are complete.

These samples may be held in the laboratory's custody for a longer period of time if you have a special project need. If you wish for the laboratory to hold samples beyond the 60-day period, please contact our Sample Control Coordinator, Debbie Colquitt, by e-mail at Colquitt.Debbie@epa.gov, and provide a reason for holding samples beyond 60 days

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SAMPLES INCLUDED IN THIS REPORT

Project: 11-0592, Hattiesburg North Lagoon CSI

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
HTNR-0001	E113109-01	Preservative Blank	7/27/11 21:19	7/29/11 9:01
HTNR-0016	E113109-04	Surface Water	7/27/11 10:45	7/29/11 9:01
HTNR-0017	E113109-05	Surface Water	7/27/11 10:45	7/29/11 9:01
HTNR-0014	E113109-07	Wastewater	7/27/11 15:16	7/29/11 9:01
HTNR-0024	E113109-08	Wastewater	7/27/11 15:16	7/29/11 9:01
HTNR-0021	E113109-09	Wastewater	7/27/11 13:55	7/29/11 9:01
HTNR-0007	E113109-10	Wastewater	7/27/11 16:08	7/29/11 9:01
HTNR-0015	E113109-11	Surface Water	7/27/11 10:30	7/29/11 9:01
HTNR-0018	E113109-12	Surface Water	7/27/11 10:30	7/29/11 9:01
HTNR-0025	E113109-13	Wastewater	7/27/11 13:50	7/29/11 9:01

DATA QUALIFIER DEFINITIONS

U	The analyte was not detected at or above the reporting limit.
A	The analyte was analyzed in replicate. Reported value is an average value of the replicates.
J	The identification of the analyte is acceptable; the reported value is an estimate.
K	The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
OM-2	Matrix Spike Recovery greater than method control limits
OR-1	MRL verification recovery less than lower control limits.

ACRONYMS AND ABBREVIATIONS

CAS Chemical Abstracts Service

Note: Analytes with no known CAS identifiers have been assigned codes beginning with "E", the EPA ID as assigned by the EPA Substance Registry System (www.epa.gov/srs), or beginning with "R4-", a unique identifier assigned by the EPA Region 4 laboratory.

MDL Method Detection Limit - The minimum concentration of a substance (an analyte) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero.

MRL Minimum Reporting Limit - Analyte concentration that corresponds to the lowest demonstrated level of acceptable quantitation. The MRL is sample-specific and accounts for preparation weights and volumes, dilutions, and moisture content of soil/sediments.

TIC Tentatively Identified Compound - An analyte identified based on a match with the instrument software's mass spectral library. A calibration standard has not been analyzed to confirm the compound's identification or the estimated concentration reported.

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Classical/Nutrient Analyses

Project: 11-0592, Hattiesburg North Lagoon CSI

Sample ID: HTNR-0001 **Lab ID:** E113109-01
Station ID: **Matrix:** Preservative Blank

Date Collected: 7/27/11 21:19

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7664-41-7	Ammonia as N	0.050	U	mg/L	0.050	8/09/11 9:28	8/11/11 14:43	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	0.12	J, QR-1	mg/L	0.050	8/10/11 12:16	8/10/11 12:16	EPA 351.2
E701177	Nitrate/Nitrite as N	0.050	U	mg/L	0.050	8/24/11 20:01	8/24/11 20:01	EPA 353.2
7723-14-0	Total Phosphorus	0.010	U, J, QR-1	mg/L	0.010	8/12/11 8:45	8/15/11 14:14	EPA 365.1

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Classical/Nutrient Analyses

Project: 11-0592, Hattiesburg North Lagoon CSI

Sample ID: HTNR-0016 **Lab ID:** E113109-04
Station ID: DNSTRM **Matrix:** Surface Water

Date Collected: 7/27/11 10:45

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD, 5 Day	4.0	K	mg/L	2.0	7/29/11 9:24	7/29/11 9:24	SM 5210B
E1642818	Total Suspended Solids	36		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses

Project: 11-0592, Hattiesburg North Lagoon CSI

Sample ID: HTNR-0017 **Lab ID:** E113109-05
Station ID: DNSTRM **Matrix:** Surface Water

Date Collected: 7/27/11 10:45

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7664-41-7	Ammonia as N	0.080		mg/L	0.050	8/09/11 9:28	8/11/11 14:43	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	0.65		mg/L	0.050	8/10/11 12:16	8/10/11 12:16	EPA 351.2
E701177	Nitrate/Nitrite as N	0.57		mg/L	0.050	8/24/11 20:01	8/24/11 20:01	EPA 353.2
7723-14-0	Total Phosphorus	0.18		mg/L	0.010	8/12/11 8:45	8/15/11 14:14	EPA 365.1

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Classical/Nutrient Analyses

Project: 11-0592, Hattiesburg North Lagoon CSI

Sample ID: HTNR-0014 **Lab ID:** E113109-07
Station ID: EFF001 **Matrix:** Wastewater

Date Collected: 7/27/11 15:16

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7664-41-7	Ammonia as N	12		mg/L	0.50	8/09/11 9:28	8/11/11 14:43	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	14		mg/L	1.0	8/10/11 12:16	8/10/11 12:16	EPA 351.2
E701177	Nitrate/Nitrite as N	0.81		mg/L	0.050	8/24/11 20:01	8/24/11 20:01	EPA 353.2
7723-14-0	Total Phosphorus	11		mg/L	1.0	8/12/11 8:45	8/15/11 14:14	EPA 365.1

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Project: 11-0592, Hattiesburg.North Lagoon CSI - Reported by Jenny Scifres

Classical/Nutrient Analyses

Project: 11-0592, Hattiesburg North Lagoon CSI

Sample ID: HTNR-0024 **Lab ID:** E113109-08
Station ID: EFF001 **Matrix:** Wastewater

Date Collected: 7/27/11 15:16

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD, 5 Day	14		mg/L	2.0	7/29/11 12:58	7/29/11 12:58	SM 5210B
E1642818	Total Suspended Solids	24		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses

Project: 11-0592, Hattiesburg North Lagoon CSI

Sample ID: HTNR-0021 **Lab ID:** E113109-09
Station ID: INTERNAL PROCESS SAMPLE **Matrix:** Wastewater

Date Collected: 7/27/11 13:55

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD, 5 Day	58	A	mg/L	2.0	7/29/11 12:24	7/29/11 12:24	SM 5210B
E1642818	Total Suspended Solids	48		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses

Project: 11-0592, Hattiesburg North Lagoon CSI

Sample ID: HTNR-0007 **Lab ID:** E113109-10
Station ID: PRETRT **Matrix:** Wastewater

Date Collected: 7/27/11 16:08

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD, 5 Day	140	A	mg/L	2.0	7/29/11 13:33	7/29/11 13:33	SM 5210B
E1642818	Total Suspended Solids	470		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses

Project: 11-0592, Hattiesburg North Lagoon CSI

Sample ID: HTNR-0015 **Lab ID:** E113109-11
Station ID: UPSTRM **Matrix:** Surface Water

Date Collected: 7/27/11 10:30

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD, 5 Day	4.0	K	mg/L	2.0	7/29/11 9:14	7/29/11 9:14	SM 5210B
E1642818	Total Suspended Solids	33		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses

Project: 11-0592, Hattiesburg North Lagoon CSI

Sample ID: HTNR-0018 **Lab ID:** E113109-12
Station ID: UPSTRM **Matrix:** Surface Water

Date Collected: 7/27/11 10:30

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7664-41-7	Ammonia as N	0.081		mg/L	0.050	8/09/11 9:28	8/11/11 14:43	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	0.76	J, QM-2	mg/L	0.050	8/10/11 12:16	8/10/11 12:16	EPA 351.2
E701177	Nitrate/Nitrite as N	0.60		mg/L	0.050	8/24/11 20:01	8/24/11 20:01	EPA 353.2
7723-14-0	Total Phosphorus	0.20		mg/L	0.010	8/12/11 8:45	8/15/11 14:14	EPA 365.1

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Classical/Nutrient Analyses

Project: 11-0592, Hattiesburg North Lagoon CSI

Sample ID: HTNR-0025 **Lab ID:** E113109-13
Station ID: INTERNAL PROCESS SAMPLE **Matrix:** Wastewater

Date Collected: 7/27/11 13:50

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD, 5 Day	120	A	mg/L	2.0	7/29/11 12:14	7/29/11 12:14	SM 5210B
E1642818	Total Suspended Solids	61		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses (CNA) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108014 - C 2540 Solids										
Blank (1108014-BLK1)				Prepared & Analyzed: 08/03/11						
SM 2540D										
Total Suspended Solids	U	4.0	mg/L							U
LCS (1108014-BS1)				Prepared & Analyzed: 08/03/11						
SM 2540D										
Total Suspended Solids	98.800	4.0	mg/L	96.600		102	83-109			
LCS Dup (1108014-BSD1)				Prepared & Analyzed: 08/03/11						
SM 2540D										
Total Suspended Solids	97.600	4.0	mg/L	96.600		101	83-109	1.22	10	
Duplicate (1108014-DUP1)		**Source: E113108-23**		Prepared & Analyzed: 08/03/11						
SM 2540D										
Total Suspended Solids	26.800	4.0	mg/L		26.100			2.65	10	
Duplicate (1108014-DUP2)		**Source: E113109-13**		Prepared & Analyzed: 08/03/11						
SM 2540D										
Total Suspended Solids	61.200	4.0	mg/L		60.600			0.985	10	
MRL Verification (1108014-PS1)				Prepared & Analyzed: 08/03/11						
SM 2540D										
Total Suspended Solids	3.3000	4.0	mg/L	4.8300		68.3	63-129			MRL-2, U
Batch 1108028 - C SM5210 BOD										
Blank (1108028-BLK1)				Prepared & Analyzed: 07/29/11						
SM 5210B										
BOD, 5 Day	U	2.0	mg/L							U
LCS (1108028-BS1)				Prepared & Analyzed: 07/29/11						
SM 5210B										
BOD, 5 Day	196.00	2.0	mg/L	195.00		101	79-133			
LCS Dup (1108028-BSD1)				Prepared & Analyzed: 07/29/11						
SM 5210B										
BOD, 5 Day	198.50	2.0	mg/L	195.00		102	79-133	1.27	10	

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Classical/Nutrient Analyses (CNA) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108028 - C SM5210 BOD										
Duplicate (1108028-DUP1)		**Source: E113108-12**		Prepared & Analyzed: 07/29/11						
SM 5210B										
BOD, 5 Day	317.00	2.0	mg/L		336.00			5.82	20	
Batch 1108043 - C 350.1 Ammonia										
Blank (1108043-BLK1)				Prepared: 08/09/11		Analyzed: 08/11/11				
EPA 350.1										
Ammonia as N	U	0.050	mg/L							U
LCS (1108043-BS1)				Prepared: 08/09/11		Analyzed: 08/11/11				
EPA 350.1										
Ammonia as N	0.91620	0.050	mg/L	1.0000		91.6	90-110			
LCS Dup (1108043-BSD1)				Prepared: 08/09/11		Analyzed: 08/11/11				
EPA 350.1										
Ammonia as N	0.91220	0.050	mg/L	1.0000		91.2	90-110	0.438	10	
Matrix Spike (1108043-MS1)		**Source: E113108-24**		Prepared: 08/09/11		Analyzed: 08/11/11				
EPA 350.1										
Ammonia as N	1.0390	0.050	mg/L	1.0000	0.10960	92.9	90-110			
Matrix Spike (1108043-MS2)		**Source: E113109-12**		Prepared: 08/09/11		Analyzed: 08/11/11				
EPA 350.1										
Ammonia as N	1.0157	0.050	mg/L	1.0000	0.080700	93.5	90-110			
Matrix Spike Dup (1108043-MSD1)		**Source: E113108-24**		Prepared: 08/09/11		Analyzed: 08/11/11				
EPA 350.1										
Ammonia as N	1.0431	0.050	mg/L	1.0000	0.10960	93.4	90-110	0.440	10	
Matrix Spike Dup (1108043-MSD2)		**Source: E113109-12**		Prepared: 08/09/11		Analyzed: 08/11/11				
EPA 350.1										
Ammonia as N	1.0393	0.050	mg/L	1.0000	0.080700	95.9	90-110	2.49	10	
MRL Verification (1108043-PS1)				Prepared: 08/09/11		Analyzed: 08/11/11				
EPA 350.1										
Ammonia as N	0.035500	0.050	mg/L	0.050000		71.0	70-130			MRL-2, U

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Classical/Nutrient Analyses (CNA) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108043 - C 350.1 Ammonia										
MRL Verification (1108043-PS1)				Prepared: 08/09/11 Analyzed: 08/11/11						
Batch 1108052 - C 351.2 TKN										
Blank (1108052-BLK1)				Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	U	0.050	mg/L							U
LCS (1108052-BS1)				Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	2.3735	0.050	mg/L	2.3400		101	90-110			
LCS Dup (1108052-BSD1)				Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	2.3686	0.050	mg/L	2.3400		101	90-110	0.207	15	
Matrix Spike (1108052-MS1)		**Source: E113108-24RE1**		Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	1.5485	0.050	mg/L	1.0000	0.69440	85.4	90-110			QM-1
Matrix Spike (1108052-MS2)		**Source: E113109-12RE1**		Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	1.9853	0.050	mg/L	1.0000	0.75760	123	90-110			QM-2
Matrix Spike Dup (1108052-MSD1)		**Source: E113108-24RE1**		Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	1.6120	0.050	mg/L	1.0000	0.69440	91.8	90-110	7.17	20	
Matrix Spike Dup (1108052-MSD2)		**Source: E113109-12RE1**		Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	1.9482	0.050	mg/L	1.0000	0.75760	119	90-110	3.07	20	QM-2
MRL Verification (1108052-PS1)				Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	0.029300	0.050	mg/L	0.050000		58.6	70-130			MRL-2, QR-1, U

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Classical/Nutrient Analyses (CNA) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108061 - C 365.1 TPhos										
Blank (1108061-BLK1)				Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	U	0.010	mg/L							U
Blank (1108061-BLK2)				Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	U	0.010	mg/L							U
LCS (1108061-BS1)				Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	0.41110	0.010	mg/L	0.40750		101	90-110			
LCS (1108061-BS2)				Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	0.40860	0.010	mg/L	0.40750		100	90-110			
LCS Dup (1108061-BSD1)				Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	0.39830	0.010	mg/L	0.40750		97.7	90-110	3.16	10	
LCS Dup (1108061-BSD2)				Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	0.40740	0.010	mg/L	0.40750		100	90-110	0.294	10	
Matrix Spike (1108061-MS1)		**Source: E113103-38RE1**		Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	0.56900	0.010	mg/L	0.50000	0.061700	101	90-110			
Matrix Spike (1108061-MS2)		**Source: E113202-07**		Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	0.56330	0.010	mg/L	0.50000	0.055500	102	90-110			
Matrix Spike (1108061-MS3)		**Source: E113108-24**		Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	0.65050	0.010	mg/L	0.50000	0.15510	99.1	90-110			
Matrix Spike (1108061-MS4)		**Source: E113109-12**		Prepared: 08/12/11		Analyzed: 08/15/11				

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Classical/Nutrient Analyses (CNA) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108061 - C 365.1 TPhos										
Matrix Spike (1108061-MS4)		**Source: E113109-12**		Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	0.68670	0.010	mg/L	0.50000	0.20450	96.4	90-110			
Matrix Spike Dup (1108061-MSD1)		**Source: E113103-38RE1**		Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	0.57590	0.010	mg/L	0.50000	0.061700	103	90-110	1.35	10	
Matrix Spike Dup (1108061-MSD2)		**Source: E113202-07**		Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	0.56650	0.010	mg/L	0.50000	0.055500	102	90-110	0.628	10	
Matrix Spike Dup (1108061-MSD3)		**Source: E113108-24**		Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	0.64850	0.010	mg/L	0.50000	0.15510	98.7	90-110	0.405	10	
Matrix Spike Dup (1108061-MSD4)		**Source: E113109-12**		Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	0.68550	0.010	mg/L	0.50000	0.20450	96.2	90-110	0.249	10	
MRL Verification (1108061-PS1)				Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	0.0056000	0.010	mg/L	0.010000		56.0	70-130			MRL-2, QR-1, U
Batch 1108134 - C 353.2 NO3-NO2										
Blank (1108134-BLK1)				Prepared & Analyzed: 08/24/11						
EPA 353.2										
Nitrate/Nitrite as N	U	0.050	mg/L							U
LCS (1108134-BS1)				Prepared & Analyzed: 08/24/11						
EPA 353.2										
Nitrate/Nitrite as N	0.47860	0.050	mg/L	0.50000		95.7	90-110			
LCS Dup (1108134-BSD1)				Prepared & Analyzed: 08/24/11						
EPA 353.2										
Nitrate/Nitrite as N	0.48840	0.050	mg/L	0.50000		97.7	90-110	2.03	10	

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Classical/Nutrient Analyses (CNA) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108134 - C 353.2 NO3-NO2										
Matrix Spike (1108134-MS1)		**Source: E113109-12**		Prepared & Analyzed: 08/24/11						
EPA 353.2										
Nitrate/Nitrite as N	1.1073	0.050	mg/L	0.50000	0.60470	101	90-110			
Matrix Spike Dup (1108134-MSD1)		**Source: E113109-12**		Prepared & Analyzed: 08/24/11						
EPA 353.2										
Nitrate/Nitrite as N	1.1196	0.050	mg/L	0.50000	0.60470	103	90-110	2.42	10	
MRL Verification (1108134-PS1)				Prepared & Analyzed: 08/24/11						
EPA 353.2										
Nitrate/Nitrite as N	0.047200	0.050	mg/L	0.050000		94.4	70-130			MRL-2, U

Notes and Definitions for QC Samples

U	The analyte was not detected at or above the reporting limit.
MRL-2	MRL verification for Non-Potable Water matrix
QM-1	Matrix Spike Recovery less than method control limits
QM-2	Matrix Spike Recovery greater than method control limits
QR-1	MRL verification recovery less than lower control limits.

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September 1, 2011

4SESD-ASB

MEMORANDUM

SUBJECT: FINAL Analytical Report
Project: 11-0592, Hattiesburg North Lagoon CSI
Compliance Monitoring

FROM: Jenny Scifres
ASB Inorganic Chemistry Section Chief

THRU: Gary Bennett, Chief
Analytical Support Branch

TO: Richard Elliott

Attached are the final results for the analytical groups listed below. These analyses were performed in accordance with the Analytical Support Branch's (ASB) Laboratory Operations and Quality Assurance Manual (ASB LOQAM) found at www.epa.gov/region4/sesd/asbsop. Any unique project data quality objectives specified in writing by the data requestor have also been incorporated into the data unless otherwise noted in the Report Narrative. Chemistry data have been verified based on the ASB LOQAM specifications and may have been qualified if the applicable quality control criteria were not met. For a listing of specific data qualifiers and explanations, please refer to the Data Qualifier Definitions included in this report. The reported results are accurate within the limits of the method(s) and are representative only of the samples as received by the laboratory.

Analyses Included in this report:	Method Used:
Total Metals (TMTL)	
Total Mercury	EPA 245.1
Total Metals	EPA 200.7
Total Metals	EPA 200.8

Sample Disposal Policy

Because of the laboratory's limited space for long term sample storage, our policy is to dispose of samples on a periodic schedule. Please note that within 60 days of this memo, the original samples and all sample extracts and/or sample digestates will be disposed of in accordance with applicable regulations. The 60-day sample disposal policy does not apply to criminal samples which are held until the laboratory is notified by the criminal investigators that case development and litigation are complete.

These samples may be held in the laboratory's custody for a longer period of time if you have a special project need. If you wish for the laboratory to hold samples beyond the 60-day period, please contact our Sample Control Coordinator, Debbie Colquitt, by e-mail at Colquitt.Debbie@epa.gov, and provide a reason for holding samples beyond 60 days

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SAMPLES INCLUDED IN THIS REPORT

Project: 11-0592, Hattiesburg North Lagoon CSI

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
HTNR-0002	E113109-02	Preservative Blank	7/27/11 21:20	7/29/11 9:01
HTNR-0003	E113109-03	Rinse Water Blank	7/27/11 12:36	7/29/11 9:01
HTNR-0013	E113109-06	Wastewater	7/27/11 15:16	7/29/11 9:01

DATA QUALIFIER DEFINITIONS

U	The analyte was not detected at or above the reporting limit.
J	The identification of the analyte is acceptable; the reported value is an estimate.
OC-5	Calibration check standard less than method control limits.

ACRONYMS AND ABBREVIATIONS

CAS Chemical Abstracts Service

Note: Analytes with no known CAS identifiers have been assigned codes beginning with "E", the EPA ID as assigned by the EPA Substance Registry System (www.epa.gov/srs), or beginning with "R4-", a unique identifier assigned by the EPA Region 4 laboratory.

MDL Method Detection Limit - The minimum concentration of a substance (an analyte) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero.

MRL Minimum Reporting Limit - Analyte concentration that corresponds to the lowest demonstrated level of acceptable quantitation. The MRL is sample-specific and accounts for preparation weights and volumes, dilutions, and moisture content of soil/sediments.

TIC Tentatively Identified Compound - An analyte identified based on a match with the instrument software's mass spectral library. A calibration standard has not been analyzed to confirm the compound's identification or the estimated concentration reported.

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Total Metals

Project: 11-0592, Hattiesburg North Lagoon CSI

Sample ID: HTNR-0002 **Lab ID:** E113109-02
Station ID: **Matrix:** Preservative Blank

Date Collected: 7/27/11 21:20

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7439-97-6	Mercury	0.10	U	ug/L	0.10	8/23/11 8:50	8/23/11 13:41	EPA 245.1
7429-90-5	Aluminum	100	U	ug/L	100	8/03/11 15:17	8/10/11 18:10	EPA 200.7
7440-36-0	Antimony	1.0	U	ug/L	1.0	8/03/11 15:47	8/11/11 19:55	EPA 200.8
7440-38-2	Arsenic	1.0	U	ug/L	1.0	8/03/11 15:47	8/11/11 19:55	EPA 200.8
7440-39-3	Barium	5.0	U, J, QC-5	ug/L	5.0	8/03/11 15:17	8/10/11 18:10	EPA 200.7
7440-41-7	Beryllium	3.0	U	ug/L	3.0	8/03/11 15:17	8/10/11 18:10	EPA 200.7
7440-43-9	Cadmium	0.50	U	ug/L	0.50	8/03/11 15:47	8/11/11 19:55	EPA 200.8
7440-70-2	Calcium	250	U	ug/L	250	8/03/11 15:17	8/10/11 18:10	EPA 200.7
7440-47-3	Chromium	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 18:10	EPA 200.7
7440-48-4	Cobalt	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 18:10	EPA 200.7
7440-50-8	Copper	10	U	ug/L	10	8/03/11 15:17	8/10/11 18:10	EPA 200.7
7439-89-6	Iron	100	U	ug/L	100	8/03/11 15:17	8/10/11 18:10	EPA 200.7
7439-92-1	Lead	1.0	U	ug/L	1.0	8/03/11 15:47	8/11/11 19:55	EPA 200.8
7439-95-4	Magnesium	250	U	ug/L	250	8/03/11 15:17	8/10/11 18:10	EPA 200.7
7439-96-5	Manganese	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 18:10	EPA 200.7
7439-98-7	Molybdenum	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 18:10	EPA 200.7
7440-02-0	Nickel	10	U	ug/L	10	8/03/11 15:17	8/10/11 18:10	EPA 200.7
7440-09-7	Potassium	1000	U	ug/L	1000	8/03/11 15:17	8/10/11 18:10	EPA 200.7
7782-49-2	Selenium	2.0	U	ug/L	2.0	8/03/11 15:47	8/11/11 19:55	EPA 200.8
7440-22-4	Silver	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 18:10	EPA 200.7
7440-23-5	Sodium	1000	U	ug/L	1000	8/03/11 15:17	8/10/11 18:10	EPA 200.7
7440-24-6	Strontium	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 18:10	EPA 200.7
7440-28-0	Thallium	1.0	U	ug/L	1.0	8/03/11 15:47	8/11/11 19:55	EPA 200.8
7440-31-5	Tin	15	U	ug/L	15	8/03/11 15:17	8/10/11 18:10	EPA 200.7
7440-32-6	Titanium	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 18:10	EPA 200.7
7440-62-2	Vanadium	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 18:10	EPA 200.7
7440-65-5	Yttrium	3.0	U	ug/L	3.0	8/03/11 15:17	8/10/11 18:10	EPA 200.7
7440-66-6	Zinc	10	U	ug/L	10	8/03/11 15:17	8/10/11 18:10	EPA 200.7

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Region 4 Science and Ecosystem Support Division
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Project: 11-0592, Hattiesburg North Lagoon CSI - Reported by Jenny Scifres

Total Metals

Project: 11-0592, Hattiesburg North Lagoon CSI

Sample ID: HTNR-0003 **Lab ID:** E113109-03
Station ID: **Matrix:** Rinse Water Blank

Date Collected: 7/27/11 12:36

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7439-97-6	Mercury	0.10 U		ug/L	0.10	8/23/11 8:50	8/23/11 13:41	EPA 245.1
7429-90-5	Aluminum	100 U		ug/L	100	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-36-0	Antimony	1.0 U		ug/L	1.0	8/03/11 15:47	8/11/11 20:04	EPA 200.8
7440-38-2	Arsenic	1.0 U		ug/L	1.0	8/03/11 15:47	8/11/11 20:04	EPA 200.8
7440-39-3	Barium	5.0 U, J, QC-5		ug/L	5.0	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-41-7	Beryllium	3.0 U		ug/L	3.0	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-43-9	Cadmium	0.50 U		ug/L	0.50	8/03/11 15:47	8/11/11 20:04	EPA 200.8
7440-70-2	Calcium	250 U		ug/L	250	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-47-3	Chromium	5.0 U		ug/L	5.0	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-48-4	Cobalt	5.0 U		ug/L	5.0	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-50-8	Copper	10 U		ug/L	10	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7439-89-6	Iron	100 U		ug/L	100	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7439-92-1	Lead	1.0 U		ug/L	1.0	8/03/11 15:47	8/11/11 20:04	EPA 200.8
7439-95-4	Magnesium	250 U		ug/L	250	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7439-96-5	Manganese	5.0 U		ug/L	5.0	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7439-98-7	Molybdenum	5.0 U		ug/L	5.0	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-02-0	Nickel	10 U		ug/L	10	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-09-7	Potassium	1000 U		ug/L	1000	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7782-49-2	Selenium	2.0 U		ug/L	2.0	8/03/11 15:47	8/11/11 20:04	EPA 200.8
7440-22-4	Silver	5.0 U		ug/L	5.0	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-23-5	Sodium	1000 U		ug/L	1000	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-24-6	Strontium	5.0 U		ug/L	5.0	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-28-0	Thallium	1.0 U		ug/L	1.0	8/03/11 15:47	8/11/11 20:04	EPA 200.8
7440-31-5	Tin	15 U		ug/L	15	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-32-6	Titanium	5.0 U		ug/L	5.0	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-62-2	Vanadium	5.0 U		ug/L	5.0	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-65-5	Yttrium	3.0 U		ug/L	3.0	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-66-6	Zinc	10 U		ug/L	10	8/03/11 15:17	8/10/11 18:15	EPA 200.7

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Total Metals

Project: 11-0592, Hattiesburg North Lagoon CSI

Sample ID: HTNR-0013 **Lab ID:** E113109-06
Station ID: EFF001 **Matrix:** Wastewater

Date Collected: 7/27/11 15:16

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7439-97-6	Mercury	0.10	U	ug/L	0.10	8/23/11 8:50	8/23/11 13:41	EPA 245.1
7429-90-5	Aluminum	140		ug/L	100	8/03/11 15:17	8/10/11 18:20	EPA 200.7
7440-36-0	Antimony	1.0	U	ug/L	1.0	8/03/11 15:47	8/11/11 20:13	EPA 200.8
7440-38-2	Arsenic	1.0	U	ug/L	1.0	8/03/11 15:47	8/11/11 20:13	EPA 200.8
7440-39-3	Barium	31	J, QC-5	ug/L	5.0	8/03/11 15:17	8/10/11 18:20	EPA 200.7
7440-41-7	Beryllium	3.0	U	ug/L	3.0	8/03/11 15:17	8/10/11 18:20	EPA 200.7
7440-43-9	Cadmium	0.50	U	ug/L	0.50	8/03/11 15:47	8/11/11 20:13	EPA 200.8
7440-70-2	Calcium	11000		ug/L	250	8/03/11 15:17	8/10/11 18:20	EPA 200.7
7440-47-3	Chromium	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 18:20	EPA 200.7
7440-48-4	Cobalt	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 18:20	EPA 200.7
7440-50-8	Copper	10	U	ug/L	10	8/03/11 15:17	8/10/11 18:20	EPA 200.7
7439-89-6	Iron	510		ug/L	100	8/03/11 15:17	8/10/11 18:20	EPA 200.7
7439-92-1	Lead	1.8		ug/L	1.0	8/03/11 15:47	8/11/11 20:13	EPA 200.8
7439-95-4	Magnesium	3400		ug/L	250	8/03/11 15:17	8/10/11 18:20	EPA 200.7
7439-96-5	Manganese	78		ug/L	5.0	8/03/11 15:17	8/10/11 18:20	EPA 200.7
7439-98-7	Molybdenum	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 18:20	EPA 200.7
7440-02-0	Nickel	10	U	ug/L	10	8/03/11 15:17	8/10/11 18:20	EPA 200.7
7440-09-7	Potassium	12000	U	ug/L	12000	8/03/11 15:17	8/10/11 18:20	EPA 200.7
7782-49-2	Selenium	2.0	U	ug/L	2.0	8/03/11 15:47	8/11/11 20:13	EPA 200.8
7440-22-4	Silver	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 18:20	EPA 200.7
7440-23-5	Sodium	56000		ug/L	1000	8/03/11 15:17	8/10/11 18:20	EPA 200.7
7440-24-6	Strontium	150		ug/L	5.0	8/03/11 15:17	8/10/11 18:20	EPA 200.7
7440-28-0	Thallium	1.0	U	ug/L	1.0	8/03/11 15:47	8/11/11 20:13	EPA 200.8
7440-31-5	Tin	15	U	ug/L	15	8/03/11 15:17	8/10/11 18:20	EPA 200.7
7440-32-6	Titanium	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 18:20	EPA 200.7
7440-62-2	Vanadium	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 18:20	EPA 200.7
7440-65-5	Yttrium	3.0	U	ug/L	3.0	8/03/11 15:17	8/10/11 18:20	EPA 200.7
7440-66-6	Zinc	21		ug/L	10	8/03/11 15:17	8/10/11 18:20	EPA 200.7

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Total Metals (TMTL) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108015 - M 200.2 Metals Water										
Blank (1108015-BLK1)				Prepared: 08/03/11 Analyzed: 08/10/11						
EPA 200.7										
Silver	U	5.0	ug/L							U
Arsenic	U	50	"							U
Barium	U	5.0	"							U
Beryllium	U	3.0	"							U
Boron	U	50	"							U
Cadmium	U	5.0	"							U
Cobalt	U	5.0	"							U
Chromium	U	5.0	"							U
Copper	U	10	"							U
Molybdenum	U	5.0	"							U
Nickel	U	10	"							U
Lead	U	20	"							U
Antimony	U	40	"							U
Selenium	U	45	"							U
Tin	U	15	"							U
Strontium	U	5.0	"							U
Titanium	U	5.0	"							U
Thallium	U	30	"							U
Vanadium	U	5.0	"							U
Yttrium	U	3.0	"							U
Zinc	U	10	"							MRL-2, U
Aluminum	U	100	"							U
Manganese	U	5.0	"							U
Calcium	U	250	"							U
Magnesium	U	250	"							U
Iron	U	100	"							U
Sodium	U	1000	"							U
Potassium	U	1000	"							U

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Total Metals (TMTL) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108015 - M 200.2 Metals Water										
LCS (1108015-BS1)				Prepared: 08/03/11 Analyzed: 08/10/11						
EPA 200.7										
Silver	100.22	5.0	ug/L	100.00		100	85-115			
Arsenic	195.03	50	"	200.00		97.5	85-115			
Barium	194.52	5.0	"	200.00		97.3	85-115			
Beryllium	49.917	3.0	"	50.000		99.8	85-115			
Boron	U	50	"				85-115			U
Cadmium	47.495	5.0	"	50.000		95.0	85-115			
Cobalt	93.868	5.0	"	100.00		93.9	85-115			
Chromium	196.87	5.0	"	200.00		98.4	85-115			
Copper	96.332	10	"	100.00		96.3	85-115			
Molybdenum	101.20	5.0	"	100.00		101	85-115			
Nickel	196.02	10	"	200.00		98.0	85-115			
Lead	190.02	20	"	200.00		95.0	85-115			
Antimony	199.17	40	"	200.00		99.6	85-115			
Selenium	202.72	45	"	200.00		101	85-115			
Tin	104.51	15	"	100.00		105	85-115			
Strontium	99.468	5.0	"	100.00		99.5	85-115			
Titanium	102.12	5.0	"	100.00		102	85-115			
Thallium	180.07	30	"	200.00		90.0	85-115			
Vanadium	98.627	5.0	"	100.00		98.6	85-115			
Yttrium	97.591	3.0	"	100.00		97.6	85-115			
Zinc	196.45	10	"	200.00		98.2	85-115			
Aluminum	5182.9	100	"	5000.0		104	85-115			
Manganese	508.66	5.0	"	500.00		102	85-115			
Calcium	5206.5	250	"	5000.0		104	85-115			
Magnesium	5357.9	250	"	5000.0		107	85-115			
Iron	5223.2	100	"	5000.0		104	85-115			
Sodium	10322	1000	"	10000		103	85-115			
Potassium	9728.4	1000	"	10000		97.3	85-115			

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Total Metals (TMTL) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108015 - M 200.2 Metals Water										
Matrix Spike (1108015-MS1)		**Source: E113108-15**		Prepared: 08/03/11	Analyzed: 08/10/11					
EPA 200.7										
Silver	104.66	5.0	ug/L	100.00	U	105	70-130			
Arsenic	210.63	50	"	200.00	U	105	70-130			
Barium	276.38	5.0	"	200.00	73.113	102	70-130			
Beryllium	52.399	3.0	"	50.000	U	105	70-130			
Boron	134.19	50	"		131.14		70-130			
Cadmium	50.275	5.0	"	50.000	U	101	70-130			
Cobalt	99.390	5.0	"	100.00	1.0338	98.4	70-130			
Chromium	204.15	5.0	"	200.00	U	102	70-130			
Copper	144.91	10	"	100.00	38.571	106	70-130			
Molybdenum	125.00	5.0	"	100.00	18.275	107	70-130			
Nickel	206.55	10	"	200.00	3.8845	101	70-130			
Lead	200.87	20	"	200.00	U	100	70-130			
Antimony	210.08	40	"	200.00	U	105	70-130			
Selenium	217.96	45	"	200.00	U	109	70-130			
Tin	97.092	15	"	100.00	U	97.1	70-130			
Strontium	382.63	5.0	"	100.00	266.90	116	70-130			
Titanium	108.33	5.0	"	100.00	4.8200	104	70-130			
Thallium	181.84	30	"	200.00	U	90.9	70-130			
Vanadium	105.73	5.0	"	100.00	U	106	70-130			
Yttrium	104.42	3.0	"	100.00	1.2053	103	70-130			
Zinc	307.51	10	"	200.00	92.342	108	70-130			
Aluminum	6076.0	100	"	5000.0	629.85	109	70-130			
Manganese	645.96	5.0	"	500.00	116.23	106	70-130			
Calcium	22657	250	"	5000.0	17257	108	70-130			
Magnesium	11372	250	"	5000.0	5667.7	114	70-130			
Iron	7035.9	100	"	5000.0	1598.6	109	70-130			
Sodium	119600	1000	"	10000	105280	143	70-130			XM-1
Potassium	28028	1000	"	10000	18545	94.8	70-130			

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Total Metals (TMTL) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108015 - M 200.2 Metals Water										
Matrix Spike (1108015-MS2)		**Source: E113109-06**		Prepared: 08/03/11		Analyzed: 08/10/11				
EPA 200.7										
Silver	96.888	5.0	ug/L	100.00	U	96.9	70-130			
Arsenic	192.48	50	"	200.00	U	96.2	70-130			
Barium	227.40	5.0	"	200.00	31.215	98.1	70-130			
Beryllium	50.009	3.0	"	50.000	U	100	70-130			
Boron	149.22	50	"		154.17		70-130			
Cadmium	44.906	5.0	"	50.000	U	89.8	70-130			
Cobalt	92.336	5.0	"	100.00	U	92.3	70-130			
Chromium	188.90	5.0	"	200.00	U	94.5	70-130			
Copper	105.17	10	"	100.00	8.1542	97.0	70-130			
Molybdenum	101.86	5.0	"	100.00	3.9059	98.0	70-130			
Nickel	189.85	10	"	200.00	2.5140	93.7	70-130			
Lead	187.37	20	"	200.00	U	93.7	70-130			
Antimony	193.25	40	"	200.00	U	96.6	70-130			
Selenium	209.29	45	"	200.00	U	105	70-130			
Tin	98.209	15	"	100.00	U	98.2	70-130			
Strontium	238.41	5.0	"	100.00	147.42	91.0	70-130			
Titanium	102.01	5.0	"	100.00	U	102	70-130			
Thallium	174.56	30	"	200.00	U	87.3	70-130			
Vanadium	97.668	5.0	"	100.00	U	97.7	70-130			
Yttrium	96.604	3.0	"	100.00	0.25508	96.3	70-130			
Zinc	221.42	10	"	200.00	20.541	100	70-130			
Aluminum	5166.1	100	"	5000.0	141.92	100	70-130			
Manganese	561.53	5.0	"	500.00	77.508	96.8	70-130			
Calcium	16044	250	"	5000.0	11482	91.2	70-130			
Magnesium	8493.6	250	"	5000.0	3387.7	102	70-130			
Iron	5653.5	100	"	5000.0	513.73	103	70-130			
Sodium	64383	1000	"	10000	56124	82.6	70-130			
Potassium	19651	1000	"	10000	10561	90.9	70-130			

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Total Metals (TMTL) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108015 - M 200.2 Metals Water										
Matrix Spike Dup (1108015-MSD1)		**Source: E113108-15**		Prepared: 08/03/11	Analyzed: 08/10/11					
EPA 200.7										
Silver	98.978	5.0	ug/L	100.00	U	99.0	70-130	5.58	20	
Arsenic	202.30	50	"	200.00	U	101	70-130	4.03	20	
Barium	265.93	5.0	"	200.00	73.113	96.4	70-130	3.86	20	
Beryllium	50.840	3.0	"	50.000	U	102	70-130	3.02	20	
Boron	127.76	50	"		131.14		70-130	4.91	20	
Cadmium	47.942	5.0	"	50.000	U	95.9	70-130	4.75	20	
Cobalt	94.303	5.0	"	100.00	1.0338	93.3	70-130	5.25	20	
Chromium	193.31	5.0	"	200.00	U	96.7	70-130	5.46	20	
Copper	139.60	10	"	100.00	38.571	101	70-130	3.73	20	
Molybdenum	117.65	5.0	"	100.00	18.275	99.4	70-130	6.06	20	
Nickel	195.43	10	"	200.00	3.8845	95.8	70-130	5.53	20	
Lead	190.83	20	"	200.00	U	95.4	70-130	5.13	20	
Antimony	197.92	40	"	200.00	U	99.0	70-130	5.96	20	
Selenium	213.27	45	"	200.00	U	107	70-130	2.17	20	
Tin	94.633	15	"	100.00	U	94.6	70-130	2.57	20	
Strontium	355.59	5.0	"	100.00	266.90	88.7	70-130	7.33	20	
Titanium	105.68	5.0	"	100.00	4.8200	101	70-130	2.47	20	
Thallium	176.60	30	"	200.00	U	88.3	70-130	2.92	20	
Vanadium	100.46	5.0	"	100.00	U	100	70-130	5.11	20	
Yttrium	98.686	3.0	"	100.00	1.2053	97.5	70-130	5.65	20	
Zinc	292.80	10	"	200.00	92.342	100	70-130	4.90	20	
Aluminum	5809.7	100	"	5000.0	629.85	104	70-130	4.48	20	
Manganese	615.33	5.0	"	500.00	116.23	99.8	70-130	4.86	20	
Calcium	21525	250	"	5000.0	17257	85.3	70-130	5.13	20	
Magnesium	10816	250	"	5000.0	5667.7	103	70-130	5.01	20	
Iron	6824.8	100	"	5000.0	1598.6	105	70-130	3.05	20	
Sodium	112430	1000	"	10000	105280	71.4	70-130	6.18	20	XM-1
Potassium	27088	1000	"	10000	18545	85.4	70-130	3.41	20	

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Total Metals (TMTL) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108015 - M 200.2 Metals Water										
Matrix Spike Dup (1108015-MSD2)		**Source: E113109-06**		Prepared: 08/03/11		Analyzed: 08/10/11				
EPA 200.7										
Silver	100.59	5.0	ug/L	100.00	U	101	70-130	3.75	20	
Arsenic	199.72	50	"	200.00	U	99.9	70-130	3.69	20	
Barium	230.35	5.0	"	200.00	31.215	99.6	70-130	1.29	20	
Beryllium	50.552	3.0	"	50.000	U	101	70-130	1.08	20	
Boron	153.48	50	"		154.17		70-130	2.81	20	
Cadmium	47.531	5.0	"	50.000	U	95.1	70-130	5.68	20	
Cobalt	96.225	5.0	"	100.00	U	96.2	70-130	4.12	20	
Chromium	200.29	5.0	"	200.00	U	100	70-130	5.85	20	
Copper	108.06	10	"	100.00	8.1542	99.9	70-130	2.71	20	
Molybdenum	106.56	5.0	"	100.00	3.9059	103	70-130	4.51	20	
Nickel	198.00	10	"	200.00	2.5140	97.7	70-130	4.20	20	
Lead	195.57	20	"	200.00	U	97.8	70-130	4.28	20	
Antimony	204.88	40	"	200.00	U	102	70-130	5.84	20	
Selenium	206.46	45	"	200.00	U	103	70-130	1.36	20	
Tin	105.79	15	"	100.00	U	106	70-130	7.43	20	
Strontium	242.98	5.0	"	100.00	147.42	95.6	70-130	1.90	20	
Titanium	104.89	5.0	"	100.00	U	105	70-130	2.78	20	
Thallium	189.12	30	"	200.00	U	94.6	70-130	8.01	20	
Vanadium	101.85	5.0	"	100.00	U	102	70-130	4.19	20	
Yttrium	98.093	3.0	"	100.00	0.25508	97.8	70-130	1.53	20	
Zinc	229.60	10	"	200.00	20.541	105	70-130	3.63	20	
Aluminum	5321.9	100	"	5000.0	141.92	104	70-130	2.97	20	
Manganese	582.42	5.0	"	500.00	77.508	101	70-130	3.65	20	
Calcium	16493	250	"	5000.0	11482	100	70-130	2.76	20	
Magnesium	8738.8	250	"	5000.0	3387.7	107	70-130	2.85	20	
Iron	5801.2	100	"	5000.0	513.73	106	70-130	2.58	20	
Sodium	66169	1000	"	10000	56124	100	70-130	2.74	20	
Potassium	20384	1000	"	10000	10561	98.2	70-130	3.66	20	

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Total Metals (TMTL) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108015 - M 200.2 Metals Water										
MRL Verification (1108015-PS1)				Prepared: 08/03/11 Analyzed: 08/10/11						
EPA 200.7										
Silver	5.5080	5.0	ug/L	5.0000		110	70-130			MRL-2
Arsenic	45.791	50	"	50.000		91.6	70-130			MRL-2, U
Barium	6.0554	5.0	"	5.0000		121	70-130			MRL-2
Beryllium	3.0741	3.0	"	3.0000		102	70-130			MRL-2
Boron	51.086	50	"	50.000		102	70-130			MRL-2
Cadmium	4.9672	5.0	"	5.0000		99.3	70-130			MRL-2, U
Cobalt	5.1286	5.0	"	5.0000		103	70-130			MRL-2
Chromium	5.0481	5.0	"	5.0000		101	70-130			MRL-2
Copper	10.100	10	"	10.000		101	70-130			MRL-2
Molybdenum	11.234	5.0	"	10.000		112	70-130			MRL-2
Nickel	11.578	10	"	10.000		116	70-130			MRL-2
Lead	19.158	20	"	20.000		95.8	70-130			MRL-2, U
Antimony	40.471	40	"	40.000		101	70-130			MRL-2
Selenium	50.462	45	"	45.000		112	70-130			MRL-2
Tin	15.374	15	"	15.000		102	70-130			MRL-2
Strontium	5.5439	5.0	"	5.0000		111	70-130			MRL-2
Titanium	5.0386	5.0	"	5.0000		101	70-130			MRL-2
Thallium	28.767	30	"	30.000		95.9	70-130			MRL-2, U
Vanadium	4.2505	5.0	"	5.0000		85.0	70-130			MRL-2, U
Yttrium	3.1892	3.0	"	3.0000		106	70-130			MRL-2
Zinc	10.510	10	"	10.000		105	70-130			MRL-2
Aluminum	119.29	100	"	100.00		119	70-130			MRL-2
Manganese	5.1329	5.0	"	5.0000		103	70-130			MRL-2
Calcium	329.18	250	"	250.00		132	70-130			MRL-2, QR-2
Magnesium	273.50	250	"	250.00		109	70-130			MRL-2
Iron	110.13	100	"	100.00		110	70-130			MRL-2
Sodium	1332.2	1000	"	1000.0		133	70-130			MRL-2, QR-2
Potassium	1021.0	1000	"	1000.0		102	70-130			MRL-2

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Total Metals (TMTL) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108016 - M 200.2 Metals Water										
Blank (1108016-BLK1)				Prepared: 08/03/11	Analyzed: 08/11/11					
EPA 200.8										
Arsenic	U	1.0	ug/L							U
Selenium	U	2.0	"							U
Cadmium	U	0.50	"							U
Antimony	U	1.0	"							U
Thallium	U	1.0	"							U
Lead	U	1.0	"							U
LCS (1108016-BS1)				Prepared: 08/03/11	Analyzed: 08/11/11					
EPA 200.8										
Arsenic	197.32	5.0	ug/L	200.00		98.7	85-115			
Selenium	200.32	10	"	200.00		100	85-115			
Cadmium	48.619	2.5	"	50.000		97.2	85-115			
Antimony	190.89	5.0	"	200.00		95.4	85-115			
Thallium	212.50	5.0	"	200.00		106	85-115			
Lead	204.36	5.0	"	200.00		102	85-115			
Matrix Spike (1108016-MS1)		**Source: E113108-15**		Prepared: 08/03/11	Analyzed: 08/11/11					
EPA 200.8										
Arsenic	202.74	5.0	ug/L	200.00	1.0871	101	70-130			
Selenium	206.16	10	"	200.00	0.56160	103	70-130			
Cadmium	49.938	2.5	"	50.000	0.087054	99.7	70-130			
Antimony	195.36	5.0	"	200.00	0.27743	97.5	70-130			
Thallium	206.74	5.0	"	200.00	U	103	70-130			
Lead	200.21	5.0	"	200.00	1.0380	99.6	70-130			
Matrix Spike (1108016-MS2)		**Source: E113109-06**		Prepared: 08/03/11	Analyzed: 08/11/11					
EPA 200.8										
Arsenic	200.18	5.0	ug/L	200.00	0.83490	99.7	70-130			
Selenium	204.50	10	"	200.00	U	102	70-130			
Cadmium	48.909	2.5	"	50.000	U	97.8	70-130			
Antimony	193.25	5.0	"	200.00	0.29339	96.5	70-130			
Thallium	208.14	5.0	"	200.00	U	104	70-130			
Lead	202.76	5.0	"	200.00	1.7675	100	70-130			

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Total Metals (TMTL) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108016 - M 200.2 Metals Water										
Matrix Spike Dup (1108016-MSD1)		**Source: E113108-15**		Prepared: 08/03/11	Analyzed: 08/11/11					
EPA 200.8										
Arsenic	203.10	5.0	ug/L	200.00	1.0871	101	70-130	0.178	20	
Selenium	205.25	10	"	200.00	0.56160	102	70-130	0.444	20	
Cadmium	49.223	2.5	"	50.000	0.087054	98.3	70-130	1.44	20	
Antimony	193.45	5.0	"	200.00	0.27743	96.6	70-130	0.984	20	
Thallium	207.19	5.0	"	200.00	U	104	70-130	0.218	20	
Lead	199.99	5.0	"	200.00	1.0380	99.5	70-130	0.109	20	
Matrix Spike Dup (1108016-MSD2)		**Source: E113109-06**		Prepared: 08/03/11	Analyzed: 08/11/11					
EPA 200.8										
Arsenic	197.63	5.0	ug/L	200.00	0.83490	98.4	70-130	1.28	20	
Selenium	200.40	10	"	200.00	U	100	70-130	2.02	20	
Cadmium	48.329	2.5	"	50.000	U	96.7	70-130	1.19	20	
Antimony	191.09	5.0	"	200.00	0.29339	95.4	70-130	1.12	20	
Thallium	206.79	5.0	"	200.00	U	103	70-130	0.652	20	
Lead	200.19	5.0	"	200.00	1.7675	99.2	70-130	1.28	20	
MRL Verification (1108016-PS1)				Prepared: 08/03/11	Analyzed: 08/11/11					
EPA 200.8										
Arsenic	0.98602	1.0	ug/L	1.0000		98.6	65-135			MRL-2, U
Selenium	2.0654	2.0	"	2.0000		103	65-135			MRL-2
Cadmium	0.47697	0.50	"	0.50000		95.4	65-135			MRL-2, U
Antimony	0.51639	1.0	"	0.50000		103	65-135			MRL-2, U
Thallium	0.54100	1.0	"	0.50000		108	65-135			MRL-2, U
Lead	0.70817	1.0	"	1.0000		70.8	65-135			MRL-2, U
Batch 1108099 - M 245.1 Hg Wtr										
Blank (1108099-BLK1)				Prepared & Analyzed: 08/23/11						
EPA 245.1										
Mercury	U	0.10	ug/L							U

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Total Metals (TMTL) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108099 - M 245.1 Hg Wtr										
LCS (1108099-BS1)				Prepared & Analyzed: 08/23/11						
EPA 245.1										
Mercury	2.0730	0.10	ug/L	2.0000		104	85-115			
LCS Dup (1108099-BSD1)				Prepared & Analyzed: 08/23/11						
EPA 245.1										
Mercury	2.0960	0.10	ug/L	2.0000		105	85-115	1.10	20	
Matrix Spike (1108099-MS1)		**Source: E113108-13**		Prepared & Analyzed: 08/23/11						
EPA 245.1										
Mercury	2.0720	0.10	ug/L	2.0000	0.088000	99.2	70-130			
Matrix Spike (1108099-MS2)		**Source: E113109-06**		Prepared & Analyzed: 08/23/11						
EPA 245.1										
Mercury	1.7940	0.10	ug/L	2.0000	U	89.7	70-130			
Matrix Spike Dup (1108099-MSD1)		**Source: E113108-13**		Prepared & Analyzed: 08/23/11						
EPA 245.1										
Mercury	1.9460	0.10	ug/L	2.0000	0.088000	92.9	70-130	6.56	20	
Matrix Spike Dup (1108099-MSD2)		**Source: E113109-06**		Prepared & Analyzed: 08/23/11						
EPA 245.1										
Mercury	1.8650	0.10	ug/L	2.0000	U	93.2	70-130	3.88	20	
MRL Verification (1108099-PS1)				Prepared & Analyzed: 08/23/11						
EPA 245.1										
Mercury	0.081000	0.10	ug/L				65-135			MRL-2, U

Notes and Definitions for QC Samples

U	The analyte was not detected at or above the reporting limit.
B-3	Level in blank does not impact data quality
MRL-2	MRL verification for Non-Potable Water matrix
QC-5	Calibration check standard less than method control limits.
QC-6	Calibration check standard greater than method control limits.
QR-2	MRL verification recovery greater than upper control limits.
XM-1	Sample background/spike ratio higher than method evaluation criteria

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September 1, 2011

4SESD-ASB

MEMORANDUM

SUBJECT: FINAL Analytical Report
Project: 11-0591, Hattiesburg South Lagoon CSI
Compliance Monitoring

FILE COPY

FROM: Jenny Scifres
ASB Inorganic Chemistry Section Chief

THRU: Gary Bennett, Chief
Analytical Support Branch

TO: Richard Elliott

Attached are the final results for the analytical groups listed below. These analyses were performed in accordance with the Analytical Support Branch's (ASB) Laboratory Operations and Quality Assurance Manual (ASB LOQAM) found at www.epa.gov/region4/sesd/asbsop. Any unique project data quality objectives specified in writing by the data requestor have also been incorporated into the data unless otherwise noted in the Report Narrative. Chemistry data have been verified based on the ASB LOQAM specifications and may have been qualified if the applicable quality control criteria were not met. For a listing of specific data qualifiers and explanations, please refer to the Data Qualifier Definitions included in this report. The reported results are accurate within the limits of the method(s) and are representative only of the samples as received by the laboratory.

Analyses Included in this report:	Method Used:
Total Metals (TMTL)	
Total Mercury	EPA 245.1
Total Metals	EPA 200.7
Total Metals	EPA 200.8

Sample Disposal Policy

Because of the laboratory's limited space for long term sample storage, our policy is to dispose of samples on a periodic schedule. Please note that within 60 days of this memo, the original samples and all sample extracts and/or sample digestates will be disposed of in accordance with applicable regulations. The 60-day sample disposal policy does not apply to criminal samples which are held until the laboratory is notified by the criminal investigators that case development and litigation are complete.

These samples may be held in the laboratory's custody for a longer period of time if you have a special project need. If you wish for the laboratory to hold samples beyond the 60-day period, please contact our Sample Control Coordinator, Debbie Colquitt, by e-mail at Colquitt.Debbie@epa.gov, and provide a reason for holding samples beyond 60 days

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SAMPLES INCLUDED IN THIS REPORT

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
HTSO-0002	E113108-02	Preservative Blank	7/27/11 16:35	7/29/11 9:01
HTSO-0005	E113108-03	Rinse Water Blank	7/27/11 13:56	7/29/11 9:01
HTSO-0029	E113108-04	Rinse Water Blank	7/27/11 11:30	7/29/11 9:01
HTSO-0019	E113108-08	Municipal Eff. Wastewater	7/27/11 14:02	7/29/11 9:01
HTSO-0046	E113108-13	Wastewater	7/27/11 14:17	7/29/11 9:01
HTSO-0047	E113108-14	Wastewater	7/27/11 13:31	7/29/11 9:01
HTSO-0048	E113108-15	Wastewater	7/27/11 13:13	7/29/11 9:01

DATA QUALIFIER DEFINITIONS

U	The analyte was not detected at or above the reporting limit.
D-4	MRL elevated due to interferences.
J	The identification of the analyte is acceptable; the reported value is an estimate.
OC-5	Calibration check standard less than method control limits.

ACRONYMS AND ABBREVIATIONS

CAS Chemical Abstracts Service

Note: Analytes with no known CAS identifiers have been assigned codes beginning with "E", the EPA ID as assigned by the EPA Substance Registry System (www.epa.gov/srs), or beginning with "R4-", a unique identifier assigned by the EPA Region 4 laboratory.

MDL Method Detection Limit - The minimum concentration of a substance (an analyte) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero.

MRL Minimum Reporting Limit - Analyte concentration that corresponds to the lowest demonstrated level of acceptable quantitation. The MRL is sample-specific and accounts for preparation weights and volumes, dilutions, and moisture content of soil/sediments.

TIC Tentatively Identified Compound - An analyte identified based on a match with the instrument software's mass spectral library. A calibration standard has not been analyzed to confirm the compound's identification or the estimated concentration reported.

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Total Metals

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0002 **Lab ID:** E113108-02
Station ID: **Matrix:** Preservative Blank

Date Collected: 7/27/11 16:35

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7439-97-6	Mercury	0.10 U		ug/L	0.10	8/23/11 8:50	8/23/11 13:41	EPA 245.1
7429-90-5	Aluminum	100 U		ug/L	100	8/03/11 15:17	8/10/11 15:51	EPA 200.7
7440-36-0	Antimony	1.0 U		ug/L	1.0	8/03/11 15:47	8/11/11 17:43	EPA 200.8
7440-38-2	Arsenic	1.0 U		ug/L	1.0	8/03/11 15:47	8/11/11 17:43	EPA 200.8
7440-39-3	Barium	5.0 U	J, QC-5	ug/L	5.0	8/03/11 15:17	8/10/11 15:51	EPA 200.7
7440-41-7	Beryllium	3.0 U		ug/L	3.0	8/03/11 15:17	8/10/11 15:51	EPA 200.7
7440-43-9	Cadmium	0.50 U		ug/L	0.50	8/03/11 15:47	8/11/11 17:43	EPA 200.8
7440-70-2	Calcium	250 U		ug/L	250	8/03/11 15:17	8/10/11 15:51	EPA 200.7
7440-47-3	Chromium	5.0 U		ug/L	5.0	8/03/11 15:17	8/10/11 15:51	EPA 200.7
7440-48-4	Cobalt	5.0 U		ug/L	5.0	8/03/11 15:17	8/10/11 15:51	EPA 200.7
7440-50-8	Copper	10 U		ug/L	10	8/03/11 15:17	8/10/11 15:51	EPA 200.7
7439-89-6	Iron	100 U		ug/L	100	8/03/11 15:17	8/10/11 15:51	EPA 200.7
7439-92-1	Lead	1.0 U		ug/L	1.0	8/03/11 15:47	8/11/11 17:43	EPA 200.8
7439-95-4	Magnesium	250 U		ug/L	250	8/03/11 15:17	8/10/11 15:51	EPA 200.7
7439-96-5	Manganese	5.0 U		ug/L	5.0	8/03/11 15:17	8/10/11 15:51	EPA 200.7
7439-98-7	Molybdenum	5.0 U		ug/L	5.0	8/03/11 15:17	8/10/11 15:51	EPA 200.7
7440-02-0	Nickel	10 U		ug/L	10	8/03/11 15:17	8/10/11 15:51	EPA 200.7
7440-09-7	Potassium	1000 U		ug/L	1000	8/03/11 15:17	8/10/11 15:51	EPA 200.7
7782-49-2	Selenium	2.0 U		ug/L	2.0	8/03/11 15:47	8/11/11 17:43	EPA 200.8
7440-22-4	Silver	5.0 U		ug/L	5.0	8/03/11 15:17	8/10/11 15:51	EPA 200.7
7440-23-5	Sodium	1000 U		ug/L	1000	8/03/11 15:17	8/10/11 15:51	EPA 200.7
7440-24-6	Strontium	5.0 U		ug/L	5.0	8/03/11 15:17	8/10/11 15:51	EPA 200.7
7440-28-0	Thallium	1.0 U		ug/L	1.0	8/03/11 15:47	8/11/11 17:43	EPA 200.8
7440-31-5	Tin	15 U		ug/L	15	8/03/11 15:17	8/10/11 15:51	EPA 200.7
7440-32-6	Titanium	5.0 U		ug/L	5.0	8/03/11 15:17	8/10/11 15:51	EPA 200.7
7440-62-2	Vanadium	5.0 U		ug/L	5.0	8/03/11 15:17	8/10/11 15:51	EPA 200.7
7440-65-5	Yttrium	3.0 U		ug/L	3.0	8/03/11 15:17	8/10/11 15:51	EPA 200.7
7440-66-6	Zinc	10 U		ug/L	10	8/03/11 15:17	8/10/11 15:51	EPA 200.7

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Total Metals

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0005 **Lab ID:** E113108-03

Station ID: **Matrix:** Rinse Water Blank

Date Collected: 7/27/11 13:56

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7439-97-6	Mercury	0.10	U	ug/L	0.10	8/23/11 8:50	8/23/11 13:41	EPA 245.1
7429-90-5	Aluminum	100	U	ug/L	100	8/03/11 15:17	8/10/11 15:56	EPA 200.7
7440-36-0	Antimony	1.0	U	ug/L	1.0	8/03/11 15:47	8/11/11 18:02	EPA 200.8
7440-38-2	Arsenic	1.0	U	ug/L	1.0	8/03/11 15:47	8/11/11 18:02	EPA 200.8
7440-39-3	Barium	5.0	U, J, QC-5	ug/L	5.0	8/03/11 15:17	8/10/11 15:56	EPA 200.7
7440-41-7	Beryllium	3.0	U	ug/L	3.0	8/03/11 15:17	8/10/11 15:56	EPA 200.7
7440-43-9	Cadmium	0.50	U	ug/L	0.50	8/03/11 15:47	8/11/11 18:02	EPA 200.8
7440-70-2	Calcium	250	U	ug/L	250	8/03/11 15:17	8/10/11 15:56	EPA 200.7
7440-47-3	Chromium	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 15:56	EPA 200.7
7440-48-4	Cobalt	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 15:56	EPA 200.7
7440-50-8	Copper	10	U	ug/L	10	8/03/11 15:17	8/10/11 15:56	EPA 200.7
7439-89-6	Iron	100	U	ug/L	100	8/03/11 15:17	8/10/11 15:56	EPA 200.7
7439-92-1	Lead	1.0	U	ug/L	1.0	8/03/11 15:47	8/11/11 18:02	EPA 200.8
7439-95-4	Magnesium	250	U	ug/L	250	8/03/11 15:17	8/10/11 15:56	EPA 200.7
7439-96-5	Manganese	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 15:56	EPA 200.7
7439-98-7	Molybdenum	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 15:56	EPA 200.7
7440-02-0	Nickel	10	U	ug/L	10	8/03/11 15:17	8/10/11 15:56	EPA 200.7
7440-09-7	Potassium	1000	U	ug/L	1000	8/03/11 15:17	8/10/11 15:56	EPA 200.7
7782-49-2	Selenium	2.0	U	ug/L	2.0	8/03/11 15:47	8/11/11 18:02	EPA 200.8
7440-22-4	Silver	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 15:56	EPA 200.7
7440-23-5	Sodium	1000	U	ug/L	1000	8/03/11 15:17	8/10/11 15:56	EPA 200.7
7440-24-6	Strontium	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 15:56	EPA 200.7
7440-28-0	Thallium	1.0	U	ug/L	1.0	8/03/11 15:47	8/11/11 18:02	EPA 200.8
7440-31-5	Tin	15	U	ug/L	15	8/03/11 15:17	8/10/11 15:56	EPA 200.7
7440-32-6	Titanium	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 15:56	EPA 200.7
7440-62-2	Vanadium	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 15:56	EPA 200.7
7440-65-5	Yttrium	3.0	U	ug/L	3.0	8/03/11 15:17	8/10/11 15:56	EPA 200.7
7440-66-6	Zinc	10	U	ug/L	10	8/03/11 15:17	8/10/11 15:56	EPA 200.7

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Total Metals

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0029 **Lab ID:** E113108-04
Station ID: **Matrix:** Rinse Water Blank

Date Collected: 7/27/11 11:30

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7439-97-6	Mercury	0.10	U	ug/L	0.10	8/23/11 8:50	8/23/11 13:41	EPA 245.1
7429-90-5	Aluminum	100	U	ug/L	100	8/03/11 15:17	8/10/11 16:43	EPA 200.7
7440-36-0	Antimony	1.0	U	ug/L	1.0	8/03/11 15:47	8/11/11 18:11	EPA 200.8
7440-38-2	Arsenic	1.0	U	ug/L	1.0	8/03/11 15:47	8/11/11 18:11	EPA 200.8
7440-39-3	Barium	5.0	U, J, QC-5	ug/L	5.0	8/03/11 15:17	8/10/11 16:43	EPA 200.7
7440-41-7	Beryllium	3.0	U	ug/L	3.0	8/03/11 15:17	8/10/11 16:43	EPA 200.7
7440-43-9	Cadmium	0.50	U	ug/L	0.50	8/03/11 15:47	8/11/11 18:11	EPA 200.8
7440-70-2	Calcium	250	U	ug/L	250	8/03/11 15:17	8/10/11 16:43	EPA 200.7
7440-47-3	Chromium	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 16:43	EPA 200.7
7440-48-4	Cobalt	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 16:43	EPA 200.7
7440-50-8	Copper	10	U	ug/L	10	8/03/11 15:17	8/10/11 16:43	EPA 200.7
7439-89-6	Iron	100	U	ug/L	100	8/03/11 15:17	8/10/11 16:43	EPA 200.7
7439-92-1	Lead	1.0	U	ug/L	1.0	8/03/11 15:47	8/11/11 18:11	EPA 200.8
7439-95-4	Magnesium	250	U	ug/L	250	8/03/11 15:17	8/10/11 16:43	EPA 200.7
7439-96-5	Manganese	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 16:43	EPA 200.7
7439-98-7	Molybdenum	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 16:43	EPA 200.7
7440-02-0	Nickel	10	U	ug/L	10	8/03/11 15:17	8/10/11 16:43	EPA 200.7
7440-09-7	Potassium	1000	U	ug/L	1000	8/03/11 15:17	8/10/11 16:43	EPA 200.7
7782-49-2	Selenium	2.0	U	ug/L	2.0	8/03/11 15:47	8/11/11 18:11	EPA 200.8
7440-22-4	Silver	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 16:43	EPA 200.7
7440-23-5	Sodium	1000	U	ug/L	1000	8/03/11 15:17	8/10/11 16:43	EPA 200.7
7440-24-6	Strontium	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 16:43	EPA 200.7
7440-28-0	Thallium	1.0	U	ug/L	1.0	8/03/11 15:47	8/11/11 18:11	EPA 200.8
7440-31-5	Tin	15	U	ug/L	15	8/03/11 15:17	8/10/11 16:43	EPA 200.7
7440-32-6	Titanium	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 16:43	EPA 200.7
7440-62-2	Vanadium	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 16:43	EPA 200.7
7440-65-5	Yttrium	3.0	U	ug/L	3.0	8/03/11 15:17	8/10/11 16:43	EPA 200.7
7440-66-6	Zinc	33		ug/L	10	8/03/11 15:17	8/10/11 16:43	EPA 200.7

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Total Metals

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0019 **Lab ID:** E113108-08
Station ID: EFF001 **Matrix:** Municipal Eff. Wastewater

Date Collected: 7/27/11 14:02

CAS Number	Analyte	Results Qualifiers	Units	MRL	Prepared	Analyzed	Method
7439-97-6	Mercury	0.10 U	ug/L	0.10	8/23/11 8:50	8/23/11 13:41	EPA 245.1
7429-90-5	Aluminum	500 U	ug/L	500	8/03/11 15:17	8/10/11 16:48	EPA 200.7
7440-36-0	Antimony	5.0 U	ug/L	5.0	8/03/11 15:47	8/11/11 18:21	EPA 200.8
7440-38-2	Arsenic	5.0 U	ug/L	5.0	8/03/11 15:47	8/11/11 18:21	EPA 200.8
7440-39-3	Barium	70 J, QC-5	ug/L	25	8/03/11 15:17	8/10/11 16:48	EPA 200.7
7440-41-7	Beryllium	15 U	ug/L	15	8/03/11 15:17	8/10/11 16:48	EPA 200.7
7440-43-9	Cadmium	2.5 U	ug/L	2.5	8/03/11 15:47	8/11/11 18:21	EPA 200.8
7440-70-2	Calcium	53000	ug/L	1200	8/03/11 15:17	8/10/11 16:48	EPA 200.7
7440-47-3	Chromium	25 U	ug/L	25	8/03/11 15:17	8/10/11 16:48	EPA 200.7
7440-48-4	Cobalt	25 U	ug/L	25	8/03/11 15:17	8/10/11 16:48	EPA 200.7
7440-50-8	Copper	50 U	ug/L	50	8/03/11 15:17	8/10/11 16:48	EPA 200.7
7439-89-6	Iron	620	ug/L	500	8/03/11 15:17	8/10/11 16:48	EPA 200.7
7439-92-1	Lead	5.0 U	ug/L	5.0	8/03/11 15:47	8/11/11 18:21	EPA 200.8
7439-95-4	Magnesium	18000	ug/L	1200	8/03/11 15:17	8/10/11 16:48	EPA 200.7
7439-96-5	Manganese	180	ug/L	25	8/03/11 15:17	8/10/11 16:48	EPA 200.7
7439-98-7	Molybdenum	25 U	ug/L	25	8/03/11 15:17	8/10/11 16:48	EPA 200.7
7440-02-0	Nickel	50 U	ug/L	50	8/03/11 15:17	8/10/11 16:48	EPA 200.7
7440-09-7	Potassium	150000	ug/L	5000	8/03/11 15:17	8/10/11 16:48	EPA 200.7
7782-49-2	Selenium	15 U, J, D-4	ug/L	15	8/03/11 15:47	8/11/11 18:21	EPA 200.8
7440-22-4	Silver	25 U	ug/L	25	8/03/11 15:17	8/10/11 16:48	EPA 200.7
7440-23-5	Sodium	95000	ug/L	5000	8/03/11 15:17	8/10/11 16:48	EPA 200.7
7440-24-6	Strontium	240	ug/L	25	8/03/11 15:17	8/10/11 16:48	EPA 200.7
7440-28-0	Thallium	5.0 U	ug/L	5.0	8/03/11 15:47	8/11/11 18:21	EPA 200.8
7440-31-5	Tin	75 U	ug/L	75	8/03/11 15:17	8/10/11 16:48	EPA 200.7
7440-32-6	Titanium	25 U	ug/L	25	8/03/11 15:17	8/10/11 16:48	EPA 200.7
7440-62-2	Vanadium	25 U	ug/L	25	8/03/11 15:17	8/10/11 16:48	EPA 200.7
7440-65-5	Yttrium	15 U	ug/L	15	8/03/11 15:17	8/10/11 16:48	EPA 200.7
7440-66-6	Zinc	50 U	ug/L	50	8/03/11 15:17	8/10/11 16:48	EPA 200.7

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Total Metals

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0046 **Lab ID:** E113108-13
Station ID: INFL **Matrix:** Wastewater

Date Collected: 7/27/11 14:17

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7439-97-6	Mercury	0.10	U	ug/L	0.10	8/23/11 8:50	8/23/11 13:41	EPA 245.1
7429-90-5	Aluminum	970		ug/L	100	8/03/11 15:17	8/10/11 16:54	EPA 200.7
7440-36-0	Antimony	1.0	U	ug/L	1.0	8/03/11 15:47	8/11/11 18:30	EPA 200.8
7440-38-2	Arsenic	1.0		ug/L	1.0	8/03/11 15:47	8/11/11 18:30	EPA 200.8
7440-39-3	Barium	65	J, QC-5	ug/L	5.0	8/03/11 15:17	8/10/11 16:54	EPA 200.7
7440-41-7	Beryllium	3.0	U	ug/L	3.0	8/03/11 15:17	8/10/11 16:54	EPA 200.7
7440-43-9	Cadmium	0.50	U	ug/L	0.50	8/03/11 15:47	8/11/11 18:30	EPA 200.8
7440-70-2	Calcium	14000		ug/L	250	8/03/11 15:17	8/10/11 16:54	EPA 200.7
7440-47-3	Chromium	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 16:54	EPA 200.7
7440-48-4	Cobalt	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 16:54	EPA 200.7
7440-50-8	Copper	20		ug/L	10	8/03/11 15:17	8/10/11 16:54	EPA 200.7
7439-89-6	Iron	1600		ug/L	100	8/03/11 15:17	8/10/11 16:54	EPA 200.7
7439-92-1	Lead	7.3		ug/L	1.0	8/03/11 15:47	8/11/11 18:30	EPA 200.8
7439-95-4	Magnesium	3500		ug/L	250	8/03/11 15:17	8/10/11 16:54	EPA 200.7
7439-96-5	Manganese	100		ug/L	5.0	8/03/11 15:17	8/10/11 16:54	EPA 200.7
7439-98-7	Molybdenum	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 16:54	EPA 200.7
7440-02-0	Nickel	10	U	ug/L	10	8/03/11 15:17	8/10/11 16:54	EPA 200.7
7440-09-7	Potassium	8100	U	ug/L	8100	8/03/11 15:17	8/10/11 16:54	EPA 200.7
7782-49-2	Selenium	2.0	U	ug/L	2.0	8/03/11 15:47	8/11/11 18:30	EPA 200.8
7440-22-4	Silver	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 16:54	EPA 200.7
7440-23-5	Sodium	49000		ug/L	1000	8/03/11 15:17	8/10/11 16:54	EPA 200.7
7440-24-6	Strontium	140		ug/L	5.0	8/03/11 15:17	8/10/11 16:54	EPA 200.7
7440-28-0	Thallium	1.0	U	ug/L	1.0	8/03/11 15:47	8/11/11 18:30	EPA 200.8
7440-31-5	Tin	15	U	ug/L	15	8/03/11 15:17	8/10/11 16:54	EPA 200.7
7440-32-6	Titanium	5.8		ug/L	5.0	8/03/11 15:17	8/10/11 16:54	EPA 200.7
7440-62-2	Vanadium	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 16:54	EPA 200.7
7440-65-5	Yttrium	3.0	U	ug/L	3.0	8/03/11 15:17	8/10/11 16:54	EPA 200.7
7440-66-6	Zinc	61		ug/L	10	8/03/11 15:17	8/10/11 16:54	EPA 200.7

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Total Metals

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0047 **Lab ID:** E113108-14
Station ID: INFL **Matrix:** Wastewater

Date Collected: 7/27/11 13:31

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7439-97-6	Mercury	0.10	U	ug/L	0.10	8/23/11 8:50	8/23/11 13:41	EPA 245.1
7429-90-5	Aluminum	1000		ug/L	500	8/03/11 15:17	8/10/11 16:59	EPA 200.7
7440-36-0	Antimony	5.0	U	ug/L	5.0	8/03/11 15:47	8/11/11 19:08	EPA 200.8
7440-38-2	Arsenic	5.0	U	ug/L	5.0	8/03/11 15:47	8/11/11 19:08	EPA 200.8
7440-39-3	Barium	260	J, QC-5	ug/L	25	8/03/11 15:17	8/10/11 16:59	EPA 200.7
7440-41-7	Beryllium	15	U	ug/L	15	8/03/11 15:17	8/10/11 16:59	EPA 200.7
7440-43-9	Cadmium	2.5	U	ug/L	2.5	8/03/11 15:47	8/11/11 19:08	EPA 200.8
7440-70-2	Calcium	340000		ug/L	1200	8/03/11 15:17	8/10/11 16:59	EPA 200.7
7440-47-3	Chromium	25	U	ug/L	25	8/03/11 15:17	8/10/11 16:59	EPA 200.7
7440-48-4	Cobalt	25	U	ug/L	25	8/03/11 15:17	8/10/11 16:59	EPA 200.7
7440-50-8	Copper	230		ug/L	50	8/03/11 15:17	8/10/11 16:59	EPA 200.7
7439-89-6	Iron	5900		ug/L	500	8/03/11 15:17	8/10/11 16:59	EPA 200.7
7439-92-1	Lead	5.0	U	ug/L	5.0	8/03/11 15:47	8/11/11 19:08	EPA 200.8
7439-95-4	Magnesium	130000		ug/L	1200	8/03/11 15:17	8/10/11 16:59	EPA 200.7
7439-96-5	Manganese	890		ug/L	25	8/03/11 15:17	8/10/11 16:59	EPA 200.7
7439-98-7	Molybdenum	34		ug/L	25	8/03/11 15:17	8/10/11 16:59	EPA 200.7
7440-02-0	Nickel	61		ug/L	50	8/03/11 15:17	8/10/11 16:59	EPA 200.7
7440-09-7	Potassium	1100000		ug/L	5000	8/03/11 15:17	8/10/11 16:59	EPA 200.7
7782-49-2	Selenium	75	U, J, D-4	ug/L	75	8/03/11 15:47	8/11/11 19:08	EPA 200.8
7440-22-4	Silver	25	U	ug/L	25	8/03/11 15:17	8/10/11 16:59	EPA 200.7
7440-23-5	Sodium	240000		ug/L	5000	8/03/11 15:17	8/10/11 16:59	EPA 200.7
7440-24-6	Strontium	940		ug/L	25	8/03/11 15:17	8/10/11 16:59	EPA 200.7
7440-28-0	Thallium	5.0	U	ug/L	5.0	8/03/11 15:47	8/11/11 19:08	EPA 200.8
7440-31-5	Tin	75	U	ug/L	75	8/03/11 15:17	8/10/11 16:59	EPA 200.7
7440-32-6	Titanium	30		ug/L	25	8/03/11 15:17	8/10/11 16:59	EPA 200.7
7440-62-2	Vanadium	25		ug/L	25	8/03/11 15:17	8/10/11 16:59	EPA 200.7
7440-65-5	Yttrium	15	U	ug/L	15	8/03/11 15:17	8/10/11 16:59	EPA 200.7
7440-66-6	Zinc	250		ug/L	50	8/03/11 15:17	8/10/11 16:59	EPA 200.7

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Total Metals

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0048 **Lab ID:** E113108-15
Station ID: INFL **Matrix:** Wastewater

Date Collected: 7/27/11 13:13

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7439-97-6	Mercury	0.10	U	ug/L	0.10	8/23/11 8:50	8/23/11 13:41	EPA 245.1
7429-90-5	Aluminum	630		ug/L	100	8/03/11 15:17	8/10/11 17:06	EPA 200.7
7440-36-0	Antimony	1.0	U	ug/L	1.0	8/03/11 15:47	8/11/11 19:17	EPA 200.8
7440-38-2	Arsenic	1.1		ug/L	1.0	8/03/11 15:47	8/11/11 19:17	EPA 200.8
7440-39-3	Barium	73	J, QC-5	ug/L	5.0	8/03/11 15:17	8/10/11 17:06	EPA 200.7
7440-41-7	Beryllium	3.0	U	ug/L	3.0	8/03/11 15:17	8/10/11 17:06	EPA 200.7
7440-43-9	Cadmium	0.50	U	ug/L	0.50	8/03/11 15:47	8/11/11 19:17	EPA 200.8
7440-70-2	Calcium	17000		ug/L	250	8/03/11 15:17	8/10/11 17:06	EPA 200.7
7440-47-3	Chromium	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 17:06	EPA 200.7
7440-48-4	Cobalt	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 17:06	EPA 200.7
7440-50-8	Copper	39		ug/L	10	8/03/11 15:17	8/10/11 17:06	EPA 200.7
7439-89-6	Iron	1600		ug/L	100	8/03/11 15:17	8/10/11 17:06	EPA 200.7
7439-92-1	Lead	1.0		ug/L	1.0	8/03/11 15:47	8/11/11 19:17	EPA 200.8
7439-95-4	Magnesium	5700		ug/L	250	8/03/11 15:17	8/10/11 17:06	EPA 200.7
7439-96-5	Manganese	120		ug/L	5.0	8/03/11 15:17	8/10/11 17:06	EPA 200.7
7439-98-7	Molybdenum	18		ug/L	5.0	8/03/11 15:17	8/10/11 17:06	EPA 200.7
7440-02-0	Nickel	10	U	ug/L	10	8/03/11 15:17	8/10/11 17:06	EPA 200.7
7440-09-7	Potassium	20000	U	ug/L	20000	8/03/11 15:17	8/10/11 17:06	EPA 200.7
7782-49-2	Selenium	2.0	U	ug/L	2.0	8/03/11 15:47	8/11/11 19:17	EPA 200.8
7440-22-4	Silver	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 17:06	EPA 200.7
7440-23-5	Sodium	110000		ug/L	1000	8/03/11 15:17	8/10/11 17:06	EPA 200.7
7440-24-6	Strontium	270		ug/L	5.0	8/03/11 15:17	8/10/11 17:06	EPA 200.7
7440-28-0	Thallium	1.0	U	ug/L	1.0	8/03/11 15:47	8/11/11 19:17	EPA 200.8
7440-31-5	Tin	15	U	ug/L	15	8/03/11 15:17	8/10/11 17:06	EPA 200.7
7440-32-6	Titanium	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 17:06	EPA 200.7
7440-62-2	Vanadium	5.0	U	ug/L	5.0	8/03/11 15:17	8/10/11 17:06	EPA 200.7
7440-65-5	Yttrium	3.0	U	ug/L	3.0	8/03/11 15:17	8/10/11 17:06	EPA 200.7
7440-66-6	Zinc	92		ug/L	10	8/03/11 15:17	8/10/11 17:06	EPA 200.7

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Total Metals (TMTL) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108015 - M 200.2 Metals Water										
Blank (1108015-BLK1)				Prepared: 08/03/11 Analyzed: 08/10/11						
EPA 200.7										
Silver	U	5.0	ug/L							U
Arsenic	U	50	"							U
Barium	U	5.0	"							U
Beryllium	U	3.0	"							U
Boron	U	50	"							U
Cadmium	U	5.0	"							U
Cobalt	U	5.0	"							U
Chromium	U	5.0	"							U
Copper	U	10	"							U
Molybdenum	U	5.0	"							U
Nickel	U	10	"							U
Lead	U	20	"							U
Antimony	U	40	"							U
Selenium	U	45	"							U
Tin	U	15	"							U
Strontium	U	5.0	"							U
Titanium	U	5.0	"							U
Thallium	U	30	"							U
Vanadium	U	5.0	"							U
Yttrium	U	3.0	"							U
Zinc	U	10	"							MRL-2, U
Aluminum	U	100	"							U
Manganese	U	5.0	"							U
Calcium	U	250	"							U
Magnesium	U	250	"							U
Iron	U	100	"							U
Sodium	U	1000	"							U
Potassium	U	1000	"							U

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Total Metals (TMTL) - Quality Control
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108015 - M 200.2 Metals Water										
LCS (1108015-BS1)				Prepared: 08/03/11 Analyzed: 08/10/11						
EPA 200.7										
Silver	100.22	5.0	ug/L	100.00		100	85-115			
Arsenic	195.03	50	"	200.00		97.5	85-115			
Barium	194.52	5.0	"	200.00		97.3	85-115			
Beryllium	49.917	3.0	"	50.000		99.8	85-115			
Boron	U	50	"				85-115			U
Cadmium	47.495	5.0	"	50.000		95.0	85-115			
Cobalt	93.868	5.0	"	100.00		93.9	85-115			
Chromium	196.87	5.0	"	200.00		98.4	85-115			
Copper	96.332	10	"	100.00		96.3	85-115			
Molybdenum	101.20	5.0	"	100.00		101	85-115			
Nickel	196.02	10	"	200.00		98.0	85-115			
Lead	190.02	20	"	200.00		95.0	85-115			
Antimony	199.17	40	"	200.00		99.6	85-115			
Selenium	202.72	45	"	200.00		101	85-115			
Tin	104.51	15	"	100.00		105	85-115			
Strontium	99.468	5.0	"	100.00		99.5	85-115			
Titanium	102.12	5.0	"	100.00		102	85-115			
Thallium	180.07	30	"	200.00		90.0	85-115			
Vanadium	98.627	5.0	"	100.00		98.6	85-115			
Yttrium	97.591	3.0	"	100.00		97.6	85-115			
Zinc	196.45	10	"	200.00		98.2	85-115			
Aluminum	5182.9	100	"	5000.0		104	85-115			
Manganese	508.66	5.0	"	500.00		102	85-115			
Calcium	5206.5	250	"	5000.0		104	85-115			
Magnesium	5357.9	250	"	5000.0		107	85-115			
Iron	5223.2	100	"	5000.0		104	85-115			
Sodium	10322	1000	"	10000		103	85-115			
Potassium	9728.4	1000	"	10000		97.3	85-115			

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Total Metals (TMTL) - Quality Control
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108015 - M 200.2 Metals Water										
Matrix Spike (1108015-MS1)		**Source: E113108-15**		Prepared: 08/03/11	Analyzed: 08/10/11					
EPA 200.7										
Silver	104.66	5.0	ug/L	100.00	U	105	70-130			
Arsenic	210.63	50	"	200.00	U	105	70-130			
Barium	276.38	5.0	"	200.00	73.113	102	70-130			
Beryllium	52.399	3.0	"	50.000	U	105	70-130			
Boron	134.19	50	"		131.14		70-130			
Cadmium	50.275	5.0	"	50.000	U	101	70-130			
Cobalt	99.390	5.0	"	100.00	1.0338	98.4	70-130			
Chromium	204.15	5.0	"	200.00	U	102	70-130			
Copper	144.91	10	"	100.00	38.571	106	70-130			
Molybdenum	125.00	5.0	"	100.00	18.275	107	70-130			
Nickel	206.55	10	"	200.00	3.8845	101	70-130			
Lead	200.87	20	"	200.00	U	100	70-130			
Antimony	210.08	40	"	200.00	U	105	70-130			
Selenium	217.96	45	"	200.00	U	109	70-130			
Tin	97.092	15	"	100.00	U	97.1	70-130			
Strontium	382.63	5.0	"	100.00	266.90	116	70-130			
Titanium	108.33	5.0	"	100.00	4.8200	104	70-130			
Thallium	181.84	30	"	200.00	U	90.9	70-130			
Vanadium	105.73	5.0	"	100.00	U	106	70-130			
Yttrium	104.42	3.0	"	100.00	1.2053	103	70-130			
Zinc	307.51	10	"	200.00	92.342	108	70-130			
Aluminum	6076.0	100	"	5000.0	629.85	109	70-130			
Manganese	645.96	5.0	"	500.00	116.23	106	70-130			
Calcium	22657	250	"	5000.0	17257	108	70-130			
Magnesium	11372	250	"	5000.0	5667.7	114	70-130			
Iron	7035.9	100	"	5000.0	1598.6	109	70-130			
Sodium	119600	1000	"	10000	105280	143	70-130			XM-1
Potassium	28028	1000	"	10000	18545	94.8	70-130			

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Total Metals (TMTL) - Quality Control
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108015 - M 200.2 Metals Water										
Matrix Spike (1108015-MS2)		**Source: E113109-06**		Prepared: 08/03/11	Analyzed: 08/10/11					
EPA 200.7										
Silver	96.888	5.0	ug/L	100.00	U	96.9	70-130			
Arsenic	192.48	50	"	200.00	U	96.2	70-130			
Barium	227.40	5.0	"	200.00	31.215	98.1	70-130			
Beryllium	50.009	3.0	"	50.000	U	100	70-130			
Boron	149.22	50	"		154.17		70-130			
Cadmium	44.906	5.0	"	50.000	U	89.8	70-130			
Cobalt	92.336	5.0	"	100.00	U	92.3	70-130			
Chromium	188.90	5.0	"	200.00	U	94.5	70-130			
Copper	105.17	10	"	100.00	8.1542	97.0	70-130			
Molybdenum	101.86	5.0	"	100.00	3.9059	98.0	70-130			
Nickel	189.85	10	"	200.00	2.5140	93.7	70-130			
Lead	187.37	20	"	200.00	U	93.7	70-130			
Antimony	193.25	40	"	200.00	U	96.6	70-130			
Selenium	209.29	45	"	200.00	U	105	70-130			
Tin	98.209	15	"	100.00	U	98.2	70-130			
Strontium	238.41	5.0	"	100.00	147.42	91.0	70-130			
Titanium	102.01	5.0	"	100.00	U	102	70-130			
Thallium	174.56	30	"	200.00	U	87.3	70-130			
Vanadium	97.668	5.0	"	100.00	U	97.7	70-130			
Yttrium	96.604	3.0	"	100.00	0.25508	96.3	70-130			
Zinc	221.42	10	"	200.00	20.541	100	70-130			
Aluminum	5166.1	100	"	5000.0	141.92	100	70-130			
Manganese	561.53	5.0	"	500.00	77.508	96.8	70-130			
Calcium	16044	250	"	5000.0	11482	91.2	70-130			
Magnesium	8493.6	250	"	5000.0	3387.7	102	70-130			
Iron	5653.5	100	"	5000.0	513.73	103	70-130			
Sodium	64383	1000	"	10000	56124	82.6	70-130			
Potassium	19651	1000	"	10000	10561	90.9	70-130			

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Total Metals (TMTL) - Quality Control
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108015 - M 200.2 Metals Water										
Matrix Spike Dup (1108015-MSD1)		**Source: E113108-15**		Prepared: 08/03/11	Analyzed: 08/10/11					
EPA 200.7										
Silver	98.978	5.0	ug/L	100.00	U	99.0	70-130	5.58	20	
Arsenic	202.30	50	"	200.00	U	101	70-130	4.03	20	
Barium	265.93	5.0	"	200.00	73.113	96.4	70-130	3.86	20	
Beryllium	50.840	3.0	"	50.000	U	102	70-130	3.02	20	
Boron	127.76	50	"		131.14		70-130	4.91	20	
Cadmium	47.942	5.0	"	50.000	U	95.9	70-130	4.75	20	
Cobalt	94.303	5.0	"	100.00	1.0338	93.3	70-130	5.25	20	
Chromium	193.31	5.0	"	200.00	U	96.7	70-130	5.46	20	
Copper	139.60	10	"	100.00	38.571	101	70-130	3.73	20	
Molybdenum	117.65	5.0	"	100.00	18.275	99.4	70-130	6.06	20	
Nickel	195.43	10	"	200.00	3.8845	95.8	70-130	5.53	20	
Lead	190.83	20	"	200.00	U	95.4	70-130	5.13	20	
Antimony	197.92	40	"	200.00	U	99.0	70-130	5.96	20	
Selenium	213.27	45	"	200.00	U	107	70-130	2.17	20	
Tin	94.633	15	"	100.00	U	94.6	70-130	2.57	20	
Strontium	355.59	5.0	"	100.00	266.90	88.7	70-130	7.33	20	
Titanium	105.68	5.0	"	100.00	4.8200	101	70-130	2.47	20	
Thallium	176.60	30	"	200.00	U	88.3	70-130	2.92	20	
Vanadium	100.46	5.0	"	100.00	U	100	70-130	5.11	20	
Yttrium	98.686	3.0	"	100.00	1.2053	97.5	70-130	5.65	20	
Zinc	292.80	10	"	200.00	92.342	100	70-130	4.90	20	
Aluminum	5809.7	100	"	5000.0	629.85	104	70-130	4.48	20	
Manganese	615.33	5.0	"	500.00	116.23	99.8	70-130	4.86	20	
Calcium	21525	250	"	5000.0	17257	85.3	70-130	5.13	20	
Magnesium	10816	250	"	5000.0	5667.7	103	70-130	5.01	20	
Iron	6824.8	100	"	5000.0	1598.6	105	70-130	3.05	20	
Sodium	112430	1000	"	10000	105280	71.4	70-130	6.18	20	XM-1
Potassium	27088	1000	"	10000	18545	85.4	70-130	3.41	20	

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Total Metals (TMTL) - Quality Control
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108015 - M 200.2 Metals Water										
Matrix Spike Dup (1108015-MSD2)		**Source: E113109-06**		Prepared: 08/03/11	Analyzed: 08/10/11					
EPA 200.7										
Silver	100.59	5.0	ug/L	100.00	U	101	70-130	3.75	20	
Arsenic	199.72	50	"	200.00	U	99.9	70-130	3.69	20	
Barium	230.35	5.0	"	200.00	31.215	99.6	70-130	1.29	20	
Beryllium	50.552	3.0	"	50.000	U	101	70-130	1.08	20	
Boron	153.48	50	"		154.17		70-130	2.81	20	
Cadmium	47.531	5.0	"	50.000	U	95.1	70-130	5.68	20	
Cobalt	96.225	5.0	"	100.00	U	96.2	70-130	4.12	20	
Chromium	200.29	5.0	"	200.00	U	100	70-130	5.85	20	
Copper	108.06	10	"	100.00	8.1542	99.9	70-130	2.71	20	
Molybdenum	106.56	5.0	"	100.00	3.9059	103	70-130	4.51	20	
Nickel	198.00	10	"	200.00	2.5140	97.7	70-130	4.20	20	
Lead	195.57	20	"	200.00	U	97.8	70-130	4.28	20	
Antimony	204.88	40	"	200.00	U	102	70-130	5.84	20	
Selenium	206.46	45	"	200.00	U	103	70-130	1.36	20	
Tin	105.79	15	"	100.00	U	106	70-130	7.43	20	
Strontium	242.98	5.0	"	100.00	147.42	95.6	70-130	1.90	20	
Titanium	104.89	5.0	"	100.00	U	105	70-130	2.78	20	
Thallium	189.12	30	"	200.00	U	94.6	70-130	8.01	20	
Vanadium	101.85	5.0	"	100.00	U	102	70-130	4.19	20	
Yttrium	98.093	3.0	"	100.00	0.25508	97.8	70-130	1.53	20	
Zinc	229.60	10	"	200.00	20.541	105	70-130	3.63	20	
Aluminum	5321.9	100	"	5000.0	141.92	104	70-130	2.97	20	
Manganese	582.42	5.0	"	500.00	77.508	101	70-130	3.65	20	
Calcium	16493	250	"	5000.0	11482	100	70-130	2.76	20	
Magnesium	8738.8	250	"	5000.0	3387.7	107	70-130	2.85	20	
Iron	5801.2	100	"	5000.0	513.73	106	70-130	2.58	20	
Sodium	66169	1000	"	10000	56124	100	70-130	2.74	20	
Potassium	20384	1000	"	10000	10561	98.2	70-130	3.66	20	

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108015 - M 200.2 Metals Water										
MRL Verification (1108015-PS1)				Prepared: 08/03/11 Analyzed: 08/10/11						
EPA 200.7										
Silver	5.5080	5.0	ug/L	5.0000		110	70-130			MRL-2
Arsenic	45.791	50	"	50.000		91.6	70-130			MRL-2, U
Barium	6.0554	5.0	"	5.0000		121	70-130			MRL-2
Beryllium	3.0741	3.0	"	3.0000		102	70-130			MRL-2
Boron	51.086	50	"	50.000		102	70-130			MRL-2
Cadmium	4.9672	5.0	"	5.0000		99.3	70-130			MRL-2, U
Cobalt	5.1286	5.0	"	5.0000		103	70-130			MRL-2
Chromium	5.0481	5.0	"	5.0000		101	70-130			MRL-2
Copper	10.100	10	"	10.000		101	70-130			MRL-2
Molybdenum	11.234	5.0	"	10.000		112	70-130			MRL-2
Nickel	11.578	10	"	10.000		116	70-130			MRL-2
Lead	19.158	20	"	20.000		95.8	70-130			MRL-2, U
Antimony	40.471	40	"	40.000		101	70-130			MRL-2
Selenium	50.462	45	"	45.000		112	70-130			MRL-2
Tin	15.374	15	"	15.000		102	70-130			MRL-2
Strontium	5.5439	5.0	"	5.0000		111	70-130			MRL-2
Titanium	5.0386	5.0	"	5.0000		101	70-130			MRL-2
Thallium	28.767	30	"	30.000		95.9	70-130			MRL-2, U
Vanadium	4.2505	5.0	"	5.0000		85.0	70-130			MRL-2, U
Yttrium	3.1892	3.0	"	3.0000		106	70-130			MRL-2
Zinc	10.510	10	"	10.000		105	70-130			MRL-2
Aluminum	119.29	100	"	100.00		119	70-130			MRL-2
Manganese	5.1329	5.0	"	5.0000		103	70-130			MRL-2
Calcium	329.18	250	"	250.00		132	70-130			MRL-2, QR-2
Magnesium	273.50	250	"	250.00		109	70-130			MRL-2
Iron	110.13	100	"	100.00		110	70-130			MRL-2
Sodium	1332.2	1000	"	1000.0		133	70-130			MRL-2, QR-2
Potassium	1021.0	1000	"	1000.0		102	70-130			MRL-2

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108016 - M 200.2 Metals Water										
Blank (1108016-BLK1)				Prepared: 08/03/11	Analyzed: 08/11/11					
EPA 200.8										
Arsenic	U	1.0	ug/L							U
Selenium	U	2.0	"							U
Cadmium	U	0.50	"							U
Antimony	U	1.0	"							U
Thallium	U	1.0	"							U
Lead	U	1.0	"							U
LCS (1108016-BS1)				Prepared: 08/03/11	Analyzed: 08/11/11					
EPA 200.8										
Arsenic	197.32	5.0	ug/L	200.00		98.7	85-115			
Selenium	200.32	10	"	200.00		100	85-115			
Cadmium	48.619	2.5	"	50.000		97.2	85-115			
Antimony	190.89	5.0	"	200.00		95.4	85-115			
Thallium	212.50	5.0	"	200.00		106	85-115			
Lead	204.36	5.0	"	200.00		102	85-115			
Matrix Spike (1108016-MS1)		**Source: E113108-15**		Prepared: 08/03/11	Analyzed: 08/11/11					
EPA 200.8										
Arsenic	202.74	5.0	ug/L	200.00	1.0871	101	70-130			
Selenium	206.16	10	"	200.00	0.56160	103	70-130			
Cadmium	49.938	2.5	"	50.000	0.087054	99.7	70-130			
Antimony	195.36	5.0	"	200.00	0.27743	97.5	70-130			
Thallium	206.74	5.0	"	200.00	U	103	70-130			
Lead	200.21	5.0	"	200.00	1.0380	99.6	70-130			
Matrix Spike (1108016-MS2)		**Source: E113109-06**		Prepared: 08/03/11	Analyzed: 08/11/11					
EPA 200.8										
Arsenic	200.18	5.0	ug/L	200.00	0.83490	99.7	70-130			
Selenium	204.50	10	"	200.00	U	102	70-130			
Cadmium	48.909	2.5	"	50.000	U	97.8	70-130			
Antimony	193.25	5.0	"	200.00	0.29339	96.5	70-130			
Thallium	208.14	5.0	"	200.00	U	104	70-130			
Lead	202.76	5.0	"	200.00	1.7675	100	70-130			

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Total Metals (TMTL) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108016 - M 200.2 Metals Water										
Matrix Spike Dup (1108016-MSD1)		**Source: E113108-15**		Prepared: 08/03/11	Analyzed: 08/11/11					
EPA 200.8										
Arsenic	203.10	5.0	ug/L	200.00	1.0871	101	70-130	0.178	20	
Selenium	205.25	10	"	200.00	0.56160	102	70-130	0.444	20	
Cadmium	49.223	2.5	"	50.000	0.087054	98.3	70-130	1.44	20	
Antimony	193.45	5.0	"	200.00	0.27743	96.6	70-130	0.984	20	
Thallium	207.19	5.0	"	200.00	U	104	70-130	0.218	20	
Lead	199.99	5.0	"	200.00	1.0380	99.5	70-130	0.109	20	
Matrix Spike Dup (1108016-MSD2)		**Source: E113109-06**		Prepared: 08/03/11	Analyzed: 08/11/11					
EPA 200.8										
Arsenic	197.63	5.0	ug/L	200.00	0.83490	98.4	70-130	1.28	20	
Selenium	200.40	10	"	200.00	U	100	70-130	2.02	20	
Cadmium	48.329	2.5	"	50.000	U	96.7	70-130	1.19	20	
Antimony	191.09	5.0	"	200.00	0.29339	95.4	70-130	1.12	20	
Thallium	206.79	5.0	"	200.00	U	103	70-130	0.652	20	
Lead	200.19	5.0	"	200.00	1.7675	99.2	70-130	1.28	20	
MRL Verification (1108016-PS1)				Prepared: 08/03/11	Analyzed: 08/11/11					
EPA 200.8										
Arsenic	0.98602	1.0	ug/L	1.0000		98.6	65-135			MRL-2, U
Selenium	2.0654	2.0	"	2.0000		103	65-135			MRL-2
Cadmium	0.47697	0.50	"	0.50000		95.4	65-135			MRL-2, U
Antimony	0.51639	1.0	"	0.50000		103	65-135			MRL-2, U
Thallium	0.54100	1.0	"	0.50000		108	65-135			MRL-2, U
Lead	0.70817	1.0	"	1.0000		70.8	65-135			MRL-2, U
Batch 1108099 - M 245.1 Hg Wtr										
Blank (1108099-BLK1)				Prepared & Analyzed: 08/23/11						
EPA 245.1										
Mercury	U	0.10	ug/L							U

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Total Metals (TMTL) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108099 - M 245.1 Hg Wtr										
LCS (1108099-BS1)				Prepared & Analyzed: 08/23/11						
EPA 245.1										
Mercury	2.0730	0.10	ug/L	2.0000		104	85-115			
LCS Dup (1108099-BSD1)				Prepared & Analyzed: 08/23/11						
EPA 245.1										
Mercury	2.0960	0.10	ug/L	2.0000		105	85-115	1.10	20	
Matrix Spike (1108099-MS1)		**Source: E113108-13**		Prepared & Analyzed: 08/23/11						
EPA 245.1										
Mercury	2.0720	0.10	ug/L	2.0000	0.088000	99.2	70-130			
Matrix Spike (1108099-MS2)		**Source: E113109-06**		Prepared & Analyzed: 08/23/11						
EPA 245.1										
Mercury	1.7940	0.10	ug/L	2.0000	U	89.7	70-130			
Matrix Spike Dup (1108099-MSD1)		**Source: E113108-13**		Prepared & Analyzed: 08/23/11						
EPA 245.1										
Mercury	1.9460	0.10	ug/L	2.0000	0.088000	92.9	70-130	6.56	20	
Matrix Spike Dup (1108099-MSD2)		**Source: E113109-06**		Prepared & Analyzed: 08/23/11						
EPA 245.1										
Mercury	1.8650	0.10	ug/L	2.0000	U	93.2	70-130	3.88	20	
MRL Verification (1108099-PS1)				Prepared & Analyzed: 08/23/11						
EPA 245.1										
Mercury	0.081000	0.10	ug/L				65-135			MRL-2, U

Notes and Definitions for QC Samples

U	The analyte was not detected at or above the reporting limit.
B-3	Level in blank does not impact data quality
MRL-2	MRL verification for Non-Potable Water matrix
QC-5	Calibration check standard less than method control limits.
QC-6	Calibration check standard greater than method control limits.
QR-2	MRL verification recovery greater than upper control limits.
XM-1	Sample background/spike ratio higher than method evaluation criteria

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September 8, 2011

4SESD-ASB

MEMORANDUM

SUBJECT: FINAL Analytical Report
Project: 11-0591, Hattiesburg South Lagoon CSI
Compliance Monitoring

FROM: Jenny Scifres
ASB Inorganic Chemistry Section Chief

FILE COPY

THRU: Gary Bennett, Chief
Analytical Support Branch

TO: Richard Elliott

Attached are the final results for the analytical groups listed below. These analyses were performed in accordance with the Analytical Support Branch's (ASB) Laboratory Operations and Quality Assurance Manual (ASB LOQAM) found at www.epa.gov/region4/sesd/asbsop. Any unique project data quality objectives specified in writing by the data requestor have also been incorporated into the data unless otherwise noted in the Report Narrative. Chemistry data have been verified based on the ASB LOQAM specifications and may have been qualified if the applicable quality control criteria were not met. For a listing of specific data qualifiers and explanations, please refer to the Data Qualifier Definitions included in this report. The reported results are accurate within the limits of the method(s) and are representative only of the samples as received by the laboratory.

Analyses Included in this report:	Method Used:
Classical/Nutrient Analyses (CNA)	
Ammonia/TKN	EPA 350.1
Ammonia/TKN	EPA 351.2
Demand	SM 5210B
Nitrate and/or Nitrite	EPA 353.2
Phosphorous	EPA 365.1
Solids	SM 2540D

Sample Disposal Policy

Because of the laboratory's limited space for long term sample storage, our policy is to dispose of samples on a periodic schedule. Please note that within 60 days of this memo, the original samples and all sample extracts and/or sample digestates will be disposed of in accordance with applicable regulations. The 60-day sample disposal policy does not apply to criminal samples which are held until the laboratory is notified by the criminal investigators that case development and litigation are complete.

These samples may be held in the laboratory's custody for a longer period of time if you have a special project need. If you wish for the laboratory to hold samples beyond the 60-day period, please contact our Sample Control Coordinator, Debbie Colquitt, by e-mail at Colquitt.Debbie@epa.gov, and provide a reason for holding samples beyond 60 days

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SAMPLES INCLUDED IN THIS REPORT

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
HTSO-0001	E113108-01	Preservative Blank	7/27/11 16:36	7/29/11 9:01
HTSO-0022	E113108-05	Surface Water	7/27/11 09:45	7/29/11 9:01
HTSO-0024	E113108-06	Surface Water	7/27/11 09:45	7/29/11 9:01
HTSO-0018	E113108-07	Municipal Eff. Wastewater	7/27/11 14:02	7/29/11 9:01
HTSO-0020	E113108-09	Municipal Eff. Wastewater	7/27/11 14:02	7/29/11 9:01
HTSO-0043	E113108-10	Wastewater	7/27/11 14:17	7/29/11 9:01
HTSO-0044	E113108-11	Wastewater	7/27/11 13:31	7/29/11 9:01
HTSO-0045	E113108-12	Wastewater	7/27/11 13:13	7/29/11 9:01
HTSO-0049	E113108-16	Wastewater	7/27/11 14:17	7/29/11 9:01
HTSO-0050	E113108-17	Wastewater	7/27/11 13:31	7/29/11 9:01
HTSO-0051	E113108-18	Wastewater	7/27/11 13:13	7/29/11 9:01
HTSO-0033	E113108-19	Municipal Proc. Wastewater	7/27/11 11:33	7/29/11 9:01
HTSO-0052	E113108-20	Municipal Proc. Wastewater	7/27/11 11:11	7/29/11 9:01
HTSO-0053	E113108-21	Municipal Proc. Wastewater	7/27/11 11:43	7/29/11 9:01
HTSO-0012	E113108-22	Wastewater	7/27/11 16:05	7/29/11 9:01
HTSO-0023	E113108-23	Surface Water	7/27/11 09:30	7/29/11 9:01
HTSO-0025	E113108-24	Surface Water	7/27/11 09:30	7/29/11 9:01

DATA QUALIFIER DEFINITIONS

U	The analyte was not detected at or above the reporting limit.
A	The analyte was analyzed in replicate. Reported value is an average value of the replicates.
CR	Presence of a large amount of black precipitate present in sample both before and after digestion and could have resulted in matrix interference
CRa	Presence of a large amount of black precipitate present in sample both before and after digestion and could have resulted in matrix interference.
D-2	Due to Matrix Interference, the sample cannot be accurately quantified. The reported result is qualitative.
J	The identification of the analyte is acceptable; the reported value is an estimate.
K	The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
L	The identification of the analyte is acceptable; the reported value may be biased low. The actual value is expected to be greater than the reported value.
OM-1	Matrix Spike Recovery less than method control limits
OR-1	MRL verification recovery less than lower control limits.

ACRONYMS AND ABBREVIATIONS

CAS	Chemical Abstracts Service Note: Analytes with no known CAS identifiers have been assigned codes beginning with "E", the EPA ID as assigned by the EPA Substance Registry System (www.epa.gov/srs), or beginning with "R4-", a unique identifier assigned by the EPA Region 4 laboratory.
MDL	Method Detection Limit - The minimum concentration of a substance (an analyte) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero.
MRL	Minimum Reporting Limit - Analyte concentration that corresponds to the lowest demonstrated level of acceptable quantitation. The MRL is sample-specific and accounts for preparation weights and volumes, dilutions, and moisture content of soil/sediments.
TIC	Tentatively Identified Compound - An analyte identified based on a match with the instrument software's mass spectral library. A calibration standard has not been analyzed to confirm the compound's identification or the estimated concentration reported.

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0001 **Lab ID:** E113108-01

Station ID: **Matrix:** Preservative Blank

Date Collected: 7/27/11 16:36

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7664-41-7	Ammonia as N	0.050	U	mg/L	0.050	8/09/11 9:28	8/11/11 14:43	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	0.050	U, J, QR-1	mg/L	0.050	8/10/11 12:16	8/10/11 12:16	EPA 351.2
E701177	Nitrate/Nitrite as N	0.050	U	mg/L	0.050	8/24/11 18:16	8/24/11 18:16	EPA 353.2
7723-14-0	Total Phosphorus	0.010	U, J, QR-1	mg/L	0.010	8/12/11 8:45	8/15/11 14:14	EPA 365.1

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0022
Station ID: DNSTRM

Lab ID: E113108-05
Matrix: Surface Water

Date Collected: 7/27/11 9:45

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD, 5 Day	2.7		mg/L	2.0	7/29/11 9:04	7/29/11 9:04	SM 5210B
E1642818	Total Suspended Solids	27		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0024 **Lab ID:** E113108-06
Station ID: DNSTRM **Matrix:** Surface Water

Date Collected: 7/27/11 9:45

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7664-41-7	Ammonia as N	0.32		mg/L	0.050	8/09/11 9:28	8/11/11 14:43	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	1.1		mg/L	0.050	8/10/11 12:16	8/10/11 12:16	EPA 351.2
E701177	Nitrate/Nitrite as N	0.47		mg/L	0.050	8/24/11 18:16	8/24/11 18:16	EPA 353.2
7723-14-0	Total Phosphorus	0.28		mg/L	0.010	8/12/11 8:45	8/15/11 14:14	EPA 365.1

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0018 **Lab ID:** E113108-07
Station ID: EFF001 **Matrix:** Municipal Eff. Wastewater

Date Collected: 7/27/11 14:02

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD, 5 Day	28	A	mg/L	2.0	7/29/11 12:35	7/29/11 12:35	SM 5210B
E1642818	Total Suspended Solids	47		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0020 **Lab ID:** E113108-09

Station ID: EFF001 **Matrix:** Municipal Eff. Wastewater

Date Collected: 7/27/11 14:02

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7664-41-7	Ammonia as N	19		mg/L	0.50	8/09/11 9:28	8/11/11 14:43	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	39		mg/L	1.0	8/10/11 12:16	8/10/11 12:16	EPA 351.2
E701177	Nitrate/Nitrite as N	0.060		mg/L	0.050	8/24/11 18:16	8/24/11 18:16	EPA 353.2
7723-14-0	Total Phosphorus	11		mg/L	1.0	8/12/11 8:45	8/15/11 14:14	EPA 365.1

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0043
Station ID: INFL

Lab ID: E113108-10
Matrix: Wastewater

Date Collected: 7/27/11 14:17

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD, 5 Day	81	A	mg/L	2.0	7/29/11 12:47	7/29/11 12:47	SM 5210B
E1642818	Total Suspended Solids	87		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0044 **Lab ID:** E113108-11
Station ID: INFL **Matrix:** Wastewater

Date Collected: 7/27/11 13:31

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD, 5 Day	620	L	mg/L	2.0	7/29/11 11:58	7/29/11 11:58	SM 5210B
E1642818	Total Suspended Solids	640		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0045 **Lab ID:** E113108-12
Station ID: INFL **Matrix:** Wastewater

Date Collected: 7/27/11 13:13

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD, 5 Day	340		mg/L	2.0	7/29/11 11:38	7/29/11 11:38	SM 5210B
E1642818	Total Suspended Solids	290		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0049 **Lab ID:** E113108-16
Station ID: INFL **Matrix:** Wastewater

Date Collected: 7/27/11 14:17

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7664-41-7	Ammonia as N	9.7		mg/L	0.50	8/09/11 9:28	8/11/11 14:43	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	19		mg/L	1.0	8/10/11 12:16	8/10/11 12:16	EPA 351.2
E701177	Nitrate/Nitrite as N	0.050 U		mg/L	0.050	8/24/11 18:16	8/24/11 18:16	EPA 353.2
7723-14-0	Total Phosphorus	1.9 J, QR-1		mg/L	1.0	8/12/11 8:45	8/15/11 14:14	EPA 365.1

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0050 **Lab ID:** E113108-17
Station ID: INFL **Matrix:** Wastewater

Date Collected: 7/27/11 13:31

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7664-41-7	Ammonia as N	8.8		mg/L	0.50	8/09/11 9:28	8/11/11 14:43	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	170	CRa, D-2	mg/L	5.0	8/10/11 12:16	8/10/11 12:16	EPA 351.2
E701177	Nitrate/Nitrite as N	0.75		mg/L	0.050	8/24/11 18:16	8/24/11 18:16	EPA 353.2
7723-14-0	Total Phosphorus	11	J, D-2	mg/L	1.0	8/12/11 8:45	8/15/11 14:14	EPA 365.1

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0051 **Lab ID:** E113108-18
Station ID: INFL **Matrix:** Wastewater

Date Collected: 7/27/11 13:13

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7664-41-7	Ammonia as N	29		mg/L	0.50	8/09/11 9:28	8/11/11 14:43	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	39		mg/L	1.0	8/10/11 12:16	8/10/11 12:16	EPA 351.2
E701177	Nitrate/Nitrite as N	0.050	U	mg/L	0.050	8/24/11 18:16	8/24/11 18:16	EPA 353.2
7723-14-0	Total Phosphorus	8.6		mg/L	1.0	8/12/11 8:45	8/15/11 14:14	EPA 365.1

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0033 **Lab ID:** E113108-19
Station ID: INTERNAL PROCESS SAMPLE **Matrix:** Municipal Proc. Wastewater

Date Collected: 7/27/11 11:33

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD, 5 Day	100	A	mg/L	2.0	7/29/11 9:55	7/29/11 9:55	SM 5210B
E1642818	Total Suspended Solids	390		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Project: 11-0591, Hattiesburg South Lagoon CSI - Reported by Jenny Scifres

Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0052 **Lab ID:** E113108-20
Station ID: INTERNAL PROCESS SAMPLE **Matrix:** Municipal Proc. Wastewater

Date Collected: 7/27/11 11:11

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD, 5 Day	93	A	mg/L	2.0	7/29/11 9:42	7/29/11 9:42	SM 5210B
E1642818	Total Suspended Solids	190		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0053 **Lab ID:** E113108-21
Station ID: INTERNAL PROCESS SAMPLE **Matrix:** Municipal Proc. Wastewater

Date Collected: 7/27/11 11:43

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD, 5 Day	62	A	mg/L	2.0	7/29/11 10:06	7/29/11 10:06	SM 5210B
E1642818	Total Suspended Solids	100		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0012 **Lab ID:** E113108-22
Station ID: PRETRT **Matrix:** Wastewater

Date Collected: 7/27/11 16:05

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7664-41-7	Ammonia as N	26		mg/L	1.0	8/09/11 9:28	8/11/11 14:43	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	250	CR, D-2	mg/L	5.0	8/10/11 12:16	8/10/11 12:16	EPA 351.2
E1640606	BOD, 5 Day	300	L	mg/L	2.0	7/29/11 13:20	7/29/11 13:20	SM 5210B
E701177	Nitrate/Nitrite as N	1.6		mg/L	0.050	8/24/11 18:16	8/24/11 18:16	EPA 353.2
7723-14-0	Total Phosphorus	17	J, D-2	mg/L	1.0	8/12/11 8:45	8/15/11 14:14	EPA 365.1
E1642818	Total Suspended Solids	640		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0023
Station ID: UPSTRM

Lab ID: E113108-23
Matrix: Surface Water

Date Collected: 7/27/11 9:30

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD, 5 Day	4.0	K	mg/L	2.0	7/29/11 8:59	7/29/11 8:59	SM 5210B
E1642818	Total Suspended Solids	26		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0025 **Lab ID:** E113108-24
Station ID: UPSTRM **Matrix:** Surface Water

Date Collected: 7/27/11 9:30

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7664-41-7	Ammonia as N	0.11		mg/L	0.050	8/09/11 9:28	8/11/11 14:43	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	0.69	J, QM-1	mg/L	0.050	8/10/11 12:16	8/10/11 12:16	EPA 351.2
E701177	Nitrate/Nitrite as N	0.44		mg/L	0.050	8/24/11 18:16	8/24/11 18:16	EPA 353.2
7723-14-0	Total Phosphorus	0.16		mg/L	0.010	8/12/11 8:45	8/15/11 14:14	EPA 365.1

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Classical/Nutrient Analyses (CNA) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108014 - C 2540 Solids										
Blank (1108014-BLK1)				Prepared & Analyzed: 08/03/11						
SM 2540D										
Total Suspended Solids	U	4.0	mg/L							U
LCS (1108014-BS1)				Prepared & Analyzed: 08/03/11						
SM 2540D										
Total Suspended Solids	98.800	4.0	mg/L	96.600		102	83-109			
LCS Dup (1108014-BSD1)				Prepared & Analyzed: 08/03/11						
SM 2540D										
Total Suspended Solids	97.600	4.0	mg/L	96.600		101	83-109	1.22	10	
Duplicate (1108014-DUP1)		**Source: E113108-23**		Prepared & Analyzed: 08/03/11						
SM 2540D										
Total Suspended Solids	26.800	4.0	mg/L		26.100			2.65	10	
Duplicate (1108014-DUP2)		**Source: E113109-13**		Prepared & Analyzed: 08/03/11						
SM 2540D										
Total Suspended Solids	61.200	4.0	mg/L		60.600			0.985	10	
MRL Verification (1108014-PS1)				Prepared & Analyzed: 08/03/11						
SM 2540D										
Total Suspended Solids	3.3000	4.0	mg/L	4.8300		68.3	63-129			MRL-2, U
Batch 1108028 - C SM5210 BOD										
Blank (1108028-BLK1)				Prepared & Analyzed: 07/29/11						
SM 5210B										
BOD, 5 Day	U	2.0	mg/L							U
LCS (1108028-BS1)				Prepared & Analyzed: 07/29/11						
SM 5210B										
BOD, 5 Day	196.00	2.0	mg/L	195.00		101	79-133			
LCS Dup (1108028-BSD1)				Prepared & Analyzed: 07/29/11						
SM 5210B										
BOD, 5 Day	198.50	2.0	mg/L	195.00		102	79-133	1.27	10	

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Classical/Nutrient Analyses (CNA) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108028 - C SM5210 BOD										
Duplicate (1108028-DUP1)		**Source: E113108-12**		Prepared & Analyzed: 07/29/11						
SM 5210B										
BOD, 5 Day	317.00	2.0	mg/L		336.00			5.82	20	
Batch 1108043 - C 350.1 Ammonia										
Blank (1108043-BLK1)				Prepared: 08/09/11 Analyzed: 08/11/11						
EPA 350.1										
Ammonia as N	U	0.050	mg/L							U
LCS (1108043-BS1)				Prepared: 08/09/11 Analyzed: 08/11/11						
EPA 350.1										
Ammonia as N	0.91620	0.050	mg/L	1.0000		91.6	90-110			
LCS Dup (1108043-BSD1)				Prepared: 08/09/11 Analyzed: 08/11/11						
EPA 350.1										
Ammonia as N	0.91220	0.050	mg/L	1.0000		91.2	90-110	0.438	10	
Matrix Spike (1108043-MS1)		**Source: E113108-24**		Prepared: 08/09/11 Analyzed: 08/11/11						
EPA 350.1										
Ammonia as N	1.0390	0.050	mg/L	1.0000	0.10960	92.9	90-110			
Matrix Spike (1108043-MS2)		**Source: E113109-12**		Prepared: 08/09/11 Analyzed: 08/11/11						
EPA 350.1										
Ammonia as N	1.0157	0.050	mg/L	1.0000	0.080700	93.5	90-110			
Matrix Spike Dup (1108043-MSD1)		**Source: E113108-24**		Prepared: 08/09/11 Analyzed: 08/11/11						
EPA 350.1										
Ammonia as N	1.0431	0.050	mg/L	1.0000	0.10960	93.4	90-110	0.440	10	
Matrix Spike Dup (1108043-MSD2)		**Source: E113109-12**		Prepared: 08/09/11 Analyzed: 08/11/11						
EPA 350.1										
Ammonia as N	1.0393	0.050	mg/L	1.0000	0.080700	95.9	90-110	2.49	10	
MRL Verification (1108043-PS1)				Prepared: 08/09/11 Analyzed: 08/11/11						
EPA 350.1										
Ammonia as N	0.035500	0.050	mg/L	0.050000		71.0	70-130			MRL-2, U

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Classical/Nutrient Analyses (CNA) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108043 - C 350.1 Ammonia										
MRL Verification (1108043-PS1)				Prepared: 08/09/11 Analyzed: 08/11/11						
Batch 1108052 - C 351.2 TKN										
Blank (1108052-BLK1)				Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	U	0.050	mg/L							U
LCS (1108052-BS1)				Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	2.3735	0.050	mg/L	2.3400		101	90-110			
LCS Dup (1108052-BSD1)				Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	2.3686	0.050	mg/L	2.3400		101	90-110	0.207	15	
Matrix Spike (1108052-MS1)		**Source: E113108-24RE1**		Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	1.5485	0.050	mg/L	1.0000	0.69440	85.4	90-110			QM-1
Matrix Spike (1108052-MS2)		**Source: E113109-12RE1**		Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	1.9853	0.050	mg/L	1.0000	0.75760	123	90-110			QM-2
Matrix Spike Dup (1108052-MSD1)		**Source: E113108-24RE1**		Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	1.6120	0.050	mg/L	1.0000	0.69440	91.8	90-110	7.17	20	
Matrix Spike Dup (1108052-MSD2)		**Source: E113109-12RE1**		Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	1.9482	0.050	mg/L	1.0000	0.75760	119	90-110	3.07	20	QM-2
MRL Verification (1108052-PS1)				Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	0.029300	0.050	mg/L	0.050000		58.6	70-130			MRL-2, QR-1, U

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Classical/Nutrient Analyses (CNA) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108061 - C 365.1 TPhos										
Blank (1108061-BLK1)				Prepared: 08/12/11	Analyzed: 08/15/11					
EPA 365.1										
Total Phosphorus	U	0.010	mg/L							U
Blank (1108061-BLK2)				Prepared: 08/12/11	Analyzed: 08/15/11					
EPA 365.1										
Total Phosphorus	U	0.010	mg/L							U
LCS (1108061-BS1)				Prepared: 08/12/11	Analyzed: 08/15/11					
EPA 365.1										
Total Phosphorus	0.41110	0.010	mg/L	0.40750		101	90-110			
LCS (1108061-BS2)				Prepared: 08/12/11	Analyzed: 08/15/11					
EPA 365.1										
Total Phosphorus	0.40860	0.010	mg/L	0.40750		100	90-110			
LCS Dup (1108061-BSD1)				Prepared: 08/12/11	Analyzed: 08/15/11					
EPA 365.1										
Total Phosphorus	0.39830	0.010	mg/L	0.40750		97.7	90-110	3.16	10	
LCS Dup (1108061-BSD2)				Prepared: 08/12/11	Analyzed: 08/15/11					
EPA 365.1										
Total Phosphorus	0.40740	0.010	mg/L	0.40750		100	90-110	0.294	10	
Matrix Spike (1108061-MS1)		**Source: E113103-38RE1**		Prepared: 08/12/11	Analyzed: 08/15/11					
EPA 365.1										
Total Phosphorus	0.56900	0.010	mg/L	0.50000	0.061700	101	90-110			
Matrix Spike (1108061-MS2)		**Source: E113202-07**		Prepared: 08/12/11	Analyzed: 08/15/11					
EPA 365.1										
Total Phosphorus	0.56330	0.010	mg/L	0.50000	0.055500	102	90-110			
Matrix Spike (1108061-MS3)		**Source: E113108-24**		Prepared: 08/12/11	Analyzed: 08/15/11					
EPA 365.1										
Total Phosphorus	0.65050	0.010	mg/L	0.50000	0.15510	99.1	90-110			
Matrix Spike (1108061-MS4)		**Source: E113109-12**		Prepared: 08/12/11	Analyzed: 08/15/11					

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Classical/Nutrient Analyses (CNA) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108061 - C 365.1 TPhos										
Matrix Spike (1108061-MS4)		**Source: E113109-12**		Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	0.68670	0.010	mg/L	0.50000	0.20450	96.4	90-110			
Matrix Spike Dup (1108061-MSD1)		**Source: E113103-38RE1**		Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	0.57590	0.010	mg/L	0.50000	0.061700	103	90-110	1.35	10	
Matrix Spike Dup (1108061-MSD2)		**Source: E113202-07**		Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	0.56650	0.010	mg/L	0.50000	0.055500	102	90-110	0.628	10	
Matrix Spike Dup (1108061-MSD3)		**Source: E113108-24**		Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	0.64850	0.010	mg/L	0.50000	0.15510	98.7	90-110	0.405	10	
Matrix Spike Dup (1108061-MSD4)		**Source: E113109-12**		Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	0.68550	0.010	mg/L	0.50000	0.20450	96.2	90-110	0.249	10	
MRL Verification (1108061-PS1)				Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	0.0056000	0.010	mg/L	0.010000		56.0	70-130			MRL-2, QR-1, U
Batch 1108133 - C 353.2 NO3-NO2										
Blank (1108133-BLK1)				Prepared & Analyzed: 08/24/11						
EPA 353.2										
Nitrate/Nitrite as N	U	0.050	mg/L							U
LCS (1108133-BS1)				Prepared & Analyzed: 08/24/11						
EPA 353.2										
Nitrate/Nitrite as N	0.47380	0.050	mg/L	0.50000		94.8	90-110			
LCS Dup (1108133-BSD1)				Prepared & Analyzed: 08/24/11						
EPA 353.2										
Nitrate/Nitrite as N	0.49020	0.050	mg/L	0.50000		98.0	90-110	3.40	10	

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Classical/Nutrient Analyses (CNA) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108133 - C 353.2 NO3-NO2										
Matrix Spike (1108133-MS1)		**Source: E113108-24**		Prepared & Analyzed: 08/24/11						
EPA 353.2										
Nitrate/Nitrite as N	0.93880	0.050	mg/L	0.50000	0.44340	99.1	90-110			
Matrix Spike Dup (1108133-MSD1)		**Source: E113108-24**		Prepared & Analyzed: 08/24/11						
EPA 353.2										
Nitrate/Nitrite as N	0.94930	0.050	mg/L	0.50000	0.44340	101	90-110	2.10	10	
MRL Verification (1108133-PS1)				Prepared & Analyzed: 08/24/11						
EPA 353.2										
Nitrate/Nitrite as N	0.048800	0.050	mg/L	0.050000		97.6	70-130			MRL-2, U

Notes and Definitions for QC Samples

U	The analyte was not detected at or above the reporting limit.
MRL-2	MRL verification for Non-Potable Water matrix
QM-1	Matrix Spike Recovery less than method control limits
QM-2	Matrix Spike Recovery greater than method control limits
QR-1	MRL verification recovery less than lower control limits.

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September 30, 2011

4SESD-ASB

MEMORANDUM

SUBJECT: FINAL Analytical Report
Project: 11-0591, Hattiesburg South Lagoon CSI
Compliance Monitoring

FROM: Jenny Scifres
ASB Inorganic Chemistry Section Chief

THRU: Gary Bennett, Chief
Analytical Support Branch

TO: Richard Elliott

This data report is being reissued. Some or all of these results were previously reported. Please substitute the corrected results for those results previously reported. Please refer to the Report Narrative for more details.

Attached are the final results for the analytical groups listed below. These analyses were performed in accordance with the Analytical Support Branch's (ASB) Laboratory Operations and Quality Assurance Manual (ASB LOQAM) found at www.epa.gov/region4/sesd/asbsop. Any unique project data quality objectives specified in writing by the data requestor have also been incorporated into the data unless otherwise noted in the Report Narrative. Chemistry data have been verified based on the ASB LOQAM specifications and may have been qualified if the applicable quality control criteria were not met. For a listing of specific data qualifiers and explanations, please refer to the Data Qualifier Definitions included in this report. The reported results are accurate within the limits of the method(s) and are representative only of the samples as received by the laboratory.

Analyses Included in this report:	Method Used:
Classical/Nutrient Analyses (CNA)	
Ammonia/TKN	EPA 350.1
Ammonia/TKN	EPA 351.2
Demand	SM 5210B
Nitrate and/or Nitrite	EPA 353.2
Phosphorous	EPA 365.1
Solids	SM 2540D

Report Narrative for Work Order E113108, Project: 11-0591
09/19/11 JS TKN: Report reissued due to custom remark correction. The original report had two custom remarks (one each for samples 17 and 22), but they were the same wording. The difference was a space at the beginning of the comment and a period at the end, which is now corrected. The wording of the remark was not changed nor were the results.

Sample Disposal Policy

Because of the laboratory's limited space for long term sample storage, our policy is to dispose of samples on a periodic schedule. Please note that within 60 days of this memo, the original samples and all sample extracts and/or sample digestates will be disposed of in accordance with applicable regulations. The 60-day sample disposal policy does not apply to criminal samples which are held until the laboratory is notified by the criminal investigators that case development and litigation are complete.

These samples may be held in the laboratory's custody for a longer period of time if you have a special project need. If you wish for the laboratory to hold samples beyond the 60-day period, please contact our Sample Control Coordinator, Debbie Colquitt, by e-mail at Colquitt.Debbie@epa.gov, and provide a reason for holding samples beyond 60 days

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SAMPLES INCLUDED IN THIS REPORT

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
HTSO-0001	E113108-01	Preservative Blank	7/27/11 16:36	7/29/11 9:01
HTSO-0022	E113108-05	Surface Water	7/27/11 09:45	7/29/11 9:01
HTSO-0024	E113108-06	Surface Water	7/27/11 09:45	7/29/11 9:01
HTSO-0018	E113108-07	Municipal Eff. Wastewater	7/27/11 14:02	7/29/11 9:01
HTSO-0020	E113108-09	Municipal Eff. Wastewater	7/27/11 14:02	7/29/11 9:01
HTSO-0043	E113108-10	Wastewater	7/27/11 14:17	7/29/11 9:01
HTSO-0044	E113108-11	Wastewater	7/27/11 13:31	7/29/11 9:01
HTSO-0045	E113108-12	Wastewater	7/27/11 13:13	7/29/11 9:01
HTSO-0049	E113108-16	Wastewater	7/27/11 14:17	7/29/11 9:01
HTSO-0050	E113108-17	Wastewater	7/27/11 13:31	7/29/11 9:01
HTSO-0051	E113108-18	Wastewater	7/27/11 13:13	7/29/11 9:01
HTSO-0033	E113108-19	Municipal Proc. Wastewater	7/27/11 11:33	7/29/11 9:01
HTSO-0052	E113108-20	Municipal Proc. Wastewater	7/27/11 11:11	7/29/11 9:01
HTSO-0053	E113108-21	Municipal Proc. Wastewater	7/27/11 11:43	7/29/11 9:01
HTSO-0012	E113108-22	Wastewater	7/27/11 16:05	7/29/11 9:01
HTSO-0023	E113108-23	Surface Water	7/27/11 09:30	7/29/11 9:01
HTSO-0025	E113108-24	Surface Water	7/27/11 09:30	7/29/11 9:01

DATA QUALIFIER DEFINITIONS

U	The analyte was not detected at or above the reporting limit.
A	The analyte was analyzed in replicate. Reported value is an average value of the replicates.
CR	Presence of a large amount of black precipitate present in sample both before and after digestion and could have resulted in matrix interference.
D-2	Due to Matrix Interference, the sample cannot be accurately quantified. The reported result is qualitative.
J	The identification of the analyte is acceptable; the reported value is an estimate.
K	The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
L	The identification of the analyte is acceptable; the reported value may be biased low. The actual value is expected to be greater than the reported value.
OM-1	Matrix Spike Recovery less than method control limits
OR-1	MRL verification recovery less than lower control limits.

ACRONYMS AND ABBREVIATIONS

CAS	Chemical Abstracts Service Note: Analytes with no known CAS identifiers have been assigned codes beginning with "E", the EPA ID as assigned by the EPA Substance Registry System (www.epa.gov/srs), or beginning with "R4-", a unique identifier assigned by the EPA Region 4 laboratory.
MDL	Method Detection Limit - The minimum concentration of a substance (an analyte) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero.
MRL	Minimum Reporting Limit - Analyte concentration that corresponds to the lowest demonstrated level of acceptable quantitation. The MRL is sample-specific and accounts for preparation weights and volumes, dilutions, and moisture content of soil/sediments.
TIC	Tentatively Identified Compound - An analyte identified based on a match with the instrument software's mass spectral library. A calibration standard has not been analyzed to confirm the compound's identification or the estimated concentration reported.

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0001 **Lab ID:** E113108-01
Station ID: **Matrix:** Preservative Blank

Date Collected: 7/27/11 16:36

CAS Number	Analyte	Results Qualifiers	Units	MRL	Prepared	Analyzed	Method
7664-41-7	Ammonia as N	0.050 U	mg/L	0.050	8/09/11 9:28	8/11/11 14:43	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	0.050 U, J, QR-1	mg/L	0.050	8/10/11 12:16	8/10/11 12:16	EPA 351.2
E701177	Nitrate/Nitrite as N	0.050 U	mg/L	0.050	8/24/11 18:16	8/24/11 18:16	EPA 353.2
7723-14-0	Total Phosphorus	0.010 U, J, QR-1	mg/L	0.010	8/12/11 8:45	8/15/11 14:14	EPA 365.1

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0022 **Lab ID:** E113108-05
Station ID: DNSTRM **Matrix:** Surface Water

Date Collected: 7/27/11 9:45

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD, 5 Day	2.7		mg/L	2.0	7/29/11 9:04	7/29/11 9:04	SM 5210B
E1642818	Total Suspended Solids	27		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0024 **Lab ID:** E113108-06
Station ID: DNSTRM **Matrix:** Surface Water

Date Collected: 7/27/11 9:45

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7664-41-7	Ammonia as N	0.32		mg/L	0.050	8/09/11 9:28	8/11/11 14:43	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	1.1		mg/L	0.050	8/10/11 12:16	8/10/11 12:16	EPA 351.2
E701177	Nitrate/Nitrite as N	0.47		mg/L	0.050	8/24/11 18:16	8/24/11 18:16	EPA 353.2
7723-14-0	Total Phosphorus	0.28		mg/L	0.010	8/12/11 8:45	8/15/11 14:14	EPA 365.1

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0018 **Lab ID:** E113108-07
Station ID: EFF001 **Matrix:** Municipal Eff. Wastewater

Date Collected: 7/27/11 14:02

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD, 5 Day	28	A	mg/L	2.0	7/29/11 12:35	7/29/11 12:35	SM 5210B
E1642818	Total Suspended Solids	47		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0020 **Lab ID:** E113108-09
Station ID: EFF001 **Matrix:** Municipal Eff. Wastewater

Date Collected: 7/27/11 14:02

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7664-41-7	Ammonia as N	19		mg/L	0.50	8/09/11 9:28	8/11/11 14:43	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	39		mg/L	1.0	8/10/11 12:16	8/10/11 12:16	EPA 351.2
E701177	Nitrate/Nitrite as N	0.060		mg/L	0.050	8/24/11 18:16	8/24/11 18:16	EPA 353.2
7723-14-0	Total Phosphorus	11		mg/L	1.0	8/12/11 8:45	8/15/11 14:14	EPA 365.1

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0043 **Lab ID:** E113108-10
Station ID: INFL **Matrix:** Wastewater

Date Collected: 7/27/11 14:17

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD, 5 Day	81	A	mg/L	2.0	7/29/11 12:47	7/29/11 12:47	SM 5210B
E1642818	Total Suspended Solids	87		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0044 **Lab ID:** E113108-11
Station ID: INFL **Matrix:** Wastewater

Date Collected: 7/27/11 13:31

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD, 5 Day	620	L	mg/L	2.0	7/29/11 11:58	7/29/11 11:58	SM 5210B
E1642818	Total Suspended Solids	640		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0045
Station ID: INFL
Lab ID: E113108-12
Matrix: Wastewater

Date Collected: 7/27/11 13:13

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD, 5 Day	340		mg/L	2.0	7/29/11 11:38	7/29/11 11:38	SM 5210B
E1642818	Total Suspended Solids	290		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0049 **Lab ID:** E113108-16
Station ID: INFL **Matrix:** Wastewater

Date Collected: 7/27/11 14:17

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7664-41-7	Ammonia as N	9.7		mg/L	0.50	8/09/11 9:28	8/11/11 14:43	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	19		mg/L	1.0	8/10/11 12:16	8/10/11 12:16	EPA 351.2
E701177	Nitrate/Nitrite as N	0.050	U	mg/L	0.050	8/24/11 18:16	8/24/11 18:16	EPA 353.2
7723-14-0	Total Phosphorus	1.9	J, QR-1	mg/L	1.0	8/12/11 8:45	8/15/11 14:14	EPA 365.1

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0050 **Lab ID:** E113108-17
Station ID: INFL **Matrix:** Wastewater

Date Collected: 7/27/11 13:31

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7664-41-7	Ammonia as N	8.8		mg/L	0.50	8/09/11 9:28	8/11/11 14:43	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	170	CR, D-2	mg/L	5.0	8/10/11 12:16	8/10/11 12:16	EPA 351.2
E701177	Nitrate/Nitrite as N	0.75		mg/L	0.050	8/24/11 18:16	8/24/11 18:16	EPA 353.2
7723-14-0	Total Phosphorus	11	J, D-2	mg/L	1.0	8/12/11 8:45	8/15/11 14:14	EPA 365.1

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0051 **Lab ID:** E113108-18
Station ID: INFL **Matrix:** Wastewater

Date Collected: 7/27/11 13:13

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7664-41-7	Ammonia as N	29		mg/L	0.50	8/09/11 9:28	8/11/11 14:43	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	39		mg/L	1.0	8/10/11 12:16	8/10/11 12:16	EPA 351.2
E701177	Nitrate/Nitrite as N	0.050	U	mg/L	0.050	8/24/11 18:16	8/24/11 18:16	EPA 353.2
7723-14-0	Total Phosphorus	8.6		mg/L	1.0	8/12/11 8:45	8/15/11 14:14	EPA 365.1

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0033 **Lab ID:** E113108-19

Station ID: INT PROCESS SAMPLE **Matrix:** Municipal Proc. Wastewater

Date Collected: 7/27/11 11:33

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD, 5 Day	100	A	mg/L	2.0	7/29/11 9:55	7/29/11 9:55	SM 5210B
E1642818	Total Suspended Solids	390		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0052 **Lab ID:** E113108-20
Station ID: INT PROCESS SAMPLE **Matrix:** Municipal Proc. Wastewater

Date Collected: 7/27/11 11:11

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD, 5 Day	93	A	mg/L	2.0	7/29/11 9:42	7/29/11 9:42	SM 5210B
E1642818	Total Suspended Solids	190		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0053 **Lab ID:** E113108-21
Station ID: INT PROCESS SAMPLE **Matrix:** Municipal Proc. Wastewater

Date Collected: 7/27/11 11:43

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD, 5 Day	62	A	mg/L	2.0	7/29/11 10:06	7/29/11 10:06	SM 5210B
E1642818	Total Suspended Solids	100		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0012 **Lab ID:** E113108-22
Station ID: PRETRT **Matrix:** Wastewater

Date Collected: 7/27/11 16:05

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7664-41-7	Ammonia as N	26		mg/L	1.0	8/09/11 9:28	8/11/11 14:43	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	250	CR, D-2	mg/L	5.0	8/10/11 12:16	8/10/11 12:16	EPA 351.2
E1640606	BOD, 5 Day	300	L	mg/L	2.0	7/29/11 13:20	7/29/11 13:20	SM 5210B
E701177	Nitrate/Nitrite as N	1.6		mg/L	0.050	8/24/11 18:16	8/24/11 18:16	EPA 353.2
7723-14-0	Total Phosphorus	17	J, D-2	mg/L	1.0	8/12/11 8:45	8/15/11 14:14	EPA 365.1
E1642818	Total Suspended Solids	640		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0023 **Lab ID:** E113108-23
Station ID: UPSTRM **Matrix:** Surface Water

Date Collected: 7/27/11 9:30

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD, 5 Day	4.0	K	mg/L	2.0	7/29/11 8:59	7/29/11 8:59	SM 5210B
E1642818	Total Suspended Solids	26		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses

Project: 11-0591, Hattiesburg South Lagoon CSI

Sample ID: HTSO-0025 **Lab ID:** E113108-24
Station ID: UPSTRM **Matrix:** Surface Water

Date Collected: 7/27/11 9:30

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7664-41-7	Ammonia as N	0.11		mg/L	0.050	8/09/11 9:28	8/11/11 14:43	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	0.69	J, QM-1	mg/L	0.050	8/10/11 12:16	8/10/11 12:16	EPA 351.2
E701177	Nitrate/Nitrite as N	0.44		mg/L	0.050	8/24/11 18:16	8/24/11 18:16	EPA 353.2
7723-14-0	Total Phosphorus	0.16		mg/L	0.010	8/12/11 8:45	8/15/11 14:14	EPA 365.1

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Classical/Nutrient Analyses (CNA) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108014 - C 2540 Solids										
Blank (1108014-BLK1)				Prepared & Analyzed: 08/03/11						
SM 2540D										
Total Suspended Solids	U	4.0	mg/L							U
LCS (1108014-BS1)				Prepared & Analyzed: 08/03/11						
SM 2540D										
Total Suspended Solids	98.800	4.0	mg/L	96.600		102	83-109			
LCS Dup (1108014-BSD1)				Prepared & Analyzed: 08/03/11						
SM 2540D										
Total Suspended Solids	97.600	4.0	mg/L	96.600		101	83-109	1.22	10	
Duplicate (1108014-DUP1)		**Source: E113108-23**		Prepared & Analyzed: 08/03/11						
SM 2540D										
Total Suspended Solids	26.800	4.0	mg/L		26.100			2.65	10	
Duplicate (1108014-DUP2)		**Source: E113109-13**		Prepared & Analyzed: 08/03/11						
SM 2540D										
Total Suspended Solids	61.200	4.0	mg/L		60.600			0.985	10	
MRL Verification (1108014-PS1)				Prepared & Analyzed: 08/03/11						
SM 2540D										
Total Suspended Solids	3.3000	4.0	mg/L	4.8300		68.3	63-129			MRL-2, U
Batch 1108028 - C SM5210 BOD										
Blank (1108028-BLK1)				Prepared & Analyzed: 07/29/11						
SM 5210B										
BOD, 5 Day	U	2.0	mg/L							U
LCS (1108028-BS1)				Prepared & Analyzed: 07/29/11						
SM 5210B										
BOD, 5 Day	196.00	2.0	mg/L	195.00		101	79-133			
LCS Dup (1108028-BSD1)				Prepared & Analyzed: 07/29/11						
SM 5210B										
BOD, 5 Day	198.50	2.0	mg/L	195.00		102	79-133	1.27	10	

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Classical/Nutrient Analyses (CNA) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108028 - C SM5210 BOD										
Duplicate (1108028-DUP1)		**Source: E113108-12**		Prepared & Analyzed: 07/29/11						
SM 5210B										
BOD, 5 Day	317.00	2.0	mg/L		336.00			5.82	20	
Batch 1108043 - C 350.1 Ammonia										
Blank (1108043-BLK1)				Prepared: 08/09/11 Analyzed: 08/11/11						
EPA 350.1										
Ammonia as N	U	0.050	mg/L							U
LCS (1108043-BS1)				Prepared: 08/09/11 Analyzed: 08/11/11						
EPA 350.1										
Ammonia as N	0.91620	0.050	mg/L	1.0000		91.6	90-110			
LCS Dup (1108043-BSD1)				Prepared: 08/09/11 Analyzed: 08/11/11						
EPA 350.1										
Ammonia as N	0.91220	0.050	mg/L	1.0000		91.2	90-110	0.438	10	
Matrix Spike (1108043-MS1)		**Source: E113108-24**		Prepared: 08/09/11 Analyzed: 08/11/11						
EPA 350.1										
Ammonia as N	1.0390	0.050	mg/L	1.0000	0.10960	92.9	90-110			
Matrix Spike (1108043-MS2)		**Source: E113109-12**		Prepared: 08/09/11 Analyzed: 08/11/11						
EPA 350.1										
Ammonia as N	1.0157	0.050	mg/L	1.0000	0.080700	93.5	90-110			
Matrix Spike Dup (1108043-MSD1)		**Source: E113108-24**		Prepared: 08/09/11 Analyzed: 08/11/11						
EPA 350.1										
Ammonia as N	1.0431	0.050	mg/L	1.0000	0.10960	93.4	90-110	0.440	10	
Matrix Spike Dup (1108043-MSD2)		**Source: E113109-12**		Prepared: 08/09/11 Analyzed: 08/11/11						
EPA 350.1										
Ammonia as N	1.0393	0.050	mg/L	1.0000	0.080700	95.9	90-110	2.49	10	
MRL Verification (1108043-PS1)				Prepared: 08/09/11 Analyzed: 08/11/11						
EPA 350.1										
Ammonia as N	0.035500	0.050	mg/L	0.050000		71.0	70-130			MRL-2, U

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 4 Science and Ecosystem Support Division
980 College Station Road, Athens, Georgia 30605-2700
D.A.R.T. Id: 11-0591
Project: 11-0591, Hattiesburg South Lagoon CSI - Reported by Jenny Scifres

Classical/Nutrient Analyses (CNA) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108043 - C 350.1 Ammonia										
MRL Verification (1108043-PS1)				Prepared: 08/09/11 Analyzed: 08/11/11						
Batch 1108052 - C 351.2 TKN										
Blank (1108052-BLK1)				Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	U	0.050	mg/L							U
LCS (1108052-BS1)				Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	2.3735	0.050	mg/L	2.3400		101	90-110			
LCS Dup (1108052-BSD1)				Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	2.3686	0.050	mg/L	2.3400		101	90-110	0.207	15	
Matrix Spike (1108052-MS1)			Source: E113108-24RE1	Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	1.5485	0.050	mg/L	1.0000	0.69440	85.4	90-110			QM-1
Matrix Spike (1108052-MS2)			Source: E113109-12RE1	Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	1.9853	0.050	mg/L	1.0000	0.75760	123	90-110			QM-2
Matrix Spike Dup (1108052-MSD1)			Source: E113108-24RE1	Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	1.6120	0.050	mg/L	1.0000	0.69440	91.8	90-110	7.17	20	
Matrix Spike Dup (1108052-MSD2)			Source: E113109-12RE1	Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	1.9482	0.050	mg/L	1.0000	0.75760	119	90-110	3.07	20	QM-2
MRL Verification (1108052-PS1)				Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	0.029300	0.050	mg/L	0.050000		58.6	70-130			MRL-2, QR-1, U

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Classical/Nutrient Analyses (CNA) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108061 - C 365.1 TPhos										
Blank (1108061-BLK1)				Prepared: 08/12/11	Analyzed: 08/15/11					
EPA 365.1										
Total Phosphorus	U	0.010	mg/L							U
Blank (1108061-BLK2)				Prepared: 08/12/11	Analyzed: 08/15/11					
EPA 365.1										
Total Phosphorus	U	0.010	mg/L							U
LCS (1108061-BS1)				Prepared: 08/12/11	Analyzed: 08/15/11					
EPA 365.1										
Total Phosphorus	0.41110	0.010	mg/L	0.40750		101	90-110			
LCS (1108061-BS2)				Prepared: 08/12/11	Analyzed: 08/15/11					
EPA 365.1										
Total Phosphorus	0.40860	0.010	mg/L	0.40750		100	90-110			
LCS Dup (1108061-BSD1)				Prepared: 08/12/11	Analyzed: 08/15/11					
EPA 365.1										
Total Phosphorus	0.39830	0.010	mg/L	0.40750		97.7	90-110	3.16	10	
LCS Dup (1108061-BSD2)				Prepared: 08/12/11	Analyzed: 08/15/11					
EPA 365.1										
Total Phosphorus	0.40740	0.010	mg/L	0.40750		100	90-110	0.294	10	
Matrix Spike (1108061-MS1)		**Source: E113103-38RE1**		Prepared: 08/12/11	Analyzed: 08/15/11					
EPA 365.1										
Total Phosphorus	0.56900	0.010	mg/L	0.50000	0.061700	101	90-110			
Matrix Spike (1108061-MS2)		**Source: E113202-07**		Prepared: 08/12/11	Analyzed: 08/15/11					
EPA 365.1										
Total Phosphorus	0.56330	0.010	mg/L	0.50000	0.055500	102	90-110			
Matrix Spike (1108061-MS3)		**Source: E113108-24**		Prepared: 08/12/11	Analyzed: 08/15/11					
EPA 365.1										
Total Phosphorus	0.65050	0.010	mg/L	0.50000	0.15510	99.1	90-110			
Matrix Spike (1108061-MS4)		**Source: E113109-12**		Prepared: 08/12/11	Analyzed: 08/15/11					

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Project: 11-0591, Hattiesburg South Lagoon CSI - Reported by Jenny Scifres

Classical/Nutrient Analyses (CNA) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108061 - C 365.1 TPhos										
Matrix Spike (1108061-MS4)		**Source: E113109-12**		Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	0.68670	0.010	mg/L	0.50000	0.20450	96.4	90-110			
Matrix Spike Dup (1108061-MSD1)		**Source: E113103-38RE1**		Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	0.57590	0.010	mg/L	0.50000	0.061700	103	90-110	1.35	10	
Matrix Spike Dup (1108061-MSD2)		**Source: E113202-07**		Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	0.56650	0.010	mg/L	0.50000	0.055500	102	90-110	0.628	10	
Matrix Spike Dup (1108061-MSD3)		**Source: E113108-24**		Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	0.64850	0.010	mg/L	0.50000	0.15510	98.7	90-110	0.405	10	
Matrix Spike Dup (1108061-MSD4)		**Source: E113109-12**		Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	0.68550	0.010	mg/L	0.50000	0.20450	96.2	90-110	0.249	10	
MRL Verification (1108061-PS1)				Prepared: 08/12/11		Analyzed: 08/15/11				
EPA 365.1										
Total Phosphorus	0.0056000	0.010	mg/L	0.010000		56.0	70-130			MRL-2, QR-1, U
Batch 1108133 - C 353.2 NO3-NO2										
Blank (1108133-BLK1)				Prepared & Analyzed: 08/24/11						
EPA 353.2										
Nitrate/Nitrite as N	U	0.050	mg/L							U
LCS (1108133-BS1)				Prepared & Analyzed: 08/24/11						
EPA 353.2										
Nitrate/Nitrite as N	0.47380	0.050	mg/L	0.50000		94.8	90-110			
LCS Dup (1108133-BSD1)				Prepared & Analyzed: 08/24/11						
EPA 353.2										
Nitrate/Nitrite as N	0.49020	0.050	mg/L	0.50000		98.0	90-110	3.40	10	

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Region 4 Science and Ecosystem Support Division
980 College Station Road, Athens, Georgia 30605-2700
D.A.R.T. Id: 11-0591
Project: 11-0591, Hattiesburg South Lagoon CSI - Reported by Jenny Scifres

Classical/Nutrient Analyses (CNA) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108133 - C 353.2 NO3-NO2										
Matrix Spike (1108133-MS1)		**Source: E113108-24**		Prepared & Analyzed: 08/24/11						
EPA 353.2										
Nitrate/Nitrite as N	0.93880	0.050	mg/L	0.50000	0.44340	99.1	90-110			
Matrix Spike Dup (1108133-MSD1)		**Source: E113108-24**		Prepared & Analyzed: 08/24/11						
EPA 353.2										
Nitrate/Nitrite as N	0.94930	0.050	mg/L	0.50000	0.44340	101	90-110	2.10	10	
MRL Verification (1108133-PS1)				Prepared & Analyzed: 08/24/11						
EPA 353.2										
Nitrate/Nitrite as N	0.048800	0.050	mg/L	0.050000		97.6	70-130			MRL-2, U

Notes and Definitions for QC Samples

U	The analyte was not detected at or above the reporting limit.
MRL-2	MRL verification for Non-Potable Water matrix
QM-1	Matrix Spike Recovery less than method control limits
QM-2	Matrix Spike Recovery greater than method control limits
QR-1	MRL verification recovery less than lower control limits.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4

Enforcement and Investigations Branch
980 College Station Road
Athens, Georgia 30605-2720

July 21, 2011

4SESD-EIB

MEMORANDUM:

SUBJECT: Compliance Sampling Inspection
Hattiesburg South & Hattiesburg North Wastewater Treatment Plant
Hattiesburg, Mississippi
SESD Project ID: 11-0591, 11-0592 (respectively)

FROM: Richard Elliott, P.E.; Environmental Engineer
Enforcement Section

THRU: Mike Bowden, Chief
Enforcement Section

Mike Nair for

TO: Cesar Zapata, Chief
Municipal & Industrial Enforcement Section
Water Protection Division

Attached are copies of the Quality Assurance Project Plans for the Compliance Sampling Inspections (CSI) that will be conducted at the Hattiesburg South and Hattiesburg North Wastewater Treatment Plants on July 25 – 29, 2011. These facilities are located in Hattiesburg, Mississippi. The attached documents have not been distributed; please forward copies to the appropriate parties as needed. If you have any questions, please contact me by telephone at (706) 355-8631, or via email at Elliott.Richard@epa.gov.

Quality Assurance Project Plan
U.S. Environmental Protection Agency
Science and Ecosystem Support Division
980 College Station Road
Athens, GA 30605

SESD Project ID: 11-0592
SESD Category 3 QAPP

SECTION A: Project Planning Elements		
A1. Title (*Project Name*):	Hattiesburg North WWTP - Compliance Sampling Inspection	
Project Location:	3401 Lakeview Rd., Hattiesburg, MS 39401	
Project Requestor and Organization:	Cesar Zapata, Chief Municipal & Industrial Enforcement Section Water Protection Division USEPA – Region IV 61 Forsyth St. SW, Atlanta GA 30303-8960	
Project Leader's Name, Position, and Organization:	Richard Elliott, Environmental Engineer Enforcement & Investigations Branch (EIB)/Enforcement Section (ES)	
Project Leader's Signature:	[signature]	Date: 7/21/2011
Technical Reviewer's Name and Position:	Louis Salguero, Environmental Engineer	
Technical Reviewer's Signature:	[signature] for	Date: 7/25/11
Section Chief/DAO's Name and Position:	Mike Bowden, Chief (ES)	
Section Chief/DAO's Signature:	[signature] for	Date: 7/22/11
A2. Table of Contents	N/A	
A3. Distribution List	Hard Copy: Cesar Zapata, Chief Municipal & Industrial Enforcement Section Electronic Copy: Mike Bowden, Chief Enforcement Section,	
A4. Project Personnel (list below):	**Organization (list below):**	**Responsibilities (list below):**
Richard Elliott	EIB/ES	Project Leader
Louis Salguero	EIB/ES	Safety Officer
John Williams	EIB/ES	Sampler
Cornell Gayle	EIB/ES	Sampler Trainee
Hunter Johnson	EAB/ES	Surface Water Sampler
Derek Little	EAB/ES	Surface Water Sampler
Brian Herndon	ESAT	Scribe/Sampler
A5. Problem Definition (Objectives) and Background:	SESD will collect samples at the Hattiesburg North WWTP located in Hattiesburg, MS to determine if the facility meets the requirements of their NPDES permit. A cursory look at the DMR data for this facility	

	revealed that they may not be meeting some of the limits specified in the NPDES permit. In addition, concerns regarding the color of the discharge from the facility into the receiving waters, and suspected mal odors emanating from the facility have precipitated this inspection.
A6. Project Description:	This project is a compliance sampling inspection (CSI). SESD will collect 24-hr composite samples of the influent and effluent wastewater streams. Grab samples will also be collected if possible, from the major industries that discharge to the treatment facility. Grab samples for specific parameters outlined in NPDES permit MS0020826 with be collected (see section B1). Additional grab samples will be collected upstream and downstream of the WWTP effluent discharge point in the receiving water. These surface water samples will be analyzed for BOD_5, TSS, Ammonia Nitrogen (NH3-N), nitrite (NO2), nitrate (NO3), Total Kjeldahl Nitrogen and total phosphorus (TP). Continuous monitoring of dissolved oxygen, pH, conductivity, turbidity and temperature will be conducted over a 24-hr period in the receiving waters using an automatic data logging instrument. Dissolved oxygen, pH, and temperature measurements will be made at various points within the treatment facility. A rhodamine dye tracer test will be conducted to ascertain the hydraulic detention time of the wastewater in the facility. An overall evaluation of the operating procedures at the WWTP including organic loading capacity will be conducted. During this inspection, an evaluation of the self monitoring program of the facility will be conducted. Quality Assurance (QA) preservative blanks will be analyzed for nutrients and metals.
Decision(s) to be made based on data:	SESD will evaluate the information gathered and provide all results and inspection reports to be utilized by USEPA Region 4 personnel in compliance decisions.

Applicable regulatory information, action levels	40 CFR Part 122 40CFR Part 136 NPDES Permit MS0020826
Field Study Date:	July 25 – 29, 2011
Projected Lab Completion Date:	September 16, 2011.
Projected Final Report Completion Date:	The final report is expected to be completed within 30-days of receiving the analytical results from the laboratory. The anticipated completion date is October 14, 2011. The appropriate personnel will be notified if the expected report completion date cannot be met.

A7. Quality Objectives and Criteria

All samples/sample locations meet the field investigation objectives and purposes summarized in Sections A5 and A6 of this QAPP.

A8. Special Training/Certifications

N/A.

A9. Documents and Records

For this project, SESD will implement the following procedures pertaining to Documents and Records:
SESD Operating Procedure for Report Preparation and Distribution, SESDPROC-003-R3.
SESD Operating Procedure for Logbooks, SESDPROC-010-R4.
SESD Operating Procedure for Control of Records, SESDPROC-002-R5.

SECTION B: Data Generation and Acquisition

B1. Sampling Design

The following matrix lists the proposed numbers and types of samples to be collected. Sample locations are described in Section A6 of this QAPP. As specified by the facility's NPDES permit, influent and effluent sample locations will be selected. Grab samples will be collected authoritatively based on conditions during the inspection.

Media:	Number of Samples:	Analyses:
Wastewater/Surface Water	(2) 24-hr composite	Biochemical Oxygen Demand (BOD), Total Suspended Solids

		(TSS), Nutrients (Nitrogen & Phosphorous)
	7 Grab and/or in-situ	pH, Dissolved Oxygen (DO), Bacterial (E. coli), Nutrients (Nitrogen & Phosphorous) – Upstream & Downstream of Effluent Discharge, Preservative Blank (Nutrients), Temperature Blank

B2. Sampling Methods, General Procedures

The following SESD field measurement and sampling procedures will be followed during this field study, as applicable:

SESD Operating Procedure for Field pH measurement, SESDPROC-100-R2
SESD Operating Procedure for Field temperature measurement, SESDPROC-102-R3
SESD Operating Procedure for Field dissolved oxygen measurement, SESDPROC-106-R2
SESD Operating Procedure for Field wastewater flow measurement, SESDPROC-109-R2
SESD Operating Procedure for Global Positioning Systems, SESDPROC-110-R3
SESD Operating Procedure for Field wastewater sampling, SESDPROC-306-R2
SESD Operating Procedure for Field surface water sampling, SESDPROC-201-R1
SESD Operating Procedure for Field Dye Tracer Measurement, SESDPROC-514-R0

Composite samples will be collected using an ISCO 3700 or 6700 automatic sampler.

B3. Sampling Handling and Custody

All samples will be collected and handled according to the procedures listed in Section B2 of this QAPP. After collection, samples will be managed according to the following:

SESD Operating Procedure for Sample and Evidence Management, SESDPROC-005-R1.
SESD Operating Procedure for Packing, Labeling and Shipping of Environmental and Waste Samples SESDPROC-209-R2.

Sample analyses will be divided between the Mississippi Department of Environmental Quality (MDEQ) and the SESD Region 4 laboratory. The MDEQ laboratory will analyze samples for Fecal Coliform. SESD Region 4 laboratory will analyze for all other parameters listed in this document. Custody of samples relinquished to MDEQ will be maintained by MDEQ personnel in accordance with their respective operating procedures. Samples retained by SESD will be handled in accordance to the procedures specified in this document. A copy of all original chain-of-custody form used in this project will be maintained by SESD personnel as part of the project file.

B4. Analytical Methods

The following is a brief description of the analytical methods for this field investigation:

SESD:	Samples will be analyzed in accordance with the *SESD Analytical Support Branch Laboratory Operations and Quality Assurance Manual, January 2011.*
CLP:	N/A
Other: MDEQ	Samples will be analyzed by MDEQ in accordance with their standard analytical procedures.

B5. Quality Control

The following is a brief description of field and laboratory quality control measures to be implemented during this field investigation:

Field:	Field quality control measures will be in accordance with the *SESD Operating Procedure for Field Sampling Quality Control,* SESDPROC-011-R3, and *40 CFR Part 136.*
Laboratory:	The MDEQ laboratory personnel will conduct all quality control analyses in accordance with their most current operating procedures. SESD analyses adhere to the quality control measures specified in the *SESD Analytical Support Branch Laboratory Operations and Quality Assurance Manual, January 2011.*

B6. Instrument/Equipment Testing, Inspection and Maintenance

All field measurement instruments and equipment will be maintained in accordance with the *SESD Operating Procedure for Equipment Inventory and Management,* SESDPROC-108-R3.

B7. Instrument/Equipment Calibration and Frequency

All field measurement instruments and equipment are calibrated according to the *SESD Operating Procedure for Equipment Inventory and Management,* SESDPROC-108-R3 and according to specific procedures included within the defined operating procedures for each instrument (see specific field measurement procedures in Section B2 of this QAPP).

B8. Inspection/Acceptance for Supplies and Consumables

All critical supplies and consumables for this field investigation are inspected and maintained in accordance with the following procedures:

SESD Operating Procedure for Purchasing of Services and Supplies, SESDPROC-015-R3.
SESD Operating Procedure for Field Sampling Quality Control, SESDPROC-011-R3.

The SESD Field Quality Manager and the Branch Quality Assurance Officers are responsible for ensuring that these requirements are met.

B9. Non-direct Measurements:
N/A

B10. Data Management
The field project leader will be responsible for ensuring that all requirements for data management are met. All data generated for this field investigation, will be recorded, stored and managed accordance with the following procedures:

SESD Operating Procedure for Control of Records, SESDPROC-002-R5.
SESD Operating Procedures for Logbooks, SESDPROC-010-R4.

SECTION C: Assessment/Oversight and SECTION D: Data Validation/Usability

The SESD *Field Branches Quality Management Plan* (QMP) and the SESD Operating Procedures address the Assessment/Oversight and Data Validation/Usability elements as required. Please consult those documents for more detailed information concerning the SESD Field Branches Quality System.

****Footnotes**: This Quality Assurance Project Plan (QAPP) has been prepared and approved according to the EPA *Requirements for Quality Assurance Project Plans (EPA QA/R5 EPA/240/B-01/003)*, U.S. Environmental Protection Agency, Office of Environmental Information, Washington, DC, March 2001(USEPA, 2001). This document will be used to ensure that the environmental data collected for this project are of the type and quality for the intended purposes. **This document is for SESD use only.**

Quality Assurance Project Plan
U.S. Environmental Protection Agency

Science and Ecosystem Support Division
980 College Station Road
Athens, GA 30605

SESD Project ID: 11-0591
SESD Category 3 QAPP

SECTION A: Project Planning Elements		
A1. Title (*Project Name*):	Hattiesburg South WWTP - Compliance Sampling Inspection	
Project Location:	1903 East Hardy St., Hattiesburg, MS 39401	
Project Requestor and Organization:	Cesar Zapata, Chief Municipal & Industrial Enforcement Section Water Protection Division USEPA – Region IV 61 Forsyth St. SW, Atlanta GA 30303-8960	
Project Leader's Name, Position, and Organization:	Richard Elliott, Environmental Engineer Enforcement & Investigations Branch (EIB)/Enforcement Section (ES)	
Project Leader's Signature:		Date: 7/21/2011
Technical Reviewer's Name and Position:	John Williams, Environmental Scientist	
Technical Reviewer's Signature:	for	Date: 7/25/11
Section Chief/DAO's Name and Position:	Mike Bowden, Chief (ES)	
Section Chief/DAO's Signature:	for	Date: 7/22/11
A2. Table of Contents	N/A	
A3. Distribution List	Hard Copy: Cesar Zapata, Chief Municipal & Industrial Enforcement Section Electronic Copy: Mike Bowden, Chief Enforcement Section,	
A4. Project Personnel (list below):	**Organization (list below):**	**Responsibilities (list below):**
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Louis Salguero	EIB/ES	Safety Officer
John Williams	EIB/ES	Sampler
Cornell Gayle	EIB/ES	Sampler Trainee
Hunter Johnson	EAB/ES	Surface Water Sampler
Derek Little	EAB/ES	Surface Water Sampler
Brian Herndon	ESAT	Scribe/Sampler
A5. Problem Definition (Objectives) and Background:	SESD will collect samples at the Hattiesburg South WWTP located in Hattiesburg, MS to determine if the facility meets the requirements of their NPDES permit. A cursory look at the DMR data for this facility	

	revealed that they may not be meeting some of the limits specified in the NPDES permit. In addition, concerns regarding the color of the discharge from the facility into the receiving waters, and suspected mal odors emanating from the facility have precipitated this inspection.
A6. Project Description:	This project is a compliance sampling inspection (CSI). SESD will collect 24-hr composite samples of the influent and effluent wastewater streams. A composite sample will be collected if possible, from one of the major industrial discharger to the treatment facility. If a composite sample is not possible for any industrial facility connected to the WWTP, grab samples will be collected wherever feasible. Grab samples for specific parameters outlined in NPDES permit MS0020303 will be collected (see section B1). Additional grab samples will be collected upstream and downstream of the WWTP effluent discharge point in the receiving water. These surface water samples will be analyzed for BOD_5, TSS, Ammonia Nitrogen (NH3-N), nitrite (NO2), nitrate (NO3), Total Kjeldahl Nitrogen and total phosphorus (TP). Continuous monitoring of dissolved oxygen, pH, conductivity, turbidity and temperature will be conducted over a 24-hr period in the receiving waters using an automatic data logging instrument. Dissolved oxygen, pH, and temperature measurements will be made at various points within the treatment facility. A rhodamine dye tracer test will be conducted to ascertain the hydraulic detention time of the wastewater in the facility. An overall evaluation of the operating procedures at the WWTP including organic loading capacity will be conducted. During this inspection, an evaluation of the self monitoring program of the facility will be conducted. Quality Assurance (QA) preservative blanks will be analyzed for nutrients and metals.
Decision(s) to be made based on data:	SESD will evaluate the information gathered and provide all results and inspection reports to be utilized by USEPA Region 4 personnel in compliance decisions.

Applicable regulatory information, action levels	40 CFR Part 122 40CFR Part 136 NPDES Permit MS0020303
Field Study Date:	July 25 – 29, 2011
Projected Lab Completion Date:	September 16, 2011.
Projected Final Report Completion Date:	The final report is expected to be completed within 30-days of receiving the analytical results from the laboratory. The anticipated completion date is October 14, 2011. The appropriate personnel will be notified if the expected report completion date cannot be met.

A7. Quality Objectives and Criteria

All samples/sample locations meet the field investigation objectives and purposes summarized in Sections A5 and A6 of this QAPP.

A8. Special Training/Certifications

N/A.

A9. Documents and Records

For this project, SESD will implement the following procedures pertaining to Documents and Records:
SESD Operating Procedure for Report Preparation and Distribution, SESDPROC-003-R3.
SESD Operating Procedure for Logbooks, SESDPROC-010-R4.
SESD Operating Procedure for Control of Records, SESDPROC-002-R5.

SECTION B: Data Generation and Acquisition

B1. Sampling Design

The following matrix lists the proposed numbers and types of samples to be collected. Sample locations are described in Section A6 of this QAPP. As specified by the facility's NPDES permit, influent and effluent sample locations will be selected. Grab samples will be collected authoritatively based on conditions during the inspection.

Media:	Number of Samples:	Analyses:
Wastewater/Surface Water	(2) 24-hr composite	Biochemical Oxygen Demand (BOD), Total Suspended Solids

		(TSS), Nutrients (Nitrogen & Phosphorous)
	7 Grab and/or in-situ	pH, Dissolved Oxygen (DO), Bacterial (E. coli), Nutrients (Nitrogen & Phosphorous) – Upstream & Downstream of Effluent Discharge, Preservative Blank (Nutrients), Temperature Blank

B2. Sampling Methods, General Procedures

The following SESD field measurement and sampling procedures will be followed during this field study, as applicable:

SESD Operating Procedure for Field pH measurement, SESDPROC-100-R2
SESD Operating Procedure for Field temperature measurement, SESDPROC-102-R3
SESD Operating Procedure for Field dissolved oxygen measurement, SESDPROC-106-R2
SESD Operating Procedure for Field wastewater flow measurement, SESDPROC-109-R2
SESD Operating Procedure for Global Positioning Systems, SESDPROC-110-R3
SESD Operating Procedure for Field wastewater sampling, SESDPROC-306-R2
SESD Operating Procedure for Field surface water sampling, SESDPROC-201-R1
SESD Operating Procedure for Field Dye Tracer Measurement, SESDPROC-514-R0

Composite samples will be collected using an ISCO 3700 or 6700 automatic sampler.

B3. Sampling Handling and Custody

All samples will be collected and handled according to the procedures listed in Section B2 of this QAPP. After collection, samples will be managed according to the following:

SESD Operating Procedure for Sample and Evidence Management, SESDPROC-005-R1.
SESD Operating Procedure for Packing, Labeling and Shipping of Environmental and Waste Samples SESDPROC-209-R2.

Sample analyses will be divided between the Mississippi Department of Environmental Quality (MDEQ) and the SESD Region 4 laboratory. The MDEQ laboratory will analyze samples for Fecal Coliform. SESD Region 4 laboratory will analyze for all other parameters listed in this document. Custody of samples relinquished to MDEQ will be maintained by MDEQ personnel in accordance with their respective operating procedures. Samples retained by SESD will be handled in accordance to the procedures specified in this document. A copy of all original chain-of-custody form used in this project will be maintained by SESD personnel as part of the project file.

B4. Analytical Methods

The following is a brief description of the analytical methods for this field investigation:

SESD:	Samples will be analyzed in accordance with the *SESD Analytical Support Branch Laboratory Operations and Quality Assurance Manual, January 2011.*
CLP:	N/A
Other: MDEQ	Samples will be analyzed by MDEQ in accordance with their standard analytical procedures.

B5. Quality Control

The following is a brief description of field and laboratory quality control measures to be implemented during this field investigation:

Field:	Field quality control measures will be in accordance with the *SESD Operating Procedure for Field Sampling Quality Control,* SESDPROC-011-R3, and *40 CFR Part 136.*
Laboratory:	The MDEQ laboratory personnel will conduct all quality control analyses in accordance with their most current operating procedures. SESD analyses adhere to the quality control measures specified in the *SESD Analytical Support Branch Laboratory Operations and Quality Assurance Manual, January 2011.*

B6. Instrument/Equipment Testing, Inspection and Maintenance

All field measurement instruments and equipment will be maintained in accordance with the *SESD Operating Procedure for Equipment Inventory and Management,* SESDPROC-108-R3.

B7. Instrument/Equipment Calibration and Frequency

All field measurement instruments and equipment are calibrated according to the *SESD Operating Procedure for Equipment Inventory and Management,* SESDPROC-108-R3 and according to specific procedures included within the defined operating procedures for each instrument (see specific field measurement procedures in Section B2 of this QAPP).

B8. Inspection/Acceptance for Supplies and Consumables

All critical supplies and consumables for this field investigation are inspected and maintained in accordance with the following procedures:

SESD Operating Procedure for Purchasing of Services and Supplies, SESDPROC-015-R3.
SESD Operating Procedure for Field Sampling Quality Control, SESDPROC-011-R3.

The SESD Field Quality Manager and the Branch Quality Assurance Officers are responsible for ensuring that these requirements are met.

B9. Non-direct Measurements:
N/A

B10. Data Management
The field project leader will be responsible for ensuring that all requirements for data management are met. All data generated for this field investigation, will be recorded, stored and managed accordance with the following procedures:

SESD Operating Procedure for Control of Records, SESDPROC-002-R5.
SESD Operating Procedures for Logbooks, SESDPROC-010-R4.

SECTION C: Assessment/Oversight and SECTION D: Data Validation/Usability

The SESD *Field Branches Quality Management Plan* (QMP) and the SESD Operating Procedures address the Assessment/Oversight and Data Validation/Usability elements as required. Please consult those documents for more detailed information concerning the SESD Field Branches Quality System.

****Footnotes**: This Quality Assurance Project Plan (QAPP) has been prepared and approved according to the EPA *Requirements for Quality Assurance Project Plans (EPA QA/R5 EPA/240/B-01/003)*, U.S. Environmental Protection Agency, Office of Environmental Information, Washington, DC, March 2001(USEPA, 2001). This document will be used to ensure that the environmental data collected for this project are of the type and quality for the intended purposes. **This document is for SESD use only.**

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4

Enforcement and Investigations Branch
980 College Station Road
Athens, Georgia 30605-2720

FILE COPY

November 17, 2011

4SESD-EIB

MEMORANDUM:

SUBJECT: Compliance Sampling Inspection Report
Hattiesburg North Wastewater Treatment Plant
Hattiesburg, Mississippi
SESD Project ID: 11-0592

FROM: Richard Elliott, P.E.; Environmental Engineer
Enforcement Section

THRU: Archie Lee, Chief
Enforcement Investigation Branch

TO: Denisse Diaz, Chief
Clean Water Enforcement Branch
Water Protection Division

Attached is a copy of the report for the Compliance Sampling Inspection (CSI) conducted at the Hattiesburg North Wastewater Treatment Plant during the week of July 25, 2011. This facility is located in Hattiesburg, Mississippi.

The attached report has not been distributed. Please forward copies to the appropriate parties. If you have any questions, please contact me by telephone at (706) 355-8631, or via email at Elliott.Richard@epa.gov.

United States Environmental Protection Agency
Region 4
Science and Ecosystem Support Division
Enforcement and Investigations Branch
980 College Station Road
Athens, Georgia 30605-2720

Compliance Sampling Inspection Report
Hattiesburg North Wastewater Treatment Plant
NPDES Permit MS0020826
3401 Lakeview Road
Hattiesburg, Mississippi 39401

SESD Project ID: 11-0592
Inspection Date: July 25 – 29, 2011

Requestor: Cesar Zapata, Chief
Municipal & Industrial Enforcement Section
Water Protection Division
USEPA – Region 4
61 Forsyth St. SW
Atlanta, Georgia 30303-8960

Project Leader: Richard Elliott, P.E.
SESD Enforcement Section
Enforcement and Investigations Branch
980 College Station Road
Athens, Georgia 30605-2720

Title and Approval Sheet

Title: Compliance Sampling Inspection Report
Hattiesburg North Wastewater Treatment Plant
Final Report

Approving Official:

_____ _____

Mike Bowden, Chief
Enforcement Section
Enforcement and Investigations Branch

Date

SESD Project Leader:

_____ _____

Richard Elliott, P.E.
Enforcement Section
Enforcement and Investigations Branch

Date

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United States Environmental Protection Agency
Washington, D.C. 20460

Water Compliance Inspection Report

Section A: National Data System Coding (i.e., PCS)

Transaction Code	NPDES	yr/mo/day	Inspection Type	Inspector	Fac Type
N	MS0020826	11/07/26	S	J	1

Remarks

Inspection Work Days | Facility Self-Monitoring Evaluation Rating | BI | QA | ----------Reserved----------

Section B: Facility Data

Name and Location of Facility Inspected *(For industrial users discharging to POTW, also include POTW name and NPDES permit number)*	Entry Time/Date	Permit Effective Date
Hattiesburg North WWTP 3401 Lakeview Rd., Hattiesburg, MS 39401	0830 07/26/2011	June 07 ,2010
	Exit Time/Date 1600 07/28/2011	Permit Expiration Date May 31, 2015

Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s)

Arnold Landrum, Water & Sewer General Manager, (601) 545-4530; and (601) 545-4689

Other Facility Data *(e.g., SIC NAICS, and other descriptive information)*

Name, Address of Responsible Official/Title/Phone and Fax Number

Mr. Matthew Boutwell, Director Water & Sewer,
900 James Street
Hattiesburg, MS 39401
(601) 545-4530
(601) 545-4689 Fax

Section C: Areas Evaluated During Inspection *(Check only those areas evaluated)*

X	Permit	X	Self-Monitoring Program	X	Pretreatment		MS4
X	Records/Reports		Compliance Schedules		Pollution Prevention		
X	Facility Site Review		Laboratory		Storm Water		
X	Effluent/Receiving Waters	X	Operations & Maintenance		Combined Sewer Overflow		
X	Flow Measurement	X	Sludge Handling/Disposal	X	Sampling		

Section D: Summary of Findings/Comments

(Attach additional sheets of narrative and checklists, including Single Event Violation codes, as necessary)

SEV Codes | SEV Description

☐☐☐☐☐ _____

☐☐☐☐☐ _____

☐☐☐☐☐ _____

☐☐☐☐☐ _____

* See Attachment

Name(s) and Signature(s) of Inspector(s)	Agency/Office/Phone and Fax Numbers	Date
Richard Elliott	US EPA/706-355-8631 and 706-355-8744	
John Williams	US EPA/706-355-8735 and 706-355-8744	
Reviewer/Section Chief		
Mike Bowden	US EPA/706-355-8734 and 706-355-8744	Date

EPA Form 3560-3

Project #:11-0592

COMPLIANCE SAMPLING INSPECTION
HATTIESBURG NORTH WASTEWATER TREATMENT PLANT
HATTIESBURG, MISSISSIPPI
NPDES PERMIT MS0020826

INTRODUCTION

During the week of July 25 – 29, 2011, representatives of the United States Environmental Protection Agency (USEPA) and the Mississippi Department of Environmental Quality (MDEQ) conducted a Compliance Sampling Inspection (CSI) at the Hattiesburg North Wastewater Treatment Plant (WWTP) in Hattiesburg, Mississippi. This inspection was requested by the USEPA Region 4 Water Protection Division in Atlanta, Georgia due to repeated non-compliance with the National Pollution Discharge Elimination System (NPDES) effluent permit limits and odor complaints from citizen.

The following individuals were present during the inspection:

NAME	ORGANIZATION	TELEPHONE
Richard Elliott	USEPA	706-355-8631
John Williams	USEPA	706-355-8735
Louis Salguero	USEPA	706-355-8732
Cornell Gayle	USEPA	706-355-8743
Jamon Rucker	MDEQ	601-961-5094
Arnold Landrum	WWTP	601-545-4530
Paul Hoffer	WWTP	601-545-4531

BACKGROUND

The overall objective of this CSI was to evaluate the operational performance of the WWTP and provide technical assistance. Specific tasks included characterization of the influent, assessing effluent quality, evaluating operations, reviewing effluent analytical data and other facility records. The following activities were conducted to meet the overall objective:

- Operational information was collected.
- Effluent composite samples were collected and analyzed.
- Grab samples for field parameters (e.g., pH, DO, and TRC) were collected.
- Wastewater from major industrial contributors were identified and characterized.
- The facility's self-monitoring program was evaluated.

SUMMARY OF FINDINGS & RECOMMENDATIONS

Findings

1. There was visual evidence of short circuiting from dye testing that was conducted during the EPA study.

2. Analysis of the industrial influent wastewater indicated high organic loadings. The TSS influent concentration from the industrial contributor was above typical domestic wastewater values.

3. Excessive algae/duck weed growth was observed in lagoon #3 (see Figure A).

4. Dead-zones were observed in all three lagoons.

5. The effluent flow meter did not meet NPDES requirements. It did not have a flow totalizer and/or chart recorder.

6. There was no septic waste hauler handling facility at the plant.

7. The influent wastewater distribution was not optimized for best treatment. Most of lagoon #2 is not utilized for treatment since it does not directly receive influent wastewater (see Figure B).

8. Aerators were mainly located at the edges and corners of the lagoons and were not properly distributed in the treatment system to provide sufficient aeration for the entire lagoon.

9. Historical data review indicated that the permittee exceeded their NPDES permit limits on several occasions for the following parameters: BOD_5, TSS, TRC, and Fecal Coliform.

Recommendations

1. A totalizer and chart recorder should be installed to operate in conjunction with the flow measuring device. Alternatively, the facility should print daily flow charts and totalized flows from their SCADA computer system and maintain these print out as records.

2. Implement a structured pretreatment program to monitor pollutants from industrial users, set discharge limits, and provide regular inspections.

3. Excess sludge in the lagoon(s) should be removed in a timely manner and properly disposed of in accordance with the appropriate federal and state regulations.

4. An onsite septic waste receiving station should be constructed to properly handle septic haulers.

5. The aerators in the influent receiving lagoons should be positioned to adequately supply oxygen to the entire lagoon and assist in wastewater flow directing.

6. Wastewater operation and maintenance training should be provided to staff.

7. The City should seek engineering consultation to address capacity concerns and short circuiting in the lagoons.

8. The influent distribution system should be redesigned to minimize overloading and fully utilize all available treatment units.

9. The permit should stipulate composite sampling for parameters such as BOD_5, TSS and numeric limits for nutrient loadings such as NH_3-N.

FACILITY ASSESSMENT

The following discussion (pages 07 – 10) pertains to the areas evaluated in section C of the NPDES 3560 form.

1. Facility Site Review

The Hattiesburg North WWTP is permitted to treat a 4.0 MGD of wastewater. The facility is located at 3401 Lakeview Road in Hattiesburg, Mississippi. The WWTP treats domestic and industrial wastewater from the City of Hattiesburg. The bulk of the industrial wastewater comes from a dairy product manufacture (Dairy Fresh/Borden Dairy). The plant consists of three lagoons with floating aerators and an effluent disinfection chlorine contact chamber. One of the lagoons appears to have a flow directing or floatable containing baffle. Influent enters lagoon #1 and flows to both Lagoon # 2 & 3 (see Figure B). The wastewater then flows to a chlorination chamber before being de-chlorinated and discharged to the Bouie River via outfall 001.

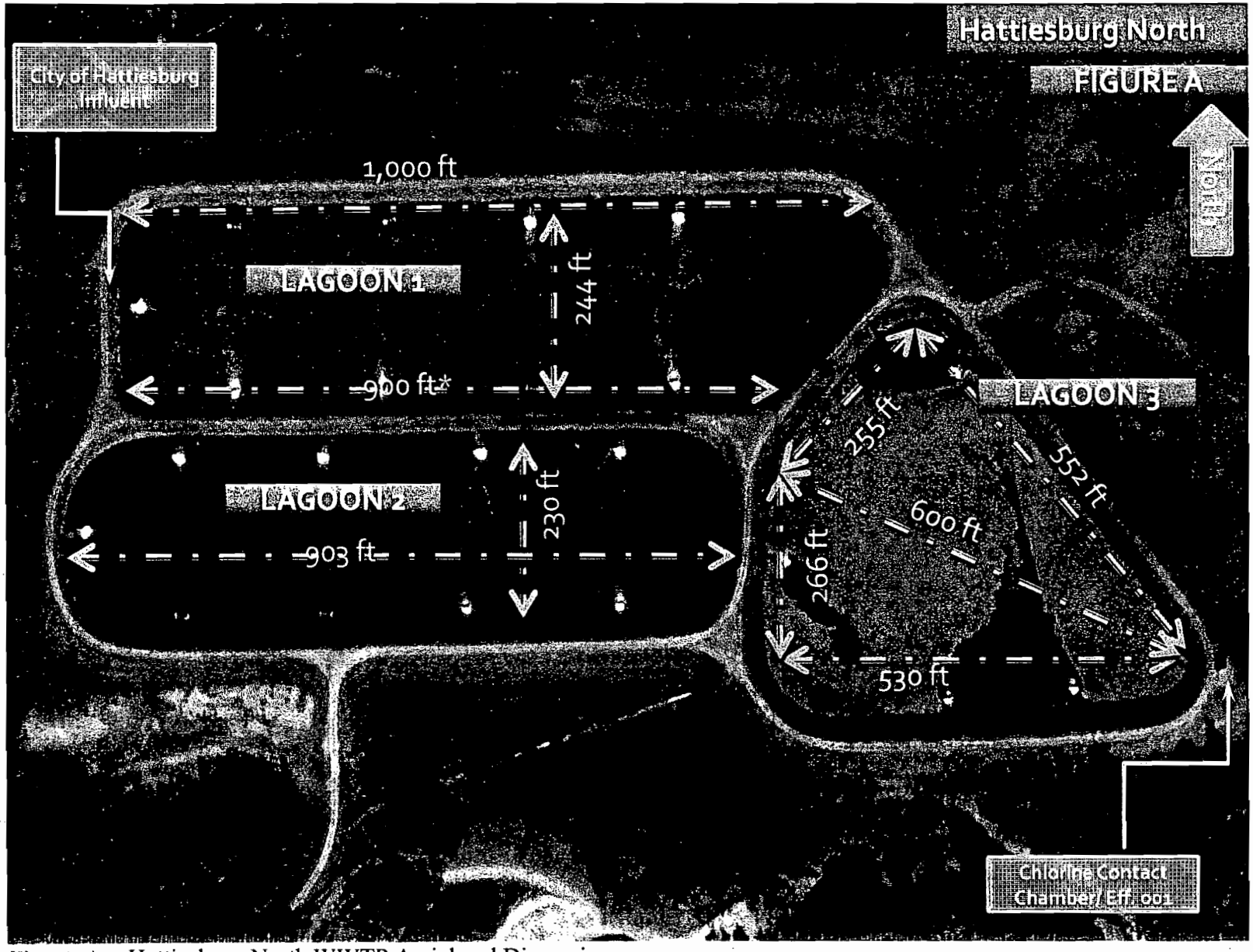

Figure A – Hattiesburg North WWTP Aerial and Dimensions

2. Permit Review

The NPDES permit became effective on June 7, 2010 and will expire on May 31, 2015. The outfall and the name of the receiving waters were as described in the permit. A copy of the current permit was kept at the operations office off-site. Typically, facilities of this size require composite samples for the major parameters listed in the permit. However, this permit does not require composite sampling for effluent parameters such as BOD_5 and TSS, nor does it stipulate limits for nutrient loadings (see recommendation 9).

3. Records and Reports

Discharge Monitoring Reports (DMRs) and analytical laboratory reports for March - December 2010 and January – May 2011 were checked for agreement with NPDES self-monitoring program requirements regarding sampling documentation, equipment calibration, and reporting of parameter concentrations and loadings. The self-monitoring records were kept for a minimum of three years. The self-monitoring records consisted of the following:

- DMRs
- Analytical data/laboratory reports
- Daily operating logs/sheets
- Bench sheets/calibration records
- Chain-of-custody forms

4. Flow Measurement

The facility's effluent flow was measured using an inline Doppler flow meter. This flow meter did not have a totalizer but logged reported flow via a computer.

5. Operations & Maintenance

The WWTP was staffed daily by at least one certified operator for approximately 4 hours. Maintenance activities were performed by the operator or by contractors as needed. The operator indicated that the treatment system is short circuiting and that efforts are being made to expand the treatment capacity of the plant.

6. Sludge Disposal

The WWTP does not have sludge handling facilities on site as oxidation lagoons are not generally required to maintain sludge handling facilities. According to the operator, no significant sludge removal from the lagoon has taken place since construction.

7. Facility Sampling

The permittee collected samples according to the sampling frequencies and sample types described in the permit. Effluent grab samples were collected for pH, DO, TRC, NH_3-N, FC, TSS, and BOD_5 analyses.

8. Effluent and Receiving Waters

The final effluent had a light green color. However, there were no visible oil sheens or excess foaming observed in the final effluent.

FACILITY/EPA DATA DISCUSSION

EPA Sampling Methodology

Influent wastewater entered the treatment system (see Figure B) via a submerged force-main. Effluent 24-hour time composite samples were collected at outfall 001 using an ISCO (Model 3700) automatic sampler. Samples were collected and analyzed for Total Phosphorus (TP), total Kjeldahl nitrogen (TKN), nitrate/nitrite, BOD_5, TSS, NH_3-N and metals.

Effluent grab samples were also collected from outfall 001 for Fecal Coliform (FC), Dissolved Oxygen (DO), pH and temperature analyses. The samples collected for fecal coliform bacteria were analyzed by MDEQ at EPA's request.

Internal (in-plant) or 'process' grab samples were collected at designated locations (see Figure B) and analyzed for BOD_5 and TSS. Grab samples were also collected upstream and downstream of outfall 001 and analyzed for the same parameters as the plant effluent.

A continuous recording automatic meter capable of reading DO, pH, Temperature, Specific Conductivity and Turbidity at 10 minute intervals, was installed upstream and downstream of outfall 001 and collected data continuously during the 24-hours sampling period.

Table 1.0 summarizes the pertinent information on all grab and composite samples collected during this inspection. This table list the composite sample locations, the equipment used and parameters collected, the aliquot collected, and the frequency of collection for each composite sample during the compositing period.

A time-of-travel study using Rhodamine dye as a tracer was conducted during this inspection (see Attachment 3). The tracer study was used to determine the detention time of the wastewater in the treatment system and to investigate the possibility of short-circuiting of the treatment process. The study was conducted over approximately 20 days.

Table 1.0 (SESD Sampling Activities)
Hattiesburg North WWTP
Hattiesburg, Mississippi

Location	Equipment/Parameters	Aliquot	Frequency
Influent – (collected where pipe enters lagoon – sample A, Figure B)	Grab Sample collected manually. Parameters – Temperature, DO, pH	-	-
Influent – Industrial (collected at Pretreatment discharge)	Grab Sample collected manually. Parameters - BOD_5 & TSS	-	During discharge
Effluent – 001 (collected after chlorine contact chamber – sample E Figure B)	Composite Samples collected using an ISCO – 3700 portable automatic sampler. Parameters - BOD_5, TSS, NH_3-N, Nitrate/Nitrite, Total Kjeldahl, Total Phosphorus. Grab samples for fecal coliform.	150 mL	Every 15 minutes over 24 hours
Surface Water – Upstream/ Downstream (collected at pump industrial facility station)	Grab Samples collected manually. Parameters - BOD_5, TSS, NH_3-N, Nitrate/Nitrite, Total Kjeldahl, Total Phosphorus. Grab samples for fecal coliform.	-	-

Quality Assurance/Quality Control

Two preservative blanks and one equipment rinse blank were collected in 1-liter plastic containers filled with analyte-free water and analyzed for metals and nutrients. The preservative blanks were used to assess possible sample contamination during preservation and transportation of the samples. The equipment blank was used to determine contamination from the equipment used to collect the samples. The analytical results for the preservative blank (HTNR 0001) indicated low level Total Kjeldahl Nitrogen (0.12 mg/L).

MDEQ personnel collected and analyzed samples for fecal coliform bacteria. All samples collected by MDEQ personnel were handled in accordance with the appropriate procedures outlined in the MDEQ's standard operating manual.

All samples collected onsite by EPA personnel remained in the custody of EPA personnel and were transported to the SESD laboratory for analyses. Samples analyzed by SESD personnel were analyzed in accordance with the *SESD Analytical Support Branch Laboratory Operations and Quality Assurance Manual, January 6, 2011*. EPA sampling methods, field measurements, and calibration procedures were conducted in accordance with the following EPA Region 4 operating procedures:

i. Field pH Measurement (SESDPROC-100-R2)
ii. Field Temperature Measurement (SEDPROC-102-R3)
iii. Field Measurement of Dissolved Oxygen (SEDPROC-106-R2)

iv. Global Positioning System (SEDPROC-110-R3)
v. In-Situ Water Quality Monitoring (SEDPROC-111-R2)
vi. Surface Water sampling (SEDPROC-201-R1)
vii. Wastewater Sampling (SESDPROC-306-R2)
viii. Dye Tracer Measurements (SESDPROC-514-R0)

Table 2.0 shows a comparison between typical domestic influent wastewater pollutant concentrations and the analytical results obtained during the EPA sampling. The results indicate that higher than typical strength suspended solids wastewater is entering the lagoons from the industrial user. In addition, the table below summarizes the results obtained from samples collected at various internal 'process' locations. The objective of collecting samples at these locations was to track BOD_5 and TSS removal as wastewater progresses through the lagoons to final discharge at outfall 001.

Table 2.0 (Internal Process & Pretreatment Samples)
Hattiesburg North WWTP
Hattiesburg, Mississippi

Parameter (mg/L)	Typical Untreated Wastewater Value*			Influent Result**	Internal Process Samples		Pretreat (Dairy)
	Low	Medium	High		L1 to L2	L1 to L3	
BOD_5	110	190	350	289	120A	58A	140A
Suspended Solids	120	210	400	216	61	48	470
Ammonia NH_3-N	12	25	45	22	---		
Total Kjeldahl Nitrogen	20	40	70	---			
Total Phosphorus	4	7	12	---			

* - Metcalf & Eddy, Wastewater Treatment and Reuse 4th Edition, pg 186
** - Average results retrieved from EPA database for 1 year (2010 to 2011)
L1 to L2 – Sample taken where wastewater flow from Lagoon #1 to Lagoon #2
L1 to L3 – Sample taken where wastewater flow from Lagoon #1 to Lagoon #3
Pretreat. (Dairy) – Effluent from Dairy Fresh (Borden Dairy) pretreatment WWTP discharge
A - The analyte was analyzed in replicate. Reported value is an average of the replicates

Table 3.0 shows a summary of the facility's self-monitoring data from July 2008 through June 2011. The self-monitoring records showed that numerous exceedences occurred for BOD_5, TSS, TRC, and fecal coliform bacteria during this time period. The data shown was obtained from the EPA data base (PCS).

Table 3.0 (Historical Data Review)
Hattiesburg South WWTP
Hattiesburg, Mississippi

Date	BOD 5-day (mg/L)		Total Suspended Solids (mg/L)		Flow (mgd)	pH	Total Residual Chlorine (mg/L)		Fecal Coliform (#/100 ml)	
	Avg. 30	Max. 45	Avg. 30	Max. 45			Avg. 0.35	Max. 0.52	Avg.!	Max.!
31-Jul-08	18	18	19	19	1.22	6.88	0.32	0.38	70	70
31-Aug-08	14	14	10	10	1.49	6.91	0.31	0.37	40	40
30-Sep-08	4	4	14	14	1.63	6.87	0.28	0.33	230	230
31-Oct-08	15	15	14	14	1.26	7.15	0.3	0.35	800	800
30-Nov-08	6*	6*	17*	17*	1.35	6.7	0.3	0.34		
31-Dec-08	7*	7*	15*	15*	1.65	6.95	0.29	0.34		
31-Jan-09	7*	7*	10*	10*	1.65	6.98	0.29	0.42	128	16000
28-Feb-09	9*	9*	23*	23*	1.54	6.92	0.29	0.32		
31-Mar-09	36*	36*	29*	29*	1.88	6.07	0.24	0.35	2800	2800
30-Apr-09	6*	6*	28.5*	28.5*	1.34	6.74	0.13	0.19		
31-May-09	6*	6*	32.5*	32.5*	1.14	7.11	0.22	0.28		
30-Jun-09	12*	12*	15*	15*	1.88	7.2	0.19	0.29	20	20
31-Jul-09	8*	8*	41*	41*	0.21	6.76	0.13	0.15	40	40
31-Aug-09	11*	11*	12*	12*	2.03	6.54	0.12	0.15		
30-Sep-09	6*	6*	14*	14*	2.03	7.25	0.12	0.15	20	20
31-Oct-09	7*	7*	21*	21*	2.13	7.46	0.13	0.13	525	16000
30-Nov-09	13*	13*	22*	22*	1.88	7.4	0.12	0.14	20	20
31-Dec-09	42.5*	57*	14*	14*	2.65	7.39	0.12	0.13	170	170
31-Jan-10	41.1	132	26	26	1.41	7.79	0.12	0.13		
28-Feb-10	27	39	30	35	2.71	7.85	0.11	0.11		
31-Mar-10	26	26	48.3	76	2.25	6.98	0.1	0.12	40	40
30-Apr-10	22	49	30	44	2.25	7.5	0.1	0.12		
31-May-10	10	10	28	28	2.17	7.04	0.13	0.15	193	1700
30-Jun-10	15	15	25	25	2.2	7.06	0.15	0.2	22	500
31-Jul-10	5	5	28	28	2.05	7.4	0.19	0.23**	110	110
31-Aug-10	6	6	27	27	0.22	7.28	0.19	0.22**		
30-Sep-10	5	5	28	28	1.93	7.38	0.14	0.2**	15	230
31-Oct-10	8	8	35	35	2	7.4	0.13	0.13**	176	1700
30-Nov-10	11	11	34.2	40	1.92	7.21	0.13	0.19**	40	40
31-Dec-10	28.5	48	46.7	53	1.96	7.02	0.1	0.14**		
31-Jan-11	42	42	42	42	2.2	7.1	0.11	0.13**	11500	16000
28-Feb-11	22	22	60	60	2.26	6.76	0.4	0.8**	126	16000
31-Mar-11	18	18	32	40	2.5	7.09	0.5	0.9**		
30-Apr-11	28	28	36	36	2.7	7.24	0.2	0.2**	40	40
31-May-11	27	27	29	29	3.3	7.06	0.2	0.3**	20	20
30-Jun-11	25	32	40	49	3.4	7.63	0.2	0.3**	155	300

* - BOD limit Avg. = 50; Max. = 65

** - TRC limit Max. = 0.60

! Fecal Coli. limit seasonal (May - Oct.) Avg. = 200, Max. = 400; (Nov. - Apr.) Avg. = 2,000, Max. = 4,000

Permit limit exceedence show in bold red

Table 4.0 displays the current permit limits and summarizes the analytical results obtained by the SESD and MDEQ laboratories. The permit became effective on June 07, 2010 and will expire on May 31, 2015. Surface water sampling results are also shown in table 4.0 for comparison with the outfall results. At the time of this inspection, the analytical results indicate that the Bouie River had better water quality values than the effluent from the WWTP for all parameters except fecal coliform bacteria and suspended solids.

The analytical results obtained from the EPA sampling of the Hattiesburg North WWTP did not show any parameter exceeding the NPDES permit limits. The effluent from the Hattiesburg North WWTP was also analyzed for priority pollutant metals (see Attachment 2). The highest metal concentrations reported were from Calcium, Magnesium, Potassium and Sodium. No mercury was detected.

The results obtained from the dye study (see Attachment 3) at the Hattiesburg North WWTP confirmed that short-circuiting takes place in the treatment system. Short-circuiting reduces the amount of time the influent wastewater stays in the treatment system and therefore negatively impacts effluent quality. An estimated detention time of 8.1 days was obtained from the data. This result was in accordance with the calculated detention time at average flow of 7.7 days (see Attachment 4). However, the calculated value indicates that the WWTP was also organically overloaded and therefore unlikely to consistently produce an effluent quality that meets NPDES permit limits.

Table 4.0 (Summary of SESD Analytical Results)
Hattiesburg North WWTP
Hattiesburg, Mississippi

Parameter	Monthly Avg.	Weekly Max.	Monitoring Frequency	[1]Surface Water Upstream	[1]Surface Water Downstream	Effluent Results
Flow (MGD)	4	Report	3 Times/Week	---		2.4**
BOD, 5-day (mg/L)	30	45	Monthly	4.0K	4.0K	14
Suspended Solids (mg/L)	30	45	Monthly	33	36	24
Ammonia NH_3-N (mg/L)	Report		Quarterly	0.081	0.08	12
Total Nitrogen (mg/L)	Report		Quarterly	1.36	1.22	14.8
Total Phosphorus (mg/L)	Report		Quarterly	0.2	0.18	11
pH (Standard Units)	6.0 – 9.0		Monthly	6.1	6.6	7.49
TRC (mg/L)	0.35	0.6	3 Times/Week	---	---	
Fecal Coliform (Col/100 mL)*	200	400	Monthly	3,000	300	<20
Non-Permitted Parameters						
Temperature (°C)	---	---	---	26.1	25.9	34
Dissolved Oxygen (mg/L)				7.0	6.8	5.7
Nitrate/Nitrite (mg/L)				0.6	0.57	0.81
TKN (mg/L)				0.76J, QM2	0.65	14

* - Seasonal Limitations (May-Oct. permit limits). Result provided by MDEQ Laboratory
** - Value obtained from plant flow meter
! – Surface Water samples are collected as grabs
J - The identification of the analyte is acceptable; reported value is an estimate.
K - The identification of the analyte is acceptable; reported value may be biased high. The actual value is expected to be less than the reported value
QM2 – Matrix Spike recovery greater than method control limits.

CONCLUSIONS

The findings observed during the CSI and the analytical results obtained from the samples collected indicate that non-compliance at the Hattiesburg North WWTP generally stems from a combination of four factors:

1. Organic loading – The Hattiesburg North WWTP receives medium to high strength wastewater. This influent wastewater is applied over a small area and therefore the typical organic loading rates for lagoons are exceeded (see Attachment 4). Organic overloading reduces the overall treatment effectiveness of the plant and creates several issues such as reduced dissolved oxygen levels and the production and release of noxious odor compounds. In addition, organic overloading can become toxic to the bacteria necessary for treatment in natural systems which can lead to insufficient organic matter conversion. Excess organic loading promotes the buildup of solids in the lagoon. Solids build up in the lagoon reduces the overall detention time of the wastewater in the treatment process, and as a result, an effluent of lesser quality is produced.

2. Design – A thorough engineering study of the limitations of the current treatment system and an analysis of the available wastewater treatment technologies would be beneficial to the City of Hattiesburg. A key element to be considered in such a study is whether a redesigned natural system (lagoons) or a more mechanically intensive treatment option is best suited for this plant. The WWTP as it is currently configured could improve in overall treatment performance by reducing short-circuiting and adding a nutrient removal component to the plant. As illustrated by Figure B, a very large portion of lagoon #2 is not being utilized for wastewater processing. This loss in area usually translates to a reduction in effluent quality. Generally, when using natural systems such as lagoons to treat wastewater similar in characteristics to that of Hattiesburg North, a design that distributes the influent wastewater to several small lagoons or utilizes multiple inlets produces better quality effluent. It is also preferred to use a configuration that includes several separate treatment trains operating in parallel, with each treatment train comprising multiple lagoons operated in series.

3. Aeration – Several aerators were in use in the lagoons at the time of the inspection. However, most are located at the edge of the lagoon embankment and do not effectively deliver oxygen to the entire lagoon. Adequate aeration and mixing is required to supply the oxygen bacteria need to grow and convert organic matter as well as to suppress unpleasant odors. Proper aerator placement also assists in directing the flow of wastewater around the lagoon and thereby reducing the possibility of short-circuiting. Water will find the shortest and easier path through the treatment system. Therefore, any improvement that minimizes short-circuiting will improve effluent quality.

4. Pretreatment – Regardless of the design or type of treatment facility used, a rigorous pretreatment program is essential to consistently meeting NPDES permit requirements.

This is particularly important when dealing with high strength wastewater. Wastewater from Dairy industries can be difficult to treat and therefore require close monitoring. A pretreatment program that sets loading limits and monitors industrial users would assist the operators of the treatment plant in consistently meeting effluent permit limts.

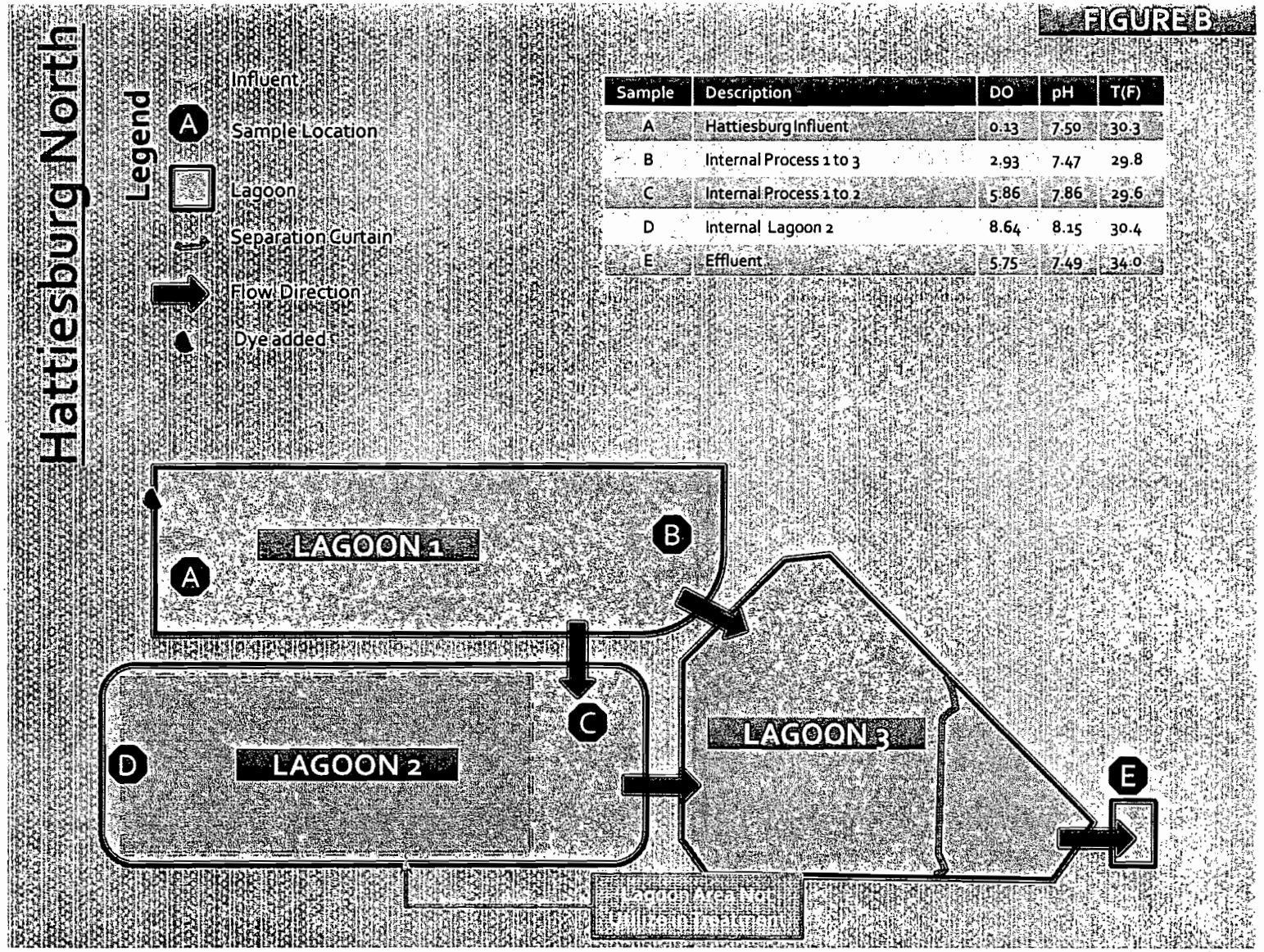

FIGURE B

Sample	Description	DO	pH	T(F)
A	Hattiesburg Influent	0.13	7.50	30.3
B	Internal Process 1 to 3	2.93	7.47	29.8
C	Internal Process 1 to 2	5.86	7.86	29.6
D	Internal Lagoon 2	8.64	8.15	30.4
E	Effluent	5.75	7.49	34.0

Figure B – Hattiesburg North Sample locations and treatment system layout.

REFERENCES

1. Wastewater Engineering: Treatment and Reuse, 4th Edition, Metcalf and Eddy, 2003
2. Environmental Reference Manual, 2nd Edition, Michael R. Lindeburg, 2003
3. USDI Water Measurement Manual, 3rd Edition, 2001
4. USEPA Process Control Workbook
5. USEPA Operations of Wastewater Treatment Plants

ATTACHMENTS

1. Photo log (1 Page)
2. SESD Analytical Results Report (39 Pages)
3. Hattiesburg Wastewater Treatment Plant Time-of Travel Study (14 Pages)
4. Process Calculations (3 Pages)

END OF REPORT

Hattiesburg North WWTP
Photo Log

ATTACHMENT 1

Above: Photo 806 – Outlet of pipe connecting lagoon #1 to #2 (foreground). Lagoon #2 outlet to Lagoon #3 structure (background).

Above: Photo 807 – Inlet of pipe connecting lagoon #1 to #2 (foreground). Aerator and Lagoon #1 outlet to Lagoon #3 structure (background).

Photographs were taken by Richard Elliott and Cornell Gayle during site visit on July 25 – 29, 2011.

ATTACHMENT 2

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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980 College Station Road, Athens, Georgia 30605-2700
D.A.R.T. Id: 11-0592
Project: 11-0592, Hattiesburg North Lagoon CSI - Reported by Jenny Scifres

September 8, 2011

4SESD-ASB

MEMORANDUM

SUBJECT: FINAL Analytical Report
Project: 11-0592, Hattiesburg North Lagoon CSI
Compliance Monitoring

FROM: Jenny Scifres
ASB Inorganic Chemistry Section Chief

THRU: Gary Bennett, Chief
Analytical Support Branch

TO: Richard Elliott

Attached are the final results for the analytical groups listed below. These analyses were performed in accordance with the Analytical Support Branch's (ASB) Laboratory Operations and Quality Assurance Manual (ASB LOQAM) found at www.epa.gov/region4/sesd/asbsop. Any unique project data quality objectives specified in writing by the data requestor have also been incorporated into the data unless otherwise noted in the Report Narrative. Chemistry data have been verified based on the ASB LOQAM specifications and may have been qualified if the applicable quality control criteria were not met. For a listing of specific data qualifiers and explanations, please refer to the Data Qualifier Definitions included in this report. The reported results are accurate within the limits of the method(s) and are representative only of the samples as received by the laboratory.

Analyses Included in this report:	Method Used:
Classical/Nutrient Analyses (CNA)	
Ammonia/TKN	EPA 350.1
Ammonia/TKN	EPA 351.2
Demand	SM 5210B
Nitrate and/or Nitrite	EPA 353.2
Phosphorous	EPA 365.1
Solids	SM 2540D

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SAMPLES INCLUDED IN THIS REPORT

Project: 11-0592, Hattiesburg North Lagoon CSI

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
HTNR-0001	E113109-01	Preservative Blank	7/27/11 21:19	7/29/11 9:01
HTNR-0016	E113109-04	Surface Water	7/27/11 10:45	7/29/11 9:01
HTNR-0017	E113109-05	Surface Water	7/27/11 10:45	7/29/11 9:01
HTNR-0014	E113109-07	Wastewater	7/27/11 15:16	7/29/11 9:01
HTNR-0024	E113109-08	Wastewater	7/27/11 15:16	7/29/11 9:01
HTNR-0021	E113109-09	Wastewater	7/27/11 13:55	7/29/11 9:01
HTNR-0007	E113109-10	Wastewater	7/27/11 16:08	7/29/11 9:01
HTNR-0015	E113109-11	Surface Water	7/27/11 10:30	7/29/11 9:01
HTNR-0018	E113109-12	Surface Water	7/27/11 10:30	7/29/11 9:01
HTNR-0025	E113109-13	Wastewater	7/27/11 13:50	7/29/11 9:01

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Classical/Nutrient Analyses

Project: 11-0592, Hattiesburg North Lagoon CSI

Sample ID: HTNR-0001 **Lab ID:** E113109-01

Station ID: **Matrix:** Preservative Blank

Date Collected: 7/27/11 21:19

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7664-41-7	Ammonia as N	0.050	U	mg/L	0.050	8/09/11 9:28	8/11/11 14:43	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	0.12	J, QR-1	mg/L	0.050	8/10/11 12:16	8/10/11 12:16	EPA 351.2
E701177	Nitrate/Nitrite as N	0.050	U	mg/L	0.050	8/24/11 20:01	8/24/11 20:01	EPA 353.2
7723-14-0	Total Phosphorus	0.010	U, J, QR-1	mg/L	0.010	8/12/11 8:45	8/15/11 14:14	EPA 365.1

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Classical/Nutrient Analyses

Project: 11-0592, Hattiesburg North Lagoon CSI

Sample ID: HTNR-0017 **Lab ID:** E113109-05
Station ID: DNSTRM **Matrix:** Surface Water

Date Collected: 7/27/11 10:45

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7664-41-7	Ammonia as N	0.080		mg/L	0.050	8/09/11 9:28	8/11/11 14:43	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	0.65		mg/L	0.050	8/10/11 12:16	8/10/11 12:16	EPA 351.2
E701177	Nitrate/Nitrite as N	0.57		mg/L	0.050	8/24/11 20:01	8/24/11 20:01	EPA 353.2
7723-14-0	Total Phosphorus	0.18		mg/L	0.010	8/12/11 8:45	8/15/11 14:14	EPA 365.1

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Classical/Nutrient Analyses

Project: 11-0592, Hattiesburg North Lagoon CSI

Sample ID: HTNR-0024 **Lab ID:** E113109-08

Station ID: EFF001 **Matrix:** Wastewater

Date Collected: 7/27/11 15:16

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD 5 Day	14		mg/L	2.0	7/29/11 12:58	7/29/11 12:58	SM 5210B
E1642818	Total Suspended Solids	24		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses

Project: 11-0592, Hattiesburg North Lagoon CSI

Sample ID: HTNR-0007 **Lab ID:** E113109-10
Station ID: PRETRT **Matrix:** Wastewater

Date Collected: 7/27/11 16:08

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640606	BOD, 5 Day	140	A	mg/L	2.0	7/29/11 13:33	7/29/11 13:33	SM 5210B
E1642818	Total Suspended Solids	470		mg/L	4.0	8/03/11 21:10	8/03/11 21:10	SM 2540D

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Classical/Nutrient Analyses

Project: 11-0592, Hattiesburg North Lagoon CSI

Sample ID: HTNR-0018 **Lab ID:** E113109-12
Station ID: UPSTRM **Matrix:** Surface Water

Date Collected: 7/27/11 10:30

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7664-41-7	Ammonia as N	0.081		mg/L	0.050	8/09/11 9:28	8/11/11 14:43	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	0.76	J, QM-2	mg/L	0.050	8/10/11 12:16	8/10/11 12:16	EPA 351.2
E701177	Nitrate/Nitrite as N	0.60		mg/L	0.050	8/24/11 20:01	8/24/11 20:01	EPA 353.2
7723-14-0	Total Phosphorus	0.20		mg/L	0.010	8/12/11 8:45	8/15/11 14:14	EPA 365.1

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Classical/Nutrient Analyses (CNA) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108014 - C 2540 Solids										
Blank (1108014-BLK1)				Prepared & Analyzed: 08/03/11						
SM 2540D										
Total Suspended Solids	U	4.0	mg/L							U
LCS (1108014-BS1)				Prepared & Analyzed: 08/03/11						
SM 2540D										
Total Suspended Solids	98.800	4.0	mg/L	96.600		102	83-109			
LCS Dup (1108014-BSD1)				Prepared & Analyzed: 08/03/11						
SM 2540D										
Total Suspended Solids	97.600	4.0	mg/L	96.600		101	83-109	1.22	10	
Duplicate (1108014-DUP1)		**Source: E113108-23**		Prepared & Analyzed: 08/03/11						
SM 2540D										
Total Suspended Solids	26.800	4.0	mg/L		26.100			2.65	10	
Duplicate (1108014-DUP2)		**Source: E113109-13**		Prepared & Analyzed: 08/03/11						
SM 2540D										
Total Suspended Solids	61.200	4.0	mg/L		60.600			0.985	10	
MRL Verification (1108014-PS1)				Prepared & Analyzed: 08/03/11						
SM 2540D										
Total Suspended Solids	3.3000	4.0	mg/L	4.8300		68.3	63-129			MRL-2, U
Batch 1108028 - C SM5210 BOD										
Blank (1108028-BLK1)				Prepared & Analyzed: 07/29/11						
SM 5210B										
BOD, 5 Day	U	2.0	mg/L							U
LCS (1108028-BS1)				Prepared & Analyzed: 07/29/11						
SM 5210B										
BOD, 5 Day	196.00	2.0	mg/L	195.00		101	79-133			
LCS Dup (1108028-BSD1)				Prepared & Analyzed: 07/29/11						
SM 5210B										
BOD, 5 Day	198.50	2.0	mg/L	195.00		102	79-133	1.27	10	

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Classical/Nutrient Analyses (CNA) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108043 - C 350.1 Ammonia										
MRL Verification (1108043-PS1)				Prepared: 08/09/11 Analyzed: 08/11/11						
Batch 1108052 - C 351.2 TKN										
Blank (1108052-BLK1)				Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	U	0.050	mg/L							U
LCS (1108052-BS1)				Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	2.3735	0.050	mg/L	2.3400		101	90-110			
LCS Dup (1108052-BSD1)				Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	2.3686	0.050	mg/L	2.3400		101	90-110	0.207	15	
Matrix Spike (1108052-MS1)		**Source: E113108-24RE1**		Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	1.5485	0.050	mg/L	1.0000	0.69440	85.4	90-110			QM-1
Matrix Spike (1108052-MS2)		**Source: E113109-12RE1**		Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	1.9853	0.050	mg/L	1.0000	0.75760	123	90-110			QM-2
Matrix Spike Dup (1108052-MSD1)		**Source: E113108-24RE1**		Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	1.6120	0.050	mg/L	1.0000	0.69440	91.8	90-110	7.17	20	
Matrix Spike Dup (1108052-MSD2)		**Source: E113109-12RE1**		Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	1.9482	0.050	mg/L	1.0000	0.75760	119	90-110	3.07	20	QM-2
MRL Verification (1108052-PS1)				Prepared & Analyzed: 08/10/11						
EPA 351.2										
Total Kjeldahl Nitrogen	0.029300	0.050	mg/L	0.050000		58.6	70-130			MRL-2, QR-1, U

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Classical/Nutrient Analyses (CNA) - Quality Control
US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108061 - C 365.1 TPhos										
Matrix Spike (1108061-MS4)		**Source: E113109-12**		Prepared: 08/12/11 Analyzed: 08/15/11						
EPA 365.1										
Total Phosphorus	0.68670	0.010	mg/L	0.50000	0.20450	96.4	90-110			
Matrix Spike Dup (1108061-MSD1)		**Source: E113103-38RE1**		Prepared: 08/12/11 Analyzed: 08/15/11						
EPA 365.1										
Total Phosphorus	0.57590	0.010	mg/L	0.50000	0.061700	103	90-110	1.35	10	
Matrix Spike Dup (1108061-MSD2)		**Source: E113202-07**		Prepared: 08/12/11 Analyzed: 08/15/11						
EPA 365.1										
Total Phosphorus	0.56650	0.010	mg/L	0.50000	0.055500	102	90-110	0.628	10	
Matrix Spike Dup (1108061-MSD3)		**Source: E113108-24**		Prepared: 08/12/11 Analyzed: 08/15/11						
EPA 365.1										
Total Phosphorus	0.64850	0.010	mg/L	0.50000	0.15510	98.7	90-110	0.405	10	
Matrix Spike Dup (1108061-MSD4)		**Source: E113109-12**		Prepared: 08/12/11 Analyzed: 08/15/11						
EPA 365.1										
Total Phosphorus	0.68550	0.010	mg/L	0.50000	0.20450	96.2	90-110	0.249	10	
MRL Verification (1108061-PS1)				Prepared: 08/12/11 Analyzed: 08/15/11						
EPA 365.1										
Total Phosphorus	0.0056000	0.010	mg/L	0.010000		56.0	70-130			MRL-2, QR-1, U
Batch 1108134 - C 353.2 NO3-NO2										
Blank (1108134-BLK1)				Prepared & Analyzed: 08/24/11						
EPA 353.2										
Nitrate/Nitrite as N	U	0.050	mg/L							U
LCS (1108134-BS1)				Prepared & Analyzed: 08/24/11						
EPA 353.2										
Nitrate/Nitrite as N	0.47860	0.050	mg/L	0.50000		95.7	90-110			
LCS Dup (1108134-BSD1)				Prepared & Analyzed: 08/24/11						
EPA 353.2										
Nitrate/Nitrite as N	0.48840	0.050	mg/L	0.50000		97.7	90-110	2.03	10	

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Notes and Definitions for QC Samples

U	The analyte was not detected at or above the reporting limit.
MRL-2	MRL verification for Non-Potable Water matrix
QM-1	Matrix Spike Recovery less than method control limits
QM-2	Matrix Spike Recovery greater than method control limits
QR-1	MRL verification recovery less than lower control limits.

Sample Disposal Policy

Because of the laboratory's limited space for long term sample storage, our policy is to dispose of samples on a periodic schedule. Please note that within 60 days of this memo, the original samples and all sample extracts and/or sample digestates will be disposed of in accordance with applicable regulations. The 60-day sample disposal policy does not apply to criminal samples which are held until the laboratory is notified by the criminal investigators that case development and litigation are complete.

These samples may be held in the laboratory's custody for a longer period of time if you have a special project need. If you wish for the laboratory to hold samples beyond the 60-day period, please contact our Sample Control Coordinator, Debbie Colquitt, by e-mail at Colquitt.Debbie@epa.gov, and provide a reason for holding samples beyond 60 days

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DATA QUALIFIER DEFINITIONS

U	The analyte was not detected at or above the reporting limit.
J	The identification of the analyte is acceptable; the reported value is an estimate.
OC-5	Calibration check standard less than method control limits.

ACRONYMS AND ABBREVIATIONS

CAS Chemical Abstracts Service

Note: Analytes with no known CAS identifiers have been assigned codes beginning with "E", the EPA ID as assigned by the EPA Substance Registry System (www.epa.gov/srs), or beginning with "R4-", a unique identifier assigned by the EPA Region 4 laboratory.

MDL Method Detection Limit - The minimum concentration of a substance (an analyte) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero.

MRL Minimum Reporting Limit - Analyte concentration that corresponds to the lowest demonstrated level of acceptable quantitation. The MRL is sample-specific and accounts for preparation weights and volumes, dilutions, and moisture content of soil/sediments.

TIC Tentatively Identified Compound - An analyte identified based on a match with the instrument software's mass spectral library. A calibration standard has not been analyzed to confirm the compound's identification or the estimated concentration reported.

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Total Metals

Project: 11-0592, Hattiesburg North Lagoon CSI

Sample ID: HTNR-0003 **Lab ID:** E113109-03

Station ID: **Matrix:** Rinse Water Blank

Date Collected: 7/27/11 12:36

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7439-97-6	Mercury	0.10 U		ug/L	0.10	8/23/11 8:50	8/23/11 13:41	EPA 245.1
7429-90-5	Aluminum	100 U		ug/L	100	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-36-0	Antimony	1.0 U		ug/L	1.0	8/03/11 15:47	8/11/11 20:04	EPA 200.8
7440-38-2	Arsenic	1.0 U		ug/L	1.0	8/03/11 15:47	8/11/11 20:04	EPA 200.8
7440-39-3	Barium	5.0 U	J, QC-5	ug/L	5.0	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-41-7	Beryllium	3.0 U		ug/L	3.0	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-43-9	Cadmium	0.50 U		ug/L	0.50	8/03/11 15:47	8/11/11 20:04	EPA 200.8
7440-70-2	Calcium	250 U		ug/L	250	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-47-3	Chromium	5.0 U		ug/L	5.0	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-48-4	Cobalt	5.0 U		ug/L	5.0	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-50-8	Copper	10 U		ug/L	10	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7439-89-6	Iron	100 U		ug/L	100	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7439-92-1	Lead	1.0 U		ug/L	1.0	8/03/11 15:47	8/11/11 20:04	EPA 200.8
7439-95-4	Magnesium	250 U		ug/L	250	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7439-96-5	Manganese	5.0 U		ug/L	5.0	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7439-98-7	Molybdenum	5.0 U		ug/L	5.0	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-02-0	Nickel	10 U		ug/L	10	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-09-7	Potassium	1000 U		ug/L	1000	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7782-49-2	Selenium	2.0 U		ug/L	2.0	8/03/11 15:47	8/11/11 20:04	EPA 200.8
7440-22-4	Silver	5.0 U		ug/L	5.0	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-23-5	Sodium	1000 U		ug/L	1000	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-24-6	Strontium	5.0 U		ug/L	5.0	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-28-0	Thallium	1.0 U		ug/L	1.0	8/03/11 15:47	8/11/11 20:04	EPA 200.8
7440-31-5	Tin	15 U		ug/L	15	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-32-6	Titanium	5.0 U		ug/L	5.0	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-62-2	Vanadium	5.0 U		ug/L	5.0	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-65-5	Yttrium	3.0 U		ug/L	3.0	8/03/11 15:17	8/10/11 18:15	EPA 200.7
7440-66-6	Zinc	10 U		ug/L	10	8/03/11 15:17	8/10/11 18:15	EPA 200.7

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Total Metals (TMTL) - Quality Control

US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108015 - M 200.2 Metals Water										
Blank (1108015-BLK1)				Prepared: 08/03/11 Analyzed: 08/10/11						
EPA 200.7										
Silver	U	5.0	ug/L							U
Arsenic	U	50	"							U
Barium	U	5.0	"							U
Beryllium	U	3.0	"							U
Boron	U	50	"							U
Cadmium	U	5.0	"							U
Cobalt	U	5.0	"							U
Chromium	U	5.0	"							U
Copper	U	10	"							U
Molybdenum	U	5.0	"							U
Nickel	U	10	"							U
Lead	U	20	"							U
Antimony	U	40	"							U
Selenium	U	45	"							U
Tin	U	15	"							U
Strontium	U	5.0	"							U
Titanium	U	5.0	"							U
Thallium	U	30	"							U
Vanadium	U	5.0	"							U
Yttrium	U	3.0	"							U
Zinc	U	10	"							MRL-2, U
Aluminum	U	100	"							U
Manganese	U	5.0	"							U
Calcium	U	250	"							U
Magnesium	U	250	"							U
Iron	U	100	"							U
Sodium	U	1000	"							U
Potassium	U	1000	"							U

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US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108015 - M 200.2 Metals Water										
Matrix Spike (1108015-MS1)		**Source: E113108-15**		Prepared: 08/03/11 Analyzed: 08/10/11						
EPA 200.7										
Silver	104.66	5.0	ug/L	100.00	U	105	70-130			
Arsenic	210.63	50	"	200.00	U	105	70-130			
Barium	276.38	5.0	"	200.00	73.113	102	70-130			
Beryllium	52.399	3.0	"	50.000	U	105	70-130			
Boron	134.19	50	"		131.14		70-130			
Cadmium	50.275	5.0	"	50.000	U	101	70-130			
Cobalt	99.390	5.0	"	100.00	1.0338	98.4	70-130			
Chromium	204.15	5.0	"	200.00	U	102	70-130			
Copper	144.91	10	"	100.00	38.571	106	70-130			
Molybdenum	125.00	5.0	"	100.00	18.275	107	70-130			
Nickel	206.55	10	"	200.00	3.8845	101	70-130			
Lead	200.87	20	"	200.00	U	100	70-130			
Antimony	210.08	40	"	200.00	U	105	70-130			
Selenium	217.96	45	"	200.00	U	109	70-130			
Tin	97.092	15	"	100.00	U	97.1	70-130			
Strontium	382.63	5.0	"	100.00	266.90	116	70-130			
Titanium	108.33	5.0	"	100.00	4.8200	104	70-130			
Thallium	181.84	30	"	200.00	U	90.9	70-130			
Vanadium	105.73	5.0	"	100.00	U	106	70-130			
Yttrium	104.42	3.0	"	100.00	1.2053	103	70-130			
Zinc	307.51	10	"	200.00	92.342	108	70-130			
Aluminum	6076.0	100	"	5000.0	629.85	109	70-130			
Manganese	645.96	5.0	"	500.00	116.23	106	70-130			
Calcium	22657	250	"	5000.0	17257	108	70-130			
Magnesium	11372	250	"	5000.0	5667.7	114	70-130			
Iron	7035.9	100	"	5000.0	1598.6	109	70-130			
Sodium	119600	1000	"	10000	105280	143	70-130			XM-1
Potassium	28028	1000	"	10000	18545	94.8	70-130			

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Total Metals (TMTL) - Quality Control

US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108015 - M 200.2 Metals Water										
Matrix Spike Dup (1108015-MSD1)		**Source: E113108-15**		Prepared: 08/03/11 Analyzed: 08/10/11						
EPA 200.7										
Silver	98.978	5.0	ug/L	100.00	U	99.0	70-130	5.58	20	
Arsenic	202.30	50	"	200.00	U	101	70-130	4.03	20	
Barium	265.93	5.0	"	200.00	73.113	96.4	70-130	3.86	20	
Beryllium	50.840	3.0	"	50.000	U	102	70-130	3.02	20	
Boron	127.76	50	"		131.14		70-130	4.91	20	
Cadmium	47.942	5.0	"	50.000	U	95.9	70-130	4.75	20	
Cobalt	94.303	5.0	"	100.00	1.0338	93.3	70-130	5.25	20	
Chromium	193.31	5.0	"	200.00	U	96.7	70-130	5.46	20	
Copper	139.60	10	"	100.00	38.571	101	70-130	3.73	20	
Molybdenum	117.65	5.0	"	100.00	18.275	99.4	70-130	6.06	20	
Nickel	195.43	10	"	200.00	3.8845	95.8	70-130	5.53	20	
Lead	190.83	20	"	200.00	U	95.4	70-130	5.13	20	
Antimony	197.92	40	"	200.00	U	99.0	70-130	5.96	20	
Selenium	213.27	45	"	200.00	U	107	70-130	2.17	20	
Tin	94.633	15	"	100.00	U	94.6	70-130	2.57	20	
Strontium	355.59	5.0	"	100.00	266.90	88.7	70-130	7.33	20	
Titanium	105.68	5.0	"	100.00	4.8200	101	70-130	2.47	20	
Thallium	176.60	30	"	200.00	U	88.3	70-130	2.92	20	
Vanadium	100.46	5.0	"	100.00	U	100	70-130	5.11	20	
Yttrium	98.686	3.0	"	100.00	1.2053	97.5	70-130	5.65	20	
Zinc	292.80	10	"	200.00	92.342	100	70-130	4.90	20	
Aluminum	5809.7	100	"	5000.0	629.85	104	70-130	4.48	20	
Manganese	615.33	5.0	"	500.00	116.23	99.8	70-130	4.86	20	
Calcium	21525	250	"	5000.0	17257	85.3	70-130	5.13	20	
Magnesium	10816	250	"	5000.0	5667.7	103	70-130	5.01	20	
Iron	6824.8	100	"	5000.0	1598.6	105	70-130	3.05	20	
Sodium	112430	1000	"	10000	105280	71.4	70-130	6.18	20	XM-1
Potassium	27088	1000	"	10000	18545	85.4	70-130	3.41	20	

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Total Metals (TMTL) - Quality Control
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108015 - M 200.2 Metals Water										
MRL Verification (1108015-PS1)				Prepared: 08/03/11 Analyzed: 08/10/11						
EPA 200.7										
Silver	5.5080	5.0	ug/L	5.0000		110	70-130			MRL-2
Arsenic	45.791	50	"	50.000		91.6	70-130			MRL-2, U
Barium	6.0554	5.0	"	5.0000		121	70-130			MRL-2
Beryllium	3.0741	3.0	"	3.0000		102	70-130			MRL-2
Boron	51.086	50	"	50.000		102	70-130			MRL-2
Cadmium	4.9672	5.0	"	5.0000		99.3	70-130			MRL-2, U
Cobalt	5.1286	5.0	"	5.0000		103	70-130			MRL-2
Chromium	5.0481	5.0	"	5.0000		101	70-130			MRL-2
Copper	10.100	10	"	10.000		101	70-130			MRL-2
Molybdenum	11.234	5.0	"	10.000		112	70-130			MRL-2
Nickel	11.578	10	"	10.000		116	70-130			MRL-2
Lead	19.158	20	"	20.000		95.8	70-130			MRL-2, U
Antimony	40.471	40	"	40.000		101	70-130			MRL-2
Selenium	50.462	45	"	45.000		112	70-130			MRL-2
Tin	15.374	15	"	15.000		102	70-130			MRL-2
Strontium	5.5439	5.0	"	5.0000		111	70-130			MRL-2
Titanium	5.0386	5.0	"	5.0000		101	70-130			MRL-2
Thallium	28.767	30	"	30.000		95.9	70-130			MRL-2, U
Vanadium	4.2505	5.0	"	5.0000		85.0	70-130			MRL-2, U
Yttrium	3.1892	3.0	"	3.0000		106	70-130			MRL-2
Zinc	10.510	10	"	10.000		105	70-130			MRL-2
Aluminum	119.29	100	"	100.00		119	70-130			MRL-2
Manganese	5.1329	5.0	"	5.0000		103	70-130			MRL-2
Calcium	329.18	250	"	250.00		132	70-130			MRL-2, QR-2
Magnesium	273.50	250	"	250.00		109	70-130			MRL-2
Iron	110.13	100	"	100.00		110	70-130			MRL-2
Sodium	1332.2	1000	"	1000.0		133	70-130			MRL-2, QR-2
Potassium	1021.0	1000	"	1000.0		102	70-130			MRL-2

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US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1108016 - M 200.2 Metals Water										
Matrix Spike Dup (1108016-MSD1)		**Source: E113108-15**		Prepared: 08/03/11 Analyzed: 08/11/11						
EPA 200.8										
Arsenic	203.10	5.0	ug/L	200.00	1.0871	101	70-130	0.178	20	
Selenium	205.25	10	"	200.00	0.56160	102	70-130	0.444	20	
Cadmium	49.223	2.5	"	50.000	0.087054	98.3	70-130	1.44	20	
Antimony	193.45	5.0	"	200.00	0.27743	96.6	70-130	0.984	20	
Thallium	207.19	5.0	"	200.00	U	104	70-130	0.218	20	
Lead	199.99	5.0	"	200.00	1.0380	99.5	70-130	0.109	20	
Matrix Spike Dup (1108016-MSD2)		**Source: E113109-06**		Prepared: 08/03/11 Analyzed: 08/11/11						
EPA 200.8										
Arsenic	197.63	5.0	ug/L	200.00	0.83490	98.4	70-130	1.28	20	
Selenium	200.40	10	"	200.00	U	100	70-130	2.02	20	
Cadmium	48.329	2.5	"	50.000	U	96.7	70-130	1.19	20	
Antimony	191.09	5.0	"	200.00	0.29339	95.4	70-130	1.12	20	
Thallium	206.79	5.0	"	200.00	U	103	70-130	0.652	20	
Lead	200.19	5.0	"	200.00	1.7675	99.2	70-130	1.28	20	
MRL Verification (1108016-PS1)				Prepared: 08/03/11 Analyzed: 08/11/11						
EPA 200.8										
Arsenic	0.98602	1.0	ug/L	1.0000		98.6	65-135			MRL-2, U
Selenium	2.0654	2.0	"	2.0000		103	65-135			MRL-2
Cadmium	0.47697	0.50	"	0.50000		95.4	65-135			MRL-2, U
Antimony	0.51639	1.0	"	0.50000		103	65-135			MRL-2, U
Thallium	0.54100	1.0	"	0.50000		108	65-135			MRL-2, U
Lead	0.70817	1.0	"	1.0000		70.8	65-135			MRL-2, U
Batch 1108099 - M 245.1 Hg Wtr										
Blank (1108099-BLK1)				Prepared & Analyzed: 08/23/11						
EPA 245.1										
Mercury	U	0.10	ug/L							U

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Notes and Definitions for QC Samples

U	The analyte was not detected at or above the reporting limit.
B-3	Level in blank does not impact data quality
MRL-2	MRL verification for Non-Potable Water matrix
QC-5	Calibration check standard less than method control limits.
QC-6	Calibration check standard greater than method control limits.
QR-2	MRL verification recovery greater than upper control limits.
XM-1	Sample background/spike ratio higher than method evaluation criteria

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1.0 Introduction

At the request of Richard Elliot of the EPA Region 4 Science and Ecosystem Support Division (SESD), Enforcement and Investigations Branch (EIB), the Ecological Assessment Branch (EAB) conducted dye tracer studies to determine the time of travel in the Hattiesburg South and Hattiesburg North Wastewater Treatment Plants in Hattiesburg, Mississippi as part of compliance sampling inspections led by EPA.

Dye studies were conducted under Quality Assurance Project Plans prepared by the EIB project leader for compliance sampling inspections at each facility.

2.0 Objectives

The primary objective of this survey was to conduct dye tracer studies to determine the time of travel in the Hattiesburg South and Hattiesburg North Wastewater Treatment Plants in Hattiesburg, Mississippi.

3.0 Study Area

For the North plant an outfall pipe located at the chlorination basin was monitored during this study. After equipment setup at the monitoring location, the dye tracer study commenced with a release of dye at the Northwest side of the lagoon near the main discharge into the treatment plant.

For the South plant an outfall pipe located at the chlorination basin was monitored during this study. After equipment setup at the monitoring location, the dye tracer study commenced with a release of dye at the Southwest side of the lagoon near the main industrial discharge into the treatment plant.

Site	Latitude	Longitude
North Plant Monitoring Site	N 31° 21.677′	W 089° 20.261′
North Plant Dye Release	N 31° 21.623′	W 089° 19.972′
South Plant Monitoring Site	N 31° 18.138′	W 089° 16.254′
South Plant Dye Release	N 31° 18.917′	W 089° 15.549′

Table 1: Locations of Study Sites

4.0 Methods

At both plants a single "instantaneous" release of Rhodamine WT was conducted at a main discharge into the treatment plant. Monitoring for Rhodamine WT dye was conducted at the plants' outfall pipes using YSI Data Sondes. The sondes were utilized

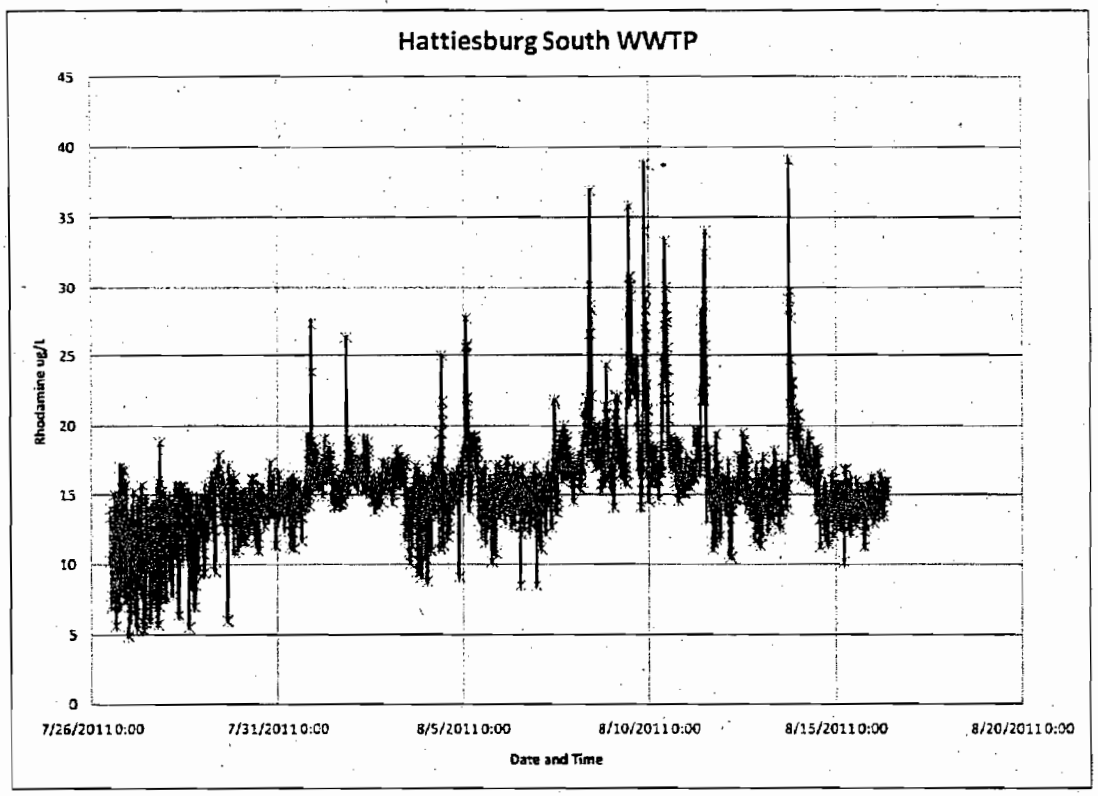

Figure 1: Hattiesburg South WWTP Dye Tracer Data

5.2 Hattiesburg North Wastewater Treatment Plant

At approximately 1620 on July 26, 2011, at the Hattiesburg North Wastewater Treatment Plant a sonde was deployed in order to measure background readings in the outfall.

An "instantaneous" Rhodamine WT release was conducted at 1500 on July 27, 2011. Following the release, the sonde was left deployed for an extended period of time in an effort to ensure that the dye cloud was captured by the equipment. The sonde was retrieved for its location at approximately 900 on August 16, 2011. The data collected by the sonde is illustrated in the Figure 2. It should be noted that at approximately 1600 on August 9 the sonde discontinued the logging program.

7.0 Conclusion

On July 26, 2011, the Ecological Assessment Branch of EPA/SESD initiated two dye tracer studies in Hattiesburg, Mississippi. The studies were designed to determine the time of travel of the Hattiesburg North and Hattiesburg South Wastewater Treatment Plants. The studies consisted of an "instantaneous" release of Rhodamine WT at both treatment plants followed by monitoring at the plants' outfall.

Unusually high background levels from the Hattiesburg South WWTP combined with no clear initial detection of dye precluded determination of a time of travel. Data spikes were detected at intermittent intervals throughout the entire duration of the study but are most likely the result of the background levels found in the lagoon. At the time of the instrument's retrieval, elevated levels of dye beyond the back ground levels had not been detected therefore it can be concluded that most of the dye remained in the plant for a time period the exceeded the sonde deployment.

The discontinuation of the sonde logging program at the Hattiesburg North WWTP precluded determination of a precise time of travel. It is evident that the first elevated sign of dye was detected on July 28 at approximately 0530. An estimated centroid was calculated from the data set in order to produce an estimated time of travel. The estimated centroid reached the monitoring station on August 4 at 0815 equating to a time of travel of 8.13 days. From the results it can be concluded that even though the concentration levels, at the time the sonde discontinued logging, were slightly higher then the initial background level the majority of the dye had been released from the system.

8.0 References

Operating Procedure for Global Positioning System, SESDPROC-110-R3, 2011, Region 4, SESD, Athens, Georgia.

Operating Procedure for In-Situ Water Quality Monitoring, SESDPROC-111-R2, 2009, Region 4, SESD, Athens, Georgia.

Operating Procedure for Hydrological Studies, SESDPROC-501-R2, 2009, Region 4, SESD, Athens, Georgia.

Operating Procedure for Dye Tracer Measurement, SESDPROC-514-R0, 2009, Region 4, SESD, Athens, Georgia.

Operating Procedure for Surface Water Sampling, SESDPROC-201-R1, 2007, Region 4, SESD, Athens, Georgia.

End of Report

44	7/26/2011 22:20	26.02	0.134	6.62	36.9	83.4	6.76
45	7/26/2011 22:30	25.98	0.135	6.63	35.7	83.3	6.76
46	7/26/2011 22:40	25.95	0.136	6.65	38.4	83.9	6.81
47	7/26/2011 22:50	25.95	0.136	6.63	35	82.5	6.7
48	7/26/2011 23:00	25.92	0.136	6.63	39.3	82.2	6.68
49	7/26/2011 23:10	25.91	0.135	6.62	42.4	82.4	6.69
50	7/26/2011 23:20	25.86	0.135	6.63	47.3	83.2	6.77
51	7/26/2011 23:30	25.84	0.135	6.62	47.7	82.9	6.74
52	7/26/2011 23:40	25.82	0.136	6.63	52.1	82.5	6.71
53	7/26/2011 23:50	25.81	0.136	6.62	50.1	81.9	6.67
54	7/27/2011 0:00	25.79	0.135	6.61	53.5	80.8	6.58
55	7/27/2011 0:10	25.78	0.135	6.6	49.1	80.9	6.59
56	7/27/2011 0:20	25.74	0.137	6.63	57.3	81.1	6.61
57	7/27/2011 0:30	25.73	0.135	6.6	51	80.7	6.58
58	7/27/2011 0:40	25.69	0.136	6.61	54.3	81	6.61
59	7/27/2011 0:50	25.63	0.135	6.61	54.1	82.2	6.71
60	7/27/2011 1:00	25.61	0.135	6.61	56.7	81.7	6.68
61	7/27/2011 1:10	25.61	0.135	6.6	57.4	79.9	6.53
62	7/27/2011 1:20	25.53	0.136	6.61	49.8	81.7	6.68
63	7/27/2011 1:30	25.51	0.136	6.62	49.8	81.6	6.68
64	7/27/2011 1:40	25.52	0.137	6.61	52.5	80.6	6.59
65	7/27/2011 1:50	25.49	0.137	6.62	47	80	6.55
66	7/27/2011 2:00	25.44	0.137	6.63	45.9	81	6.64
67	7/27/2011 2:10	25.43	0.136	6.61	44.3	80.2	6.58
68	7/27/2011 2:20	25.43	0.136	6.6	48.3	79.3	6.5
69	7/27/2011 2:30	25.33	0.135	6.6	39.1	82	6.73
70	7/27/2011 2:40	25.34	0.137	6.61	41.8	80.5	6.61
71	7/27/2011 2:50	25.35	0.138	6.61	42.2	79.1	6.49
72	7/27/2011 3:00	25.28	0.136	6.62	37.1	81.4	6.69
73	7/27/2011 3:10	25.27	0.137	6.63	34.7	81.4	6.69
74	7/27/2011 3:20	25.24	0.136	6.61	36.7	81.5	6.7
75	7/27/2011 3:30	25.23	0.136	6.61	36.3	81.2	6.68
76	7/27/2011 3:40	25.21	0.138	6.62	35.9	80.2	6.6
77	7/27/2011 3:50	25.2	0.138	6.63	33.3	81.1	6.67
78	7/27/2011 4:00	25.18	0.137	6.61	32.2	81.7	6.72
79	7/27/2011 4:10	25.18	0.139	6.64	31.2	81.6	6.72
80	7/27/2011 4:20	25.17	0.138	6.63	34.3	80.3	6.62
81	7/27/2011 4:30	25.15	0.138	6.62	33.4	80.4	6.62
82	7/27/2011 4:40	25.15	0.139	6.62	34.2	78.9	6.5
83	7/27/2011 4:50	25.12	0.138	6.62	30.6	80.7	6.65
84	7/27/2011 5:00	25.11	0.138	6.62	32.2	81.9	6.75
85	7/27/2011 5:10	25.11	0.138	6.61	31.9	81	6.68
86	7/27/2011 5:20	25.11	0.139	6.61	32.4	80	6.6
87	7/27/2011 5:30	25.08	0.138	6.61	31.2	80.3	6.62
88	7/27/2011 5:40	25.08	0.138	6.6	31.8	81.5	6.72
89	7/27/2011 5:50	25.07	0.139	6.62	32.7	80.7	6.65
90	7/27/2011 6:00	25.05	0.14	6.62	29.6	79.8	6.58

138	7/27/2011 14:00	27.07	0.138	6.62	29.7	86.2	6.86
139	7/27/2011 14:10	27.12	0.139	6.62	28.8	86.7	6.89
140	7/27/2011 14:20	27.16	0.139	6.62	28.5	85.9	6.82
141	7/27/2011 14:30	27.26	0.138	6.62	27.6	86.6	6.87
142	7/27/2011 14:40	27.26	0.139	6.62	36.8	85.8	6.81
143	7/27/2011 14:50	27.26	0.139	6.61	27.3	85.4	6.77
144	7/27/2011 15:00	27.29	0.139	6.62	28.8	85.6	6.78
145	7/27/2011 15:10	27.35	0.14	6.62	28.2	85.9	6.8
146	7/27/2011 15:20	27.36	0.14	6.62	25.9	84.8	6.71
147	7/27/2011 15:30	27.41	0.14	6.62	35.7	84.8	6.7

Detention Time = Volume/Flow

Lagoons 1

Design Detention time = $10.4 \times 10^6 / 4.0 \times 10^6$

= 2.6 days

Average Detention time = $10.4 \times 10^6 / 2.2 \times 10^6$

= 4.7 days

Lagoons 3

Design Detention time = $6.6 \times 10^6 / 4.0 \times 10^6$

= 1.7 days

Average Detention time = $6.6 \times 10^6 / 2.2 \times 10^6$

= 3.0 days

Total Detention Time **= 4.3 days at Design flow**
= 7.7 days at Average flow

Typical Range: 4 – 10 days [Mechanically Aerated Lagoons]
7 – 30 days [Facultative Naturally Aerated Lagoons]

Calculated detention times may be slightly longer since the small amount of time wastewater spends in lagoon #2 is not included in the above calculations.

Organic Loading Rate (OLR) = (Flow*BOD*8.34)/Area

Average Influent BOD = 289 mg/L

Lagoon 1

OLR at Design Flow = (4.0*289*8.34)/5.32
= 1,819.1 lbm/acre.day

211 11-0591

FILE COPY

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4

Enforcement and Investigations Branch
980 College Station Road
Athens, Georgia 30605-2720

July 21, 2011

4SESD-EIB

MEMORANDUM:

SUBJECT: Compliance Sampling Inspection
Hattiesburg South & Hattiesburg North Wastewater Treatment Plant
Hattiesburg, Mississippi
SESD Project ID: 11-0591, 11-0592 (respectively)

FROM: Richard Elliott, P.E.; Environmental Engineer
Enforcement Section

THRU: Mike Bowden, Chief
Enforcement Section

TO: Cesar Zapata, Chief
Municipal & Industrial Enforcement Section
Water Protection Division

Attached are copies of the Quality Assurance Project Plans for the Compliance Sampling Inspections (CSI) that will be conducted at the Hattiesburg South and Hattiesburg North Wastewater Treatment Plants on July 25 – 29, 2011. These facilities are located in Hattiesburg, Mississippi. The attached documents have not been distributed; please forward copies to the appropriate parties as needed. If you have any questions, please contact me by telephone at (706) 355-8631, or via email at Elliott.Richard@epa.gov.

SESD:	Samples will be analyzed in accordance with the *SESD Analytical Support Branch Laboratory Operations and Quality Assurance Manual, January 2011.*
CLP:	N/A
Other: MDEQ	Samples will be analyzed by MDEQ in accordance with their standard analytical procedures.

B5. Quality Control

The following is a brief description of field and laboratory quality control measures to be implemented during this field investigation:

Field:	Field quality control measures will be in accordance with the *SESD Operating Procedure for Field Sampling Quality Control,* SESDPROC-011-R3, and *40 CFR Part 136.*
Laboratory:	The MDEQ laboratory personnel will conduct all quality control analyses in accordance with their most current operating procedures. SESD analyses adhere to the quality control measures specified in the *SESD Analytical Support Branch Laboratory Operations and Quality Assurance Manual, January 2011.*

B6. Instrument/Equipment Testing, Inspection and Maintenance

All field measurement instruments and equipment will be maintained in accordance with the *SESD Operating Procedure for Equipment Inventory and Management,* SESDPROC-108-R3.

B7. Instrument/Equipment Calibration and Frequency

All field measurement instruments and equipment are calibrated according to the *SESD Operating Procedure for Equipment Inventory and Management,* SESDPROC-108-R3 and according to specific procedures included within the defined operating procedures for each instrument (see specific field measurement procedures in Section B2 of this QAPP).

B8. Inspection/Acceptance for Supplies and Consumables

All critical supplies and consumables for this field investigation are inspected and maintained in accordance with the following procedures:

SESD Operating Procedure for Purchasing of Services and Supplies, SESDPROC-015-R3.
SESD Operating Procedure for Field Sampling Quality Control, SESDPROC-011-R3.

The SESD Field Quality Manager and the Branch Quality Assurance Officers are responsible for ensuring that these requirements are met.

B9. Non-direct Measurements:
N/A

B10. Data Management
The field project leader will be responsible for ensuring that all requirements for data management are met. All data generated for this field investigation, will be recorded, stored and managed accordance with the following procedures:

SESD Operating Procedure for Control of Records, SESDPROC-002-R5.
SESD Operating Procedures for Logbooks, SESDPROC-010-R4.

SECTION C: Assessment/Oversight and SECTION D: Data Validation/Usability

The SESD *Field Branches Quality Management Plan* (QMP) and the SESD Operating Procedures address the Assessment/Oversight and Data Validation/Usability elements as required. Please consult those documents for more detailed information concerning the SESD Field Branches Quality System.

****Footnotes**: This Quality Assurance Project Plan (QAPP) has been prepared and approved according to the EPA *Requirements for Quality Assurance Project Plans (EPA QA/R5 EPA/240/B-01/003)*, U.S. Environmental Protection Agency, Office of Environmental Information, Washington, DC, March 2001(USEPA, 2001). This document will be used to ensure that the environmental data collected for this project are of the type and quality for the intended purposes. **This document is for SESD use only.**

Quality Assurance Project Plan
U.S. Environmental Protection Agency

Science and Ecosystem Support Division
980 College Station Road
Athens, GA 30605

SESD Project ID: 11-0591
SESD Category 3 QAPP

SECTION A: Project Planning Elements		
A1. Title (*Project Name*):	Hattiesburg South WWTP - Compliance Sampling Inspection	
Project Location:	1903 East Hardy St., Hattiesburg, MS 39401	
Project Requestor and Organization:	Cesar Zapata, Chief Municipal & Industrial Enforcement Section Water Protection Division USEPA – Region IV 61 Forsyth St. SW, Atlanta GA 30303-8960	
Project Leader's Name, Position, and Organization:	Richard Elliott, Environmental Engineer Enforcement & Investigations Branch (EIB)/Enforcement Section (ES)	
Project Leader's Signature:		Date: 7/21/2011
Technical Reviewer's Name and Position:	John Williams, Environmental Scientist	
Technical Reviewer's Signature:	for	Date: 7/25/11
Section Chief/DAO's Name and Position:	Mike Bowden, Chief (ES)	
Section Chief/DAO's Signature:	for	Date: 7/22/11
A2. Table of Contents	N/A	
A3. Distribution List	Hard Copy: Cesar Zapata, Chief Municipal & Industrial Enforcement Section Electronic Copy: Mike Bowden, Chief Enforcement Section,	
A4. Project Personnel (list below):	**Organization (list below):**	**Responsibilities (list below):**
Richard Elliott	EIB/ES	Project Leader
Louis Salguero	EIB/ES	Safety Officer
John Williams	EIB/ES	Sampler
Cornell Gayle	EIB/ES	Sampler Trainee
Hunter Johnson	EAB/ES	Surface Water Sampler
Derek Little	EAB/ES	Surface Water Sampler
Brian Herndon	ESAT	Scribe/Sampler
A5. Problem Definition (Objectives) and Background:	SESD will collect samples at the Hattiesburg South WWTP located in Hattiesburg, MS to determine if the facility meets the requirements of their NPDES permit. A cursory look at the DMR data for this facility	

	revealed that they may not be meeting some of the limits specified in the NPDES permit. In addition, concerns regarding the color of the discharge from the facility into the receiving waters, and suspected mal odors emanating from the facility have precipitated this inspection.
A6. Project Description:	This project is a compliance sampling inspection (CSI). SESD will collect 24-hr composite samples of the influent and effluent wastewater streams. A composite sample will be collected if possible, from one of the major industrial discharger to the treatment facility. If a composite sample is not possible for any industrial facility connected to the WWTP, grab samples will be collected wherever feasible. Grab samples for specific parameters outlined in NPDES permit MS0020303 will be collected (see section B1). Additional grab samples will be collected upstream and downstream of the WWTP effluent discharge point in the receiving water. These surface water samples will be analyzed for BOD_5, TSS, Ammonia Nitrogen (NH3-N), nitrite (NO2), nitrate (NO3), Total Kjeldahl Nitrogen and total phosphorus (TP). Continuous monitoring of dissolved oxygen, pH, conductivity, turbidity and temperature will be conducted over a 24-hr period in the receiving waters using an automatic data logging instrument. Dissolved oxygen, pH, and temperature measurements will be made at various points within the treatment facility. A rhodamine dye tracer test will be conducted to ascertain the hydraulic detention time of the wastewater in the facility. An overall evaluation of the operating procedures at the WWTP including organic loading capacity will be conducted. During this inspection, an evaluation of the self monitoring program of the facility will be conducted. Quality Assurance (QA) preservative blanks will be analyzed for nutrients and metals.
Decision(s) to be made based on data:	SESD will evaluate the information gathered and provide all results and inspection reports to be utilized by USEPA Region 4 personnel in compliance decisions.

Applicable regulatory information, action levels	40 CFR Part 122 40CFR Part 136 NPDES Permit MS0020303
Field Study Date:	July 25 – 29, 2011
Projected Lab Completion Date:	September 16, 2011.
Projected Final Report Completion Date:	The final report is expected to be completed within 30-days of receiving the analytical results from the laboratory. The anticipated completion date is October 14, 2011. The appropriate personnel will be notified if the expected report completion date cannot be met.

A7. Quality Objectives and Criteria

All samples/sample locations meet the field investigation objectives and purposes summarized in Sections A5 and A6 of this QAPP.

A8. Special Training/Certifications

N/A.

A9. Documents and Records

For this project, SESD will implement the following procedures pertaining to Documents and Records:
SESD Operating Procedure for Report Preparation and Distribution, SESDPROC-003-R3.
SESD Operating Procedure for Logbooks, SESDPROC-010-R4.
SESD Operating Procedure for Control of Records, SESDPROC-002-R5.

SECTION B: Data Generation and Acquisition

B1. Sampling Design

The following matrix lists the proposed numbers and types of samples to be collected. Sample locations are described in Section A6 of this QAPP. As specified by the facility's NPDES permit, influent and effluent sample locations will be selected. Grab samples will be collected authoritatively based on conditions during the inspection.

Media:	Number of Samples:	Analyses:
Wastewater/Surface Water	(2) 24-hr composite	Biochemical Oxygen Demand (BOD), Total Suspended Solids

		(TSS), Nutrients (Nitrogen & Phosphorous)
	7 Grab and/or in-situ	pH, Dissolved Oxygen (DO), Bacterial (E. coli), Nutrients (Nitrogen & Phosphorous) – Upstream & Downstream of Effluent Discharge, Preservative Blank (Nutrients), Temperature Blank

B2. Sampling Methods, General Procedures

The following SESD field measurement and sampling procedures will be followed during this field study, as applicable:

SESD Operating Procedure for Field pH measurement, SESDPROC-100-R2
SESD Operating Procedure for Field temperature measurement, SESDPROC-102-R3
SESD Operating Procedure for Field dissolved oxygen measurement, SESDPROC-106-R2
SESD Operating Procedure for Field wastewater flow measurement, SESDPROC-109-R2
SESD Operating Procedure for Global Positioning Systems, SESDPROC-110-R3
SESD Operating Procedure for Field wastewater sampling, SESDPROC-306-R2
SESD Operating Procedure for Field surface water sampling, SESDPROC-201-R1
SESD Operating Procedure for Field Dye Tracer Measurement, SESDPROC-514-R0

Composite samples will be collected using an ISCO 3700 or 6700 automatic sampler.

B3. Sampling Handling and Custody

All samples will be collected and handled according to the procedures listed in Section B2 of this QAPP. After collection, samples will be managed according to the following:

SESD Operating Procedure for Sample and Evidence Management, SESDPROC-005-R1.
SESD Operating Procedure for Packing, Labeling and Shipping of Environmental and Waste Samples SESDPROC-209-R2.

Sample analyses will be divided between the Mississippi Department of Environmental Quality (MDEQ) and the SESD Region 4 laboratory. The MDEQ laboratory will analyze samples for Fecal Coliform. SESD Region 4 laboratory will analyze for all other parameters listed in this document. Custody of samples relinquished to MDEQ will be maintained by MDEQ personnel in accordance with their respective operating procedures. Samples retained by SESD will be handled in accordance to the procedures specified in this document. A copy of all original chain-of-custody form used in this project will be maintained by SESD personnel as part of the project file.

B4. Analytical Methods

The following is a brief description of the analytical methods for this field investigation:

SESD PROJECT ID 11-0591

SESD INTERNAL QA/R5 QAPP REVIEW CHECKLIST

NOTE: This checklist is designed to satisfy the requirements for the Region 4, Quality Management Plan DAO review.

Review Date	07/13/2011
SESD Project Category	3
Project Name	Hattiesburg South WWTP
Project Location	Hattiesburg, MS
Originating Organization	SESD
Project Leader	Richard Elliot
DAO Reviewer	Mike Bowden

DAO Review Checklist

Group A: Project Management			
ELEMENT	**YES**	**NO**	**COMMENTS**
A1. Title and Approval Sheet			
Title	✓		
Organization's name	✓		
Date, name, position and signature of individual that prepared QAPP	✓		
Date, name, position and signature of approving Section Chief or designee	✓		
Other signatures, as needed			on final
A2. Table of Contents			N/A
A3. Distribution List			
A4. Project/Task Organization			
Identifies key individuals, with their responsibilities (data users, decision-makers, project QA manager, subcontractors, etc.)	✓		
Organization chart shows lines of authority and reporting responsibilities	✓		
A5. Problem Definition/Background			
Clearly states problem or decision to be resolved	✓		add detail
Provides historical and background information	✓		
A6. Project/Task Description			
Lists measurements to be made	✓		add detail
Cites applicable technical, regulatory, or program-specific quality standards, criteria, or objectives	✓		on industrial sample
Notes special personnel or equipment requirements			N/A
Provides work schedule	✓		
Notes required project and QA records/reports	✓		
A7. Quality Objectives and Criteria for Measurement Data			
States project objectives and limits, both qualitatively and quantitatively	✓		
States and characterizes measurement quality objectives as to applicable action levels or criteria	✓		
A8. Special Training Requirements/Certification Listed			N/A
States how provided, documented, and assured	✓		
A9. Documentation and Records			
Lists information and records to be included in data report (e.g., raw data, field logs, results of QC checks, problems encountered)	✓		
States requested lab turnaround time	✓		
Gives retention time and location for records and reports	✓		

Group B: Data Generation and Acquisition			
ELEMENT	**YES**	**NO**	**COMMENTS**
B1. Sampling Process Design (Experimental Design)			
Type and number of samples required	✓		surface water
Sampling design and rationale	✓		
Sampling locations and frequency	✓		why 7 locations?
Sample matrices			surface!
Classification of each measurement parameter as either critical or needed for information only			N/A
Appropriate validation study information, for nonstandard situations			N/A
B2. Sampling Methods Requirements	√		
Identifies sample collection procedures and methods	√		
Lists equipment needs	√		
Identifies support facilities	√		
Identifies individuals responsible for corrective action	√		
Describes process for preparation and decontamination of sampling equipment	√		
Describes selection and preparation of sample containers and sample volumes	√		
Describes preservation methods and maximum holding times	√		
B3. Sample Handling and Custody Requirements	√		
Notes sample handling requirements	√		
Notes chain-of-custody procedures, if required	√		
B4. Analytical Methods Requirements	√		
Identifies analytical methods to be followed (with all options) and required equipment	√		
Provides validation information for nonstandard methods	√		
Identifies individuals responsible for corrective action	√		
Specifies needed laboratory turnaround time	√		
B5. Quality Control Requirements	√		
Identifies QC procedures and frequency for each sampling, analysis, or measurement technique, as well as associated acceptance criteria and corrective action	√		
References procedures used to calculate QC statistics including precision and bias/accuracy	√		
B6. Instrument/Equipment Testing, Inspection, and Maintenance Requirements	√		
Identifies acceptance testing of sampling and measurement systems	√		
Describes equipment preventive and corrective maintenance	√		
Notes availability and location of spare parts	√		
B7. Instrument Calibration and Frequency	√		
Identifies equipment needing calibration and frequency for such calibration	√		
Notes required calibration standards and/or equipment	√		
Cites calibration records and manner traceable to equipment	√		
B8. Inspection/Acceptance Requirements for Supplies and Consumables	√		
States acceptance criteria for supplies and consumables	√		
Notes responsible individuals	√		
B9. Data Acquisition Requirements for Nondirect Measurements			N/A
Identifies type of data needed from nonmeasurement sources (e.g., computer databases and literature files), along with acceptance criteria for their use			N/A
Describes any limitations of such data			N/A

Documents rationale for original collection of data and its relevance to this project			N/A
B10. Data Management	√		
Describes standard record-keeping and data storage and retrieval requirements	√		
Checklists or standard forms attached to QAPP	√		
Describes data handling equipment and procedures used to process, compile, and analyze data (e.g., required computer hardware and software)	√		
Describes process for assuring that applicable Office of Information Resource Management requirements are satisfied	√		

Group C: Assessment and Oversight			
ELEMENT	**YES**	**NO**	**COMMENTS**
C1. Assessments and Response Actions	√		
Lists required number, frequency and type of assessments, with approximate dates and names of responsible personnel (assessments include but are not limited to peer reviews, management systems reviews, technical systems audits, performance evaluations, and audits of data quality)	√		
Identifies individuals responsible for corrective actions	√		
C2. Reports to Management	√		
Project status	√		
Results of performance evaluations and audits	√		
Results of periodic data quality assessments	√		
Any significant QA problems	√		
Preparers and recipients of reports	√		

Group D: Assessment and Oversight			
ELEMENT	**YES**	**NO**	**COMMENTS**
D1. Data Review, Validation, and Verification	√		
States criteria for accepting, rejecting, or qualifying data	√		
Includes project-specific calculations or algorithms	√		
D2. Validation and Verification Methods	√		
Describes process for data validation and verification	√		
Identifies issue resolution procedure and responsible individuals	√		
Identifies method for conveying these results to data users	√		
D3. Reconciliation with User Requirements	√		
Describes process for reconciling project results with DQOs and reporting limitations on use of data	√		

Final QAPP disposition:

___ Approved, no comments
__✓ Approved with comments, resubmittal **not** required
__✓ Conditionally approved, comments must be addressed, resubmittal required
___ Not approved, comments must be addressed, resubmittal required

Section Chief Signature_____ Date 7/14/11

Mike Neal 7/21/11

Additional Comments, if applicable

Date_____

References

EPA Requirements for Quality Assurance Project Plans, EPA QA/R-5, March 2001, EPA/240/B-01/003,
Guidance for Quality Assurance Project Plans, EPA QA/G-5, December 2002, EPA/240/R-02/009
(Available from EPA's Website: http://www.epa.gov/quality)

NON-HAZARDOUS WASTE MANIFEST

INDUSTRIAL POLLUTION CONTROL, INC.

810 Poindexter Street
Jackson, Mississippi 39204
(601) 355-2448

MEMA EMERGENCY PHONE NO. (601) 352-9110

E.P.A. I. D. #

Date called in —

Date 9-17-91

Truck # 106 Time in 11:00 Time Out 11:10

NAME CITY OF PETAL

STREET P.O. BOX 564 PHONE NO.

CITY Petal STATE MS ZIP

CUSTOMER E.P.A. ID# CONTACT PERSON

CONTRACT YES ( ) NO (✓)

INVOICE INFORMATION

ITEMS	GALLONS	PER GALLON	T
WASTE OIL	40	—	—
OIL FILTERS			
SLUDGE			
WASTE WATER			
WASTE ANTIFREEZE			
TOTAL		TOTAL	

CASH	CHECK NO.	CHARGE	C. O. D.	P. O. NO

Comments

I. P. C. Representative
(Recycler)

Company Representati
(Generator)

HAZARDOUS WASTE CERTIFICATE

I do hereby swear and certify to I.P.C. that the waste streams

HALOGENS