Bioassays of the Town of

Jay Wastewater Treatment Plant

Jay, Santa Rosa County, Florida

NPDES #FL0024511

Sampled 8/4/92

September 1992

Biology Section
Division of Technical Services

Bioassays of the Town of

Jay Wastewater Treatment Plant

Jay, Santa Rosa County, Florida

NPDES #FL0024511

Biology Section
Bureau of Laboratories
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Introduction

Town of Jay Wastewater Treatment Plant, Santa Rosa County, Florida, NPDES #FL0024511, tests performed on 5 to 7 August, 1992.

This facility is located at North Commerce Street in Jay. The facility has a design flow of 0.06 MGD. The wastewater is treated by the extended aeration process. Effluent is discharged to Bray Mill Creek which flows into the Escambia River. The facility has a limit of 0.01 mg/L total residual chlorine in its effluent that was to be met by August 1988 (DER permit files).

The toxicity tests discussed in this report were performed in accordance with methods described by Weber, 1991, *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, 4th Edition, EPA/600/4-90/027.

Results and Discussion

The FDER Biology Section performed four 48-hour static acute screening toxicity bioassays each on a sample of effluent from this facility and a sample collected fifty yards downstream from the outfall in Bray Mill Creek. The creek sample was collected below a stormwater discharge point to investigate a potential agricultural runoff contribution of pesticides to toxicity. At the time of sample collection, the stormwater point had no discharge.

Total residual chlorine was not measured in the field, but was measured in the lab in both the effluent and creek samples at 1.7 mg/L and 1.5 mg/L, respectively. Therefore, the creek sample appears to contain at least 88% effluent. Total ammonia was not detected in either sample. Further chemical analyses were performed on the samples for chlorinated pesticides. Those results are not contained in this report.

The bioassay organisms used for these tests were the water flea, *Ceriodaphnia dubia*, and the bannerfin shiner, *Notropis leedsi*. Two bioassays were performed on each of the chlorinated samples. Both samples caused 100% mortality of the fish and the water flea within 8 and 10 minutes, respectively.

An aliquot of each sample was dechlorinated in the lab by the sodium thiosulfate method. Two bioassays were performed on each of the dechlorinated samples. Neither sample caused any mortality of either test organism.

Conclusion

The samples of chlorinated effluent from the facility and creek, which were collected on August 4, 1992, showed immediate toxicity. The cause of toxicity was determined to be chlorine.

Table 1. Concentration Series and Volumes Used for the 48-hour Static Acute Screening Bioassays of the Town of Jay WWTP effluent and Bray Mill Creek sample performed on 5 to 7 August, 1992.

Ceriodaphnia dubia (water flea)

Concentration	Dilution Water	Sample	Total Volume
Control	20 mL	0 mL	20 mL
100 %	0 mL	20 mL	20 mL

Notropis leedsi (bannerfin shiner)

Concentration	Dilution Water	Sample	Total Volume
Control	500 mL	0 mL	500 mL
100 %	0 mL	500 mL	500 mL

Table 2. Data recorded during the 48-hour static acute screening bioassays of a chlorinated sample of effluent from the Town of Jay WWTP, Santa Rosa County, Florida, NPDES #FL0024511, on 5 August, 1992.

Facility:	Town of Jay WWTP		NPDES #	FL0024511	Facility Type: WWTP
Location:	Jay		Contact/District:	Glenn Butts/NW	
County:	Santa Rosa		Test type:	static acute screen	
Sample Collection Date:	8/4/92	Time: 0900	# tests:	2	Receiving Water: Bray Mill Creek to Escambia River
Test Beginning Date:	8/5/92	Time: 1330	Chlorination Type:	Chlorinated	
Test Ending Date:	8/5/92	Time: 1340			Page 1 of 1

Total Residual Cl2	mg/l	Method
Field:	not measured	
Lab:	1.7	Hach

Ammonia	Total (mg/l)	Unionized (mg/l)
Control Water (fish):	0.00	0.00
Cond. Control Water (daphnids):	0.00	0.00
100% Sample:	0.00	0.00

Alk & Hardness	Alkalinity (mg/l)	Hardness (mg/l)
Control Water (fish):	91	124
Cond. Control Water (daphnids):	68	82
100% Sample:	55	50

Salinity (ppt)	
Control Water:	0
100% Sample:	0

Organism: ***Ceriodaphnia dubia*** Life stage: < 24 Hrs

*Test terminated after 10 minutes due to complete mortality in 100% effluent

	SURVIVAL			pH			Temperature			Dissolved Oxygen			Conductivity	
Concentrations	# at 0 hr	Live at 24 hr	Live at 48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	48 hour
Control	5	*	-	8.1	-	-	24.0	-	-	8.5	-	-	191	-
Control	5	*	-	-	-	-	-	-	-	-	-	-	-	-
Control	5	*	-	-	-	-	-	-	-	-	-	-	-	-
Control	5	*	-	-	-	-	-	-	-	-	-	-	-	-
100%	5	*	-	7.1	-	-	23.6	-	-	8.4	-	-	339	-
100%	5	*	-	-	-	-	-	-	-	-	-	-	-	-
100%	5	*	-	-	-	-	-	-	-	-	-	-	-	-
100%	5	*	-	-	-	-	-	-	-	-	-	-	-	-

Organism: ***Notropis leedsi*** Age: 12 days

*Test terminated after 8 minutes due to complete mortality in 100% effluent

	SURVIVAL			pH			Temperature			Dissolved Oxygen			Conductivity	
Concentrations	# at 0 hr	Live at 24 hr	Live at 48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	48 hour
Control	5	*	-	7.8	-	-	23.8	-	-	8.7	-	-	-	-
Control	5	*	-	7.8	-	-	-	-	-	8.7	-	-	243	-
100%	5	*	-	6.9	-	-	22.7	-	-	8.2	-	-	-	-
100%	5	*	-	6.9	-	-	-	-	-	8.2	-	-	339	-

Table 3. Data recorded during the 48-hour static acute screening bioassays of a dechlorinated sample of effluent from the Town of Jay WWTP, Santa Rosa County, Florida, NPDES #FL0024511, on 5 to 7 August, 1992.

Facility:	Town of Jay WWTP		NPDES #	FL0024511	Facility Type: WWTP
Location:	Jay		Contact/District:	Glenn Butts/NW	
County:	Santa Rosa		Test type:	static acute screen	
Sample Collection Date:	8/4/92	Time: 0900	# tests:	2	Receiving Water: Bray Mill Creek to Escambia River
Test Beginning Date:	8/5/92	Time: 1330	Chlorination Type:	Dechlorinated in lab	
Test Ending Date:	8/7/92	Time: 1300			Page 1 of 1

Total Residual Cl2	mg/l	Method
Field:	not measured	
Lab:	0.0	Hach

Ammonia	Total (mg/l)	Unionized (mg/l)
Control Water (fish):	0.00	0.00
Cond. Control Water (daphnids):	0.00	0.00
100% Sample:	0.00	0.00

Alk & Hardness	Alkalinity (mg/l)	Hardness (mg/l)
Control Water (fish):	91	124
Cond. Control Water (daphnids):	68	82
100% Sample:	55	50

Salinity (ppt)	
Control Water:	0
100% Sample:	0

Organism: ***Ceriodaphnia dubia*** Life stage: < 24 Hrs

	SURVIVAL			pH			Temperature			Dissolved Oxygen			Conductivity	
Concentrations	# at 0 hr	Live at 24 hr	Live at 48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	48 hour
Control	5	5	5	8.1	-	8.3	24.0	-	24.5	8.5	-	8.1	191	167
Control	5	5	5	-	-	8.3	-	-	-	-	-	8.1	-	-
Control	5	5	5	-	-	8.3	-	-	-	-	-	8.1	-	-
Control	5	5	5	-	-	8.3	-	-	-	-	-	8.1	-	-
100%	5	5	5	7.1	-	7.9	23.5	-	25.0	8.4	-	8.0	402	416
100%	5	5	5	-	-	7.9	-	-	-	-	-	8.0	-	-
100%	5	5	5	-	-	8.0	-	-	-	-	-	8.0	-	-
100%	5	5	5	-	-	8.0	-	-	-	-	-	8.0	-	-

Organism: ***Notropis leedsi*** Age: 12 days

	SURVIVAL			pH			Temperature			Dissolved Oxygen			Conductivity	
Concentrations	# at 0 hr	Live at 24 hr	Live at 48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	48 hour
Control	5	5	5	7.8	8.3	8.2	23.8	23.4	23.5	8.7	8.4	7.8	-	-
Control	5	5	5	7.8	8.3	8.2	-	-	-	8.7	8.4	7.9	243	245
100%	5	5	5	7.1	7.7	8.0	22.9	23.3	23.5	8.6	8.2	7.7	-	-
100%	5	5	5	7.1	7.7	8.0	-	-	-	8.6	8.2	7.7	400	416

Table 4. Data recorded during the 48-hour static acute screening bioassays of a chlorinated sample of effluent from Bray Mill Creek, 50 yards downstream from the Town of Jay WWTP, Santa Rosa County, Florida, NPDES #FL0024511, on 5 August, 1992.

Facility:	**Bray Mill Creek**		**NPDES #**	**FL0024511**	Facility Type: **WWTP**
Location:	near Jay WWTP		Contact/District:	Glenn Butts/NW	
County:	Santa Rosa		Test type:	static acute screen	
Sample Collection Date:	**8/4/92**	Time: 0900	# tests:	2	Receiving Water: Bray Mill Creek to
Test Beginning Date:	8/5/92	Time: 1330	Chlorination Type:	**Chlorinated**	Escambia River
Test Ending Date:	8/5/92	Time: 1340			**Page 1 of 1**

Total Residual Cl2	mg/l	Method
Field:	not measured	
Lab:	1.5	Hach

Ammonia	Total (mg/l)	Unionized (mg/l)
Control Water (fish):	0.00	0.00
Cond. Control Water (daphnids):	0.00	0.00
100% Sample:	0.00	0.00

Alk & Hardness	Alkalinity (mg/l)	Hardness (mg/l)
Control Water (fish):	91	124
Cond. Control Water (daphnids):	68	82
100% Sample:	47	53

Salinity (ppt)	
Control Water:	0
100% Sample:	0

Organism: ***Ceriodaphnia dubia*** Life stage: < 24 Hrs

*Test terminated after 10 minutes due to complete mortality in 100% effluent

	SURVIVAL			pH			Temperature			Dissolved Oxygen			Conductivity	
Concentrations	# at 0 hr	Live at 24 hr	Live at 48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	48 hour
Control	5	*	-	8.0	-	-	23.4	-	-	8.6	-	-	176	-
Control	5	*	-	-	-	-	-	-	-	-	-	-	-	-
Control	5	*	-	-	-	-	-	-	-	-	-	-	-	-
Control	5	*	-	-	-	-	-	-	-	-	-	-	-	-
100%	5	*	-	7.2	-	-	23.2	-	-	8.6	-	-	320	-
100%	5	*	-	-	-	-	-	-	-	-	-	-	-	-
100%	5	*	-	-	-	-	-	-	-	-	-	-	-	-
100%	5	*	-	-	-	-	-	-	-	-	-	-	-	-

Organism: ***Notropis leedsi*** Age: 12 days

*Test terminated after 8 minutes due to complete mortality in 100% effluent

	SURVIVAL			pH			Temperature			Dissolved Oxygen			Conductivity	
Concentrations	# at 0 hr	Live at 24 hr	Live at 48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	48 hour
Control	5	*	-	7.8	-	-	23.8	-	-	8.5	-	-	-	-
Control	5	*	-	7.8	-	-	-	-	-	8.6	-	-	243	-
100%	5	*	-	7.1	-	-	23.1	-	-	8.5	-	-	-	-
100%	5	*	-	7.1	-	-	-	-	-	8.5	-	-	325	-

Table 5. Data recorded during the 48-hr static acute screening bioassays of a dechlorinated sample of effluent from Bray Mill Creek, 50 yards downstream from the Town of Jay WWTP, Santa Rosa County, Florida, NPDES #FL0024511, on 5 - 7 August, 1992.

Facility:	**Bray Mill Creek**		NPDES #	FL0024511	Facility Type: **WWTP**
Location:	near Jay WWTP		Contact/District:	Glenn Butts/NW	
County:	Santa Rosa		Test type:	static acute screen	
Sample Collection Date:	8/4/92	Time: 0900	# tests:	2	Receiving Water: Bray Mill Creek to Escambia River
Test Beginning Date:	8/5/92	Time: 1330	Chlorination Type:	**Dechlorinated in lab**	
Test Ending Date:	8/7/92	Time: 1300			**Page 1 of 1**

Total Residual Cl2	mg/l	Method
Field:	not measured	
Lab:	0.0	Hach

Ammonia	Total (mg/l)	Unionized (mg/l)
Control Water (fish):	0.00	0.00
Cond. Control Water (daphnids):	0.00	0.00
100% Sample:	0.00	0.00

Alk & Hardness	Alkalinity (mg/l)	Hardness (mg/l)
Control Water (fish):	91	124
Cond. Control Water (daphnids):	68	82
100% Sample:	47	53

Salinity (ppt)	
Control Water:	0
100% Sample:	0

Organism: ***Ceriodaphnia dubia*** Life stage: < 24 Hrs

	SURVIVAL			pH			Temperature			Dissolved Oxygen			Conductivity	
Concentrations	# at 0 hr	Live at 24 hr	Live at 48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	48 hour
Control	5	5	5	8.0	-	8.1	23.4	-	25.0	8.6	-	8.0	176	177
Control	5	5	5	-	-	8.2	-	-	-	-	-	8.0	-	-
Control	5	5	5	-	-	8.2	-	-	-	-	-	8.0	-	-
Control	5	5	5	-	-	8.2	-	-	-	-	-	8.0	-	-
100%	5	5	5	7.3	-	8.1	23.6	-	25.0	8.6	-	8.0	375	381
100%	5	5	5	-	-	8.1	-	-	-	-	-	8.0	-	-
100%	5	5	5	-	-	8.0	-	-	-	-	-	8.0	-	-
100%	5	5	5	-	-	8.0	-	-	-	-	-	8.0	-	-

Organism: ***Notropis leedsi*** Age: 12 days

	SURVIVAL			pH			Temperature			Dissolved Oxygen			Conductivity	
Concentrations	# at 0 hr	Live at 24 hr	Live at 48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	48 hour
Control	5	5	5	7.8	8.2	8.2	23.8	23.3	23.5	8.5	8.3	7.9	-	-
Control	5	5	5	7.8	8.2	8.3	-	-	-	8.6	8.3	7.9	243	245
100%	5	5	5	7.3	7.7	7.8	23.3	23.3	23.5	8.6	8.1	7.8	-	-
100%	5	5	5	7.3	7.7	7.8	-	-	-	8.6	8.1	7.8	379	391

DER Biology Section — Acute Bioassay Bench Sheet

Sample Source: City of Jay WWTP
Address/City: _____
County: SANTA ROSA
Contact/District: Glenn Butts / NW
NPDES Permit #: FL00 _____ Outfall #: _____

Sample Collection: Date 8-4-92 Time 0900
Test Beginning: Date 8-5-92 Time 1330
Test Ending: Date 8-5-92 Time 1340
Test Organism: C. DUBIA
Life Stage/Age: < 24 HR

38802 92-AUG-05-05-01

Test Number: 1 of 2 Test Type: (Screening) | Definitive
(Static) | Static Renewal | Flow-through

Remarks: effluent chlorinated effluent sample
TEST TERMINATED AFTER 10 MINUTES DUE TO COMPLETE MORTALITY IN 100% EFFLUENT

Instrument Calibrations:

	pH	DO	Temp	Cond
0 hr	7@7.1/d.10	8.4@25°C	24.4@24.2°C	986@1K @7 ~~4830@10K~~
24 hr	7@7.10@10	_____	_____	_____
48 hr	_____	_____	_____	_____

Conc.	Chamber #	Number Live 0	24	48	pH 0	24	48	Temp. (°C) 0	24	48	DO (mg/L) 0	24	48	Cond. (µmhos/cm) 0	24	48
control	A	5			8.1			24.0			8.5			191		
control	B	5														
control	C	5														
control	D	5														
100%	A	5	—		7.1			23.6			8.4			339		
100%	B	5	—													
100%	C	5	—													
100%	D	5	—													

Test terminated 10 minutes after test initiation due to 100% mortality in test concentration

KP 8/5/92

Measured/Loaded by:	MF			MF			MF			MF			MF		
Recorded by:	KP			KP			KP			KP			KP		

Investigators' Signatures
Marshall Faircloth
Kim Pearce
_____
_____
_____
Reviewer

Water-quality Parameters

	Well Water	Cond. Water	Sample	Method	Measured by
Field Tot. Resid. Cl2:			not	measured	
Lab Tot. Resid. Cl2:	0.0	0.0	1.7	Hach	MF
Alkalinity:	91	68	55	Hach	KWP
Hardness:	124	82	50	Hach	KWP
Total Ammonia:	0.0	0.0	0.0	Orion	MF

Ammonia Meter Slope: -57.3
Ammonia Blank: 0.0
Salinity Sample: _____ ppt

DER Biology Section — Acute Bioassay Bench Sheet

Sample Source: City of Jay WWTP
Address/City:
County: SANTA ROSA
Contact/District: Glenn Butts / NW
NPDES Permit #: FL00 Outfall #:

Sample Collection: Date 8-4-92 Time 0900
Test Beginning: Date 8-5-92 Time 1330
Test Ending: Date 8-5-92 Time 1338
Test Organism: N. LEEDSI
Life Stage/Age: 12 DAYS

Test Number: 2 of 2 Test Type: (Screening) | Definitive 38802 92-AUG-05-05-01
(Static) | Static Renewal | Flow-through

Remarks: chlorinated sample
TEST TERMINATED AFTER 8 MINUTES DUE TO COMPLETE MORTALITY IN 100% EFFLUENT

Instrument Calibrations:

	pH	DO	Temp	Cond
0 hr	7.0/10.0/10	8.4@25°C	24.2@24.2°C	986@1K / 9830@10K @ 24.1°C
24 hr				
48 hr				

Conc.	Chamber #	Number Live 0	24	48	pH 0	24	48	Temp. (°C) 0	24	48	DO (mg/L) 0	24	48	Cond. (µmhos/cm) 0	24	48
control	92	5			7.8			23.8			8.7					
control	7	5			7.8						8.7			243		
100%	21	5	—		6.9			22.7			8.2					
c100%	3	5	—		6.9						8.2			339		
		Test terminated 8 minutes after test initiation due to 100% mortality in test concentration.														
														KP 8/5/92		
Measured/Loaded by:		MF			MF			MF			MF			MF		
Recorded by:		KP			KP			KP			KP			KP		

Investigators' Signatures
Marshall Fanchette
Kim Pearce

Reviewer

Water-quality Parameters

	Well Water	Cond. Water	Sample	Method	Measured by
Field Tot. Resid. Cl2:			not	measured	
Lab Tot. Resid. Cl2:	0.0	0.0	1.7	Hach	MF
Alkalinity:	91	68	55	Hach	KWP
Hardness:	124	82	50	Hach	KWP
Total Ammonia:	0.0	0.0	0.0	Orion	MF

Ammonia Meter Slope: ~~57.0~~ 57.3 mf
Ammonia Blank: 0.0
Salinity Sample: _____ ppt

DER Biology Section — Acute Bioassay Bench Sheet

Sample Source: TOWN (CITY) OF JAY WWTP EFFL.
Address/City: _____
County: SANTA ROSA
Contact/District: S GLEN BUTTS / NW
NPDES Permit #: FL00 Outfall #: _____

Sample Collection: Date 8-4-92 Time 0900
Test Beginning: Date 8-5-92 Time 1330
Test Ending: Date 8-7-92 Time 1300
Test Organism: C. DUBIA
Life Stage/Age: < 24 HRS

Test Number: 1 of 2 Test Type: (Screening) | Definitive 38802 92-AUG-05-05-01
(Static) | Static Renewal | Flow-through

Remarks: DE chlorinated sample in lab

Instrument Calibrations:

	pH	DO	Temp	Cond
0 hr	7@7; 10@10	8.4 @ 25	24.2@24.2	986@1K 9830@10
24 hr	7@7; 10@10	8.5@24°C	24.5@24.5	989 9830 @24
48 hr	7@7; 10@10	8.4@25°C	24.2@24.2	988 9850 @24

Conc.	Chamber #	Number Live 0	24	48	pH 0	24	48	Temp. (°C) 0	24	48	DO (mg/L) 0	24	48	Cond. (µmhos/cm) 0	24	48
control	A	5	5	5	8.1		8.3	24.0		24.5	8.5		8.1	191		167
control	B	5	5	5			8.3						8.1			
control	C	5	5	5			8.3						8.1			
control	D	5	5	5			8.3						8.1			
100%	A	5	5	5	7.1		7.9	23.5		25.0	8.4		8.0	402		416
100%	B	5	5	5			7.9						8.0			
100%	C	5	5	5			8.0						8.0			
100%	D	5	5	5			8.0						8.0			
Measured/Loaded by:		MF	MF	KP	MF		KP	MF		KP	MF		KP	MF		KP
Recorded by:		KP	KP	KP	KP		MF	KP		MF	KP		MF	KP		MF

Investigators' Signatures

Marshall Faircloth
Kim Pearce

Reviewer

Water-quality Parameters

	Well Water	Cond. Water	Sample	Method	Measured by
Field Tot. Resid. Cl2:			0.0 KP	dechlor portion	
Lab Tot. Resid. Cl2:	0.0	0.0	0.0	Hach	MF
Alkalinity:	91	68	55	Hach	KWP
Hardness:	124	82	50	Hach	KWP
Total Ammonia:	0.0	0.0	0.0	orion	MF

Ammonia Meter Slope: -57.3
Ammonia Blank: 0.0
Salinity Sample: _____ ppt

DER Biology Section — Acute Bioassay Bench Sheet

Sample Source: TOWN (CITY) OF JAY WWTP EFFL
Address/City: _____
County: SANTA ROSA
Contact/District: GLEN BUTTS / NW
NPDES Permit #: FL00 Outfall #: _____

Sample Collection: Date 8-4-92 Time 0900
Test Beginning: Date 8-5-92 Time 1330
Test Ending: Date 8-7-92 Time 1300
Test Organism: N. LEEDSI
Life Stage/Age: 12 DAYS

Test Number: 2 of 2 Test Type: (Screening) | Definitive 38802 92-AWG-05-05-01
(Static) | Static Renewal | Flow-through

Remarks: DE chlorinated sample in lab

Instrument Calibrations:

	pH	DO	Temp	Cond 986@1K
0 hr	7@7; 10@10	8.4@25	24.2@24.2	9830@10K
24 hr	7@7; 10@10	8.5@24°C	24.5@24.5	989 9830@24.4
48 hr	7@7; 10@10	8.4@25°C	24.2@24.2	989 9830@24.2

		Number Live			pH			Temp. (°C)			DO (mg/L)			Cond. (µmhos/cm)		
Conc.	Chamber #	0	24	48	0	24	48	0	24	48	0	24	48	0	24	48
control	92	5	5	5	7.8	8.3	8.2	23.8	23.4	23.5	8.7	8.4	7.8			
control	7	5	5	5	7.8	8.3	8.2				8.7	8.4	7.9	243	249	245
100%	67	5	5	5	7.1	7.7	8.0	22.9	23.3	23.5	8.6	8.2	7.7			
100%	149	5	5	5	7.1	7.7	8.0				8.6	8.2	7.7	400	409	416
Measured/Loaded by:		MF	MF	KP	MF	MF	KP	MF	MF	KP	MF	MF	KP	MF	MF	KP
Recorded by:		KP	MF	KP	KP	KP	MF	KP	KP	MF	KP	KP	MF	KP	KP	MF

Investigators' Signatures

Marshall Faircloth

Kim Pearce

Reviewer

Water-quality Parameters

	Well Water	Cond. Water	Sample	Method	Measured by
Field Tot. Resid. Clz:			0.0 dechlorinated portion		
Lab Tot. Resid. Clz:	0.0	0.0	LS	Hach	MF
Alkalinity:	91	68	55	Hach	KWP
Hardness:	124	82	50	Hach	KWP
Total Ammonia:	0.0	0.0	0.0	Orion	MF

Ammonia Meter Slope: -57.3

Ammonia Blank: 0.0

Salinity Sample: _____ ppt

DER Biology Section — Acute Bioassay Bench Sheet

Sample Source: BRAY MILL CREEK-DOWNSTREAM OF JAY WWTP
Address/City: _____
County: SANTA ROSA
Contact/District: GLEN BUTTS / NW
NPDES Permit #: FL00 _____ Outfall #: _____

Sample Collection: Date 8-4-92 Time 0910
Test Beginning: Date 8-5-92 Time 1330
Test Ending: Date 8-5-92 Time 1340
Test Organism: C. DUBIA
Life Stage/Age: < 24 HRS

Test Number: 1 of 2 Test Type: (Screening) | Definitive 38803 92-AUG-05-05-02
(Static) | Static Renewal | Flow-through

Remarks: chlorinated effluent/creek sample

TEST TERMINATED AFTER 10 MINUTES DUE TO COMPLETE MORTALITY IN 100% EFFLUENT

Instrument Calibrations:

	pH	DO	Temp	Cond
0 hr	7.0, 7.10, 10.10	8.4 @ 25°C	24.2 @ 24.7°C	986 @ 1K, 9830 @ 10K @ 24.8°C
24 hr	7.0, 7.10, 10.10			
48 hr				

Conc.	Chamber #	Number Live 0	24	48	pH 0	24	48	Temp. (°C) 0	24	48	DO (mg/L) 0	24	48	Cond. (µmhos/cm) 0	24	48
control	A	5			8.0			23.4			8.6			176		
control	B	5														
control	C	5														
control	D	5														
100%	A	5	—		7.2			23.2			8.6			320		
100%	B	5	—													
100%	C	5	—													
100%	D	5	—													

Test terminated 10 minutes after test initiation due to 100% mortality in test concentration.

KP 8/5/92

Measured/Loaded by: MK
Recorded by: MF

Investigators' Signatures

Marsha Faircloth
Kim Pearce
_____
_____
_____
Reviewer

Water-quality Parameters

	Well Water	Cond. Water	Sample	Method	Measured by
Field Tot. Resid. Cl2:			not	measured	
Lab Tot. Resid. Cl2:	0.0	0.0	1.5	Hach	MF
Alkalinity:	91	68	47	Hach	KWP
Hardness:	124	82	53	Hach	KWP
Total Ammonia:	0.0	0.0	0.0	Hach	MF

Ammonia Meter Slope: -57.3
Ammonia Blank: 0.0
Salinity Sample: _____ ppt

DER Biology Section — Acute Bioassay Bench Sheet

Sample Source: BEAV MILL CREEK - DOWNSTREAM of JAY WWTP
Address/City: _____
County: SANTA ROSA
Contact/District: GLEN BUTTS / NW
NPDES Permit #: FL00 Outfall #: _____

Sample Collection: Date 8-4-92 Time 0910
Test Beginning: Date 8-5-92 Time 1330
Test Ending: Date 8-5-92 Time 1338
Test Organism: N. LEEDSI
Life Stage/Age: 12 DAYS

Test Number: 2 of 2 Test Type: (Screening) | Definitive 38803 92-AUG-05-05-02
(Static) | Static Renewal | Flow-through

Remarks:
chlorinated effluent/creek sample
TEST TERMINATED AFTER 8 MINUTES
DUE TO COMPLETE MORTALITY
IN 100% EFFLUENT

Instrument Calibrations:

	pH	DO	Temp	Cond
0 hr	7.1, 10.10	8.4 @ 25°C	24.2 @ 24.2°C	986 @ 1K / 9830 @ 10K @ 24.1°C
24 hr				
48 hr				

Conc.	Chamber #	Number Live 0	24	48	pH 0	24	48	Temp. (°C) 0	24	48	DO (mg/L) 0	24	48	Cond. (µmhos/cm) 0	24	48
control	65	5			7.8			23.8			8.5					
control	50	5			7.8						8.6			243		
100%	13	5	—		7.1			23.1			8.5					
100%	681	5	—		7.1						8.5			325		

Test terminated 8 minutes after test initiation due to 100% mortality in test concentration.

KP 8/5/92

Measured/Loaded by: MF
Recorded by: MF

Investigators' Signatures
Marshall Seibeth
Kim Pearce
Reviewer

Water-quality Parameters

	Well Water	Cond. Water	Sample	Method	Measured by
Field Tot. Resid. Cl2:			not measured		
Lab Tot. Resid. Cl2:	0.0	0.0	1.5	Hach	MF
Alkalinity:	91	68	47	Hach	KWP
Hardness:	124	82	53	Hach	KWP
Total Ammonia:	0.0	0.0	0.0	Orion	MF

Ammonia Meter Slope: -57.3
Ammonia Blank: 0.0
Salinity Sample: _____ ppt

DER Biology Section — Acute Bioassay Bench Sheet

Sample Source: BRAY MILL CREEK - DOWNSTREAM OF JAY WWTP
Address/City:
County: SANTA ROSA
Contact/District: GLEN BUTTS / NW
NPDES Permit #: FL00 Outfall #:

Sample Collection: Date 8-4-92 Time 0910
Test Beginning: Date 8-5-92 Time 1330
Test Ending: Date 8-7-92 Time 1300
Test Organism: C. DUBIA
Life Stage/Age: <24 HRS

38803 92-AUG-05-05-02

Test Number: ~~8~~ 1 of 2 Test Type: (Screening) / Definitive
(Static) / Static Renewal | Flow-through

Remarks: DE chlorinated in lab

Instrument Calibrations:

	pH	DO	Temp	Cond
0 hr	7@7; 10@10	8.4 @ 25.0	24.2 @ 24.2	986@1K 9830@10K
24 hr	7@7; 10@10	8.5@24°C	24.5@24.5	989 9830@24.4
48 hr	7@7; 10@10	8.4@25°C	24.2@24.2	988 9850@24.2

Conc.	Chamber #	Number Live 0	24	48	pH 0	24	48	Temp. (°C) 0	24	48	DO (mg/L) 0	24	48	Cond. (µmhos/cm) 0	24	48
control	A	5	5	5	8.0		8.1	23.4		25.0	8.6		8.0	176		177
control	B	5	5	5			8.2						8.0			
control	C	5	5	5			8.2						8.0			
control	D	5	5	5			8.2						8.0			
100%	A	5	5	5	7.3		8.1	23.6		25.0	8.6		8.0	375		381
100%	B	5	5	5			8.1						8.0			
100%	C	5	5	5			8.0						8.0			
100%	D	5	5	5			8.0						8.0			
Measured/Loaded by:		MF	MF	KP	MF		KP	MF		KP	MF		KP	MF		KP
Recorded by:		KP	KP	KP	KP		MF	KP		MF	KP		MF	KP		MF

Investigators' Signatures

Kim Pearce

Marshall Faircloth

Reviewer

Water-quality Parameters

	Well Water	Cond. Water	Sample (dech)	Method	Measured by
Field Tot. Resid. Cl2:				dechlor portion	
Lab Tot. Resid. Cl2:			0.0	Hach	MF
Alkalinity:	91	68	47	Hach	KWP
Hardness:	124	82	53	Hach	KWP
Total Ammonia:	0.0	0.0	0.0	Orion	MF

Ammonia Meter Slope: -57.3 Ammonia Blank: 0.0 Salinity Sample: ____ ppt

DER Biology Section — Acute Bioassay Bench Sheet

Sample Source: BRAY MILL CREEK- DOWNSTREAM OF JAY WWTP
Address/City: _____
County: SANTA ROSA
Contact/District: GLEN BUTTS / NW
PDES Permit #: FL00 _____ Outfall #: _____

Sample Collection: Date 8-4-92 Time 0910
Test Beginning: Date 8-5-92 Time 1330
Test Ending: Date 8-7-92 Time 1300
Test Organism: N. LEEDSI
Life Stage/Age: 12 DAYS

Test Number: 2 of 2 Test Type: (Screening) | Definitive
(Static) | Static Renewal | Flow-through

38803 92-AUG-05-05-02

Remarks: DE chlorinated in lab

Instrument Calibrations:

	pH	DO	Temp	Cond
0 hr	7@7; 10@10	8.4@ 25.0	24.2@ 24.2	986@1K 9830@10K
24 hr	7@7; 10@10	8.5@24°C	24.5@24.5	989 9830@24.4
48 hr	7@7; 10@10	8.4@24°C	24.2@24.2	988 985@24.2

Conc.	Chamber #	Number Live 0	24	48	pH 0	24	48	Temp. (°C) 0	24	48	DO (mg/L) 0	24	48	Cond. (µmhos/cm) 0	24	48
control	65	5	5	5	7.8	8.2	8.2	23.8	23.3	23.5	8.5	8.3	7.9			
control	50	5	5	5	7.8	8.2	8.3				8.6	8.3	7.9	243	249	245
100%	18	5	5	5	7.3	7.7	7.8	23.3	23.3	23.5	8.6	8.1	7.8			
100%	77	5	5	5	7.3	7.7	7.8				8.6	8.1	7.8	379	384	391
Measured/Loaded by:		MF	MF	KP	MF	MF	KP	MF	MF	KP	MF	MF	KP	MF	MF	KP
Recorded by:		KP	MF	KP	KP	KP	MF	KP	KP	MF	KP	KP	MF	KP	KP	MF

Water-quality Parameters

	Well Water	Cond. Water	Sample (de Cl)	Method	Measured by
Field Tot. Resid. Cl2:			↓	dechlor portion	
Lab Tot. Resid. Cl2:			0.0	Hach	MF
Alkalinity:	91	68	47	Hach	KWP
Hardness:	124	82	53	Hach	KWP
Total Ammonia:	0.0	0.0	0.0	orion	MF

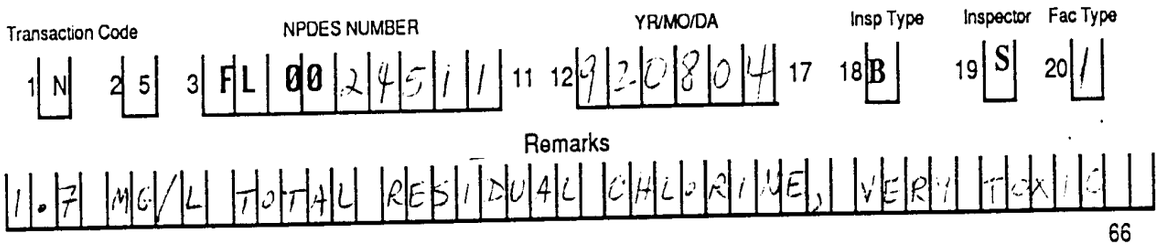
Ammonia Meter Slope: -57.3
Ammonia Blank: 0.0
Salinity Sample: _____ ppt

Investigators' Signatures

Kim Pearce
Marshall Favelett

Reviewer

Fill Out This Section For All Surface Water Discharger Inspections (CEI, CSI, CBI, PAI, XSI - RI Optional)



Fill Out This Section For All Surface Water Discharger Inspections (CEI, CSI, CBI, PAI, XSI - RI Optional)

