

Bioassays of

Ideal Trailer Park Wastewater Treatment Plant

Jacksonville, Duval County, Florida

NPDES #FL0023426

3/18/02

July 2002

Biology Section

Division of Resource Assessment & Management

Comprehensive Quality Assurance Plan #870346G

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Bureau of Laboratories
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Introduction

Ideal Trailer Park Wastewater Treatment Plant, 5355 New Kings Road, Jacksonville, Duval County, Florida, NPDES #FL0023426, tests performed on 19 to 21 March 2002.

This facility has a design flow of 0.011 MGD and an annual average flow of 0.003 MGD (January 2001-December 2001). Treatment of wastewater includes aeration, secondary clarification, chlorination, and dechlorination using sodium sulfite tablets. After treatment, the effluent is intermittently discharged into a ditch. The effluent is permitted to flow from the ditch into the Class III fresh waters of the Ribault River, which flows into the Trout River, a tributary of the St. Johns River; however, it should be noted that the effluent is usually absorbed into the soils of the ditch shortly after entering the ditch (facility information provided by Kathleen Gerard, FDEP, Jacksonville).

The toxicity tests discussed in this report were performed in accordance with methods described by Weber, 1993, *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, 4th Edition, EPA/600/4-90/027F.

Results and Discussion

The FDEP Biology Section performed two 48-hour static acute screening toxicity bioassays on a sample of effluent collected from this facility. The test species used for these bioassays were the waterflea, *Ceriodaphnia dubia*, and the bannerfin shiner, *Cyprinella leedsi*. The test results did not indicate toxicity to either test species within 48 hours (Table 1).

Total residual chlorine and total ammonia were not detected in the bioassay sample in the laboratory. Further chemical analyses were performed on the effluent samples, and several metals were identified (Table 2).

Conclusion

The sample of effluent collected from this facility on March 18, 2002, did not show acute toxicity to the either test species within 48 hours.

Table 1. Data recorded during the 48-hour acute screening bioassays of a sample of effluent from the Ideal Trailer Park Wastewater Treatment Plant, 5355 New Kings Road, Jacksonville, Duval County, Florida, NPDES# FL0023426, performed from 19 to 21 March 2002.

Facility:	**Ideal Trailer Park WWTP**		**NPDES #**	**FL0023426**	Facility Type:	**Wastewater Treatment Plant**	**Analysts:** Della Parker-Hanson, Joshua Ayres, Gary Hardie, Marshall Faircloth, Eva Pastora
Location:	5355 New Kings Road, Jacksonville		Contact/District:	O'Connor/Northeast			
County:	Duval		Test type:	static acute screen			
Sample Collection Date:	3/18/02	Time: 1115	# tests:	2	Receiving Water:	Ribault River	
Test Beginning Date:	3/19/02	Time: 1400	Chlorination Type:	chlorinated			
Test Ending Date:	3/21/02	Time: 1540		sample collected after dechlorination		**Page 1 of 1**	**Reviewer:** David Whiting

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

	Sample/Diluent	SURVIVAL # Alive			pH			Temperature[A]			Dissolved Oxygen			Conductivity Uncorrected µmhos/cm	
Concentrations	Volume(mL)	0 hr	24 hr	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 A	0/20	5	5	5	8.3	-	8.0	25.2	-	24.6	8.0	-	7.3	200	200
Control B	0/20	5	5	5	-	-	8.0	-	-	24.1	-	-	7.4	-	195
Control C	0/20	5	5	5	-	-	8.0	-	-	24.0	-	-	7.4	-	200
Control D	0/20	5	5	5	-	-	8.1	-	-	24.0	-	-	7.4	-	205
100% A	20/0	5	5	5	7.5	-	8.0	25.3	-	24.3	8.0	-	7.2	690	845
100% B	20/0	5	5	5	-	-	8.0	-	-	24.0	-	-	7.2	-	845
100% C	20/0	5	5	5	-	-	8.0	-	-	24.0	-	-	7.2	-	825
100% D	20/0	5	5	5	-	-	8.0	-	-	24.0	-	-	7.2	-	865

[A] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.
Room Temperature range for the test period was 23.0-26.5 °C.
Incubator #3 temperature range for the test period was 24.5-25.5°C.

Organism: ***Cyprinella leedsi*** Life stage: 13 days

	Sample/Diluent	SURVIVAL # Alive			pH			Temperature[B]			Dissolved Oxygen			Conductivity Uncorrected µmhos/cm	
Concentrations	Volume(mL)	0 hr	24 hr	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 A	0/500	5	5	5	8.0	8.2	8.4	25.8	25.2	24.3	7.8	7.3	7.1	260	287
Control B	0/500	5	5	5	8.0	8.2	8.4	26.1	25.2	24.1	7.8	7.3	7.1	270	295
Control C	0/500	5	5	5	8.0	8.2	8.4	26.1	25.2	24.6	7.5	7.3	7.3	270	290
Cotnrol D	0/500	5	5	5	8.0	8.2	8.4	25.9	24.8	24.2	7.5	7.3	7.3	270	305
100% A	500/0	5	5	5	7.4	7.8	8.0	25.8	24.5	24.2	7.7	7.4	7.1	750	855
100% B	500/0	5	5	5	7.4	7.8	8.0	25.7	24.5	24.0	8.0	7.4	7.0	770	880
100 % C	500/0	5	5	5	7.4	7.8	8.0	25.7	24.5	25.1	8.2	7.4	6.6	780	850
100% D	500/0	5	5	5	7.4	7.8	7.9	25.5	24.5	24.5	8.1	7.2	6.7	785	825

[B] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.
Room Temperature range for the test period was 23.0-26.5°C.
Incubator #3 temperature range for the test period was 24.5-25.5°C.

LIMS	
Job number:	TLH-2002-03-19-10
sample number:	582705

Data Transcription Verification	
date:	5/2/02
by:	Joshua Ayres, Gary Hardie

Total Residual CL2	mg/L	Method
Field:	0.06	-
Lab:	<0.03	Hach

Ammonia	Total (mg/L)	Unionized (mg/L)
Control water (fish):	<0.017	<0.017
Control water (water flea):	<0.017	<0.017
100% Sample:	<0.017	<0.017

Alk & Hardness	Alkalinity (mg/L)	Hardness (mg/L)
Control water (fish):	144	134
Control water (water flea):	90	80
100% Sample:	78	265

Table 2. Results of chemical analyses on the effluent from Ideal Trailer Park Wastewater Treatment Plant sampled on March 18, 2002.

Metals

Cadmium	0.036	µg/L	[I]
Calcium	59.6	mg/L	
Copper	4.7	µg/L	
Magnesium	23.6	mg/L	
Zinc	29	µg/L	

Pesticides and Herbicides

None detected

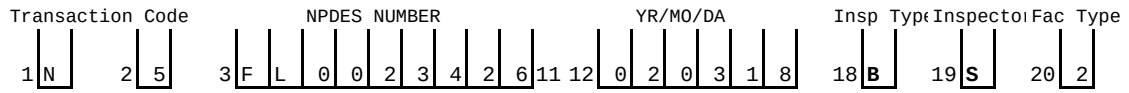
Base, Neutral, & Acid Extractable Organics

None detected

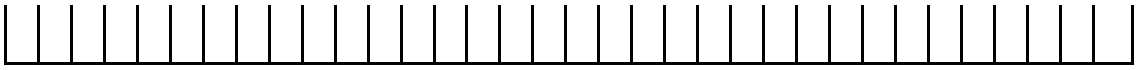
[I] The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

The Bioassay of Ideal Trailer Park Wastewater Treatment Plant effluent sampled on March, 18, 2002, NPDES #FL0023426.

Fill Out This Section For All Surface Water Discharger Inspections(CEI, CSI, CBI, PAI, X



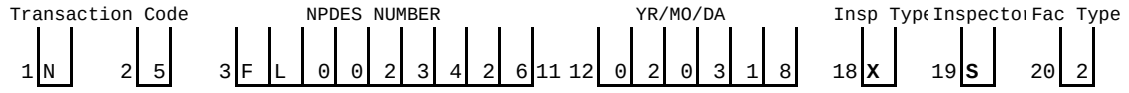
Remarks



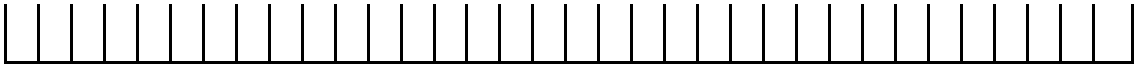
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The Priority Pollutants Analysis for Bioassay of Ideal Trailer Park Wastewater Treatment Plant effluent sampled on March, 18, 2002, NPDES #FL0023426.

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Remarks



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