

Bioassays of

V-Bar Edge Trailer Park
Wastewater Treatment Plant

Jacksonville, Duval County, Florida

NPDES #FL0042188

Sampled 7/9/01

November 2001

Biology Section

Division of Resource Assessment & Management

Comprehensive Quality Assurance Plan #870346G

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Introduction

V-Bar Edge Trailer Park Wastewater Treatment Plant, 13723 Atlantic Boulevard, Jacksonville, Duval County, Florida, NPDES #FL0042188, tests performed on 10 to 12 July 2001.

This extended-aeration wastewater treatment plant has a design flow of 0.005 MGD. The wastewater treatment system consists of an influent pumping station, one aeration basin, one clarifier, one digester, two disinfection basins, and one dechlorination basin. Dechlorination of the effluent is achieved using sodium sulfite tablets. The effluent is discharged through a four-inch pipe to the edge of a tidal stream, which is a tributary to the Class III marine waters of San Pablo Creek.

This facility had total residual chlorine exceedances in February, March, and April of 1999. No consent order has been issued (facility summary provided by Herndon Sims, 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 water flea, *Ceriodaphnia dubia*, and the bannerfin shiner, *Cyprinella leedsi*. The test results did not indicate acute toxicity to either test species within 48 hours (Table 1).

Total residual chlorine was 0.02 mg/L in the field, but was undetected in the laboratory. Total and unionized ammonia were not detected in the sample. Further chemical analyses were performed on the sample, and several metals were identified (Table 2).

Conclusion

The sample of effluent collected from this facility on July 9, 2001 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 V-Bar Edge Trailer Park,13723 Atlantic Boulevard, Jacksonville, Duval County, Florida, NPDES# FL0042188 performed on 10 to 12 in July 2001.

Facility:	**V-bar Edge Trailer Park WWTP**		**NPDES #**	**FL0042188**	Facility Type:	**Wastewater**	**Analysts:** Della Parker-Hanson
Location:	13723 Atlantic Boulevard		Contact/District:	T. Kallemeyr/Northeast		**Treatment Plant**	Shannon Gerardi
County:	Duval		Test type:	static acute screen			Joshua Ayres
Sample Collection Date:	7/9/01	Time: 1100	# tests:	2	Receiving Water:	Intracoastal Waterway	Marshall Faircloth
Test Beginning Date:	7/10/01	Time: 1330	Chlorination Type:	Chlorinated			**Reviewer:** David Whiting
Test Ending Date:	7/12/01	Time: 1400		sample collected after dechlorination		**Page 1 of 1**	

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	8.4	-	8.3	25.6	-	22.8	8.0	-	8.1	170	290
Control B	0/20	5	5	5	-	-	8.3	-	-	22.8	-	-	8.1	-	280
Control C	0/20	5	5	5	-	-	8.3	-	-	23.0	-	-	8.1	-	285
Control D	0/20	5	5	5	-	-	8.3	-	-	23.1	-	-	8.1		275
100% A	20/0	5	5	5	7.6	-	8.5	25.2	-	22.7	6.8	-	8.3	745	815
100% B	20/0	5	5	5	-	-	8.5	-	-	22.6	-	-	8.3	-	785
100% C	20/0	5	5	5	-	-	8.5	-	-	22.7	-	-	8.3	-	785
100% D	20/0	5	5	5	-	-	8.5	-	-	23.0	-	-	8.3	-	790

[A] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.
Room Temperature range for the test period was 24.0-26.0°C.
Incubator #2 temperature range for the test period was 24.0-25.5°C.

Organism: ***Cyprinella leedsi*** Life stage: 10 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	7.8	8.3	8.5	24.6	24.3	24.3	7.7	7.8	7.9	255	275
Control B	0/500	5	5	5	7.9	8.3	8.5	24.4	24.1	25.1	7.8	7.9	7.9	260	200
Control C	0/500	5	5	5	7.8	8.4	8.5	24.4	24.4	25.4	7.8	7.8	7.7	260	185
Control D	0/500	5	5	5	7.9	8.4	8.5	24.5	24.5	24.7	7.8	7.8	7.6	260	210
100% A	500/0	5	5	5	7.7	8.2	8.3	24.6	24.5	26.1	6.8	7.5	7.1	740	860
100% B	500/0	5	5	5	7.7	8.2	8.3	24.6	24.8	24.3	6.9	7.4	7.5	745	865
100% C	500/0	5	5	5	7.7	8.2	8.3	24.6	24.3	24.4	6.8	7.5	7.5	750	850
100% D	500/0	5	5	5	7.7	8.2	8.3	24.6	24.3	24.9	6.8	7.6	7.4	745	830

[B] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.
Room Temperature range for the test period was 24.0-26.0°C.
Incubator #3 temperature range for the test period was 24.0-25.5°C.

Data Transcription Verification	
date:	10/5/01
by:	Joshua Ayres
	Della Parker-Hanson

Total Residual CL2	mg/L	Method
Field:	0.02	-
Lab:	<0.03	Hach

Ammonia	Total (mg/L)	Unionized (mg/L)
Control Water (fish):	< 0.017	<0.017
20% Dilute Mineral Water (cladocerans):	< 0.017	<0.017
100% Sample:	<0.017	<0.017

Alk & Hardness	Alkalinity (mg/L)	Hardness (mg/L)
Control Water (fish):	150	137
20% Dilute Mineral Water (cladocerans):	82	77
100% Sample:	148	237

Table 2. Results of chemical analyses on the effluent from V-Bar Edge Trailer Park Wastewater Treatment Plant sampled on July 9, 2001.

Metals

Cadmium	0.066	µg/L	[I]
Calcium	88.1	mg/L	
Copper	7.21	µg/L	
Iron	32	µg/L	[I]
Magnesium	4.6	mg/L	
Nickel	1.7	µg/L	[I]
Zinc	35	µg/L	

Pesticides and Herbicides

None detected

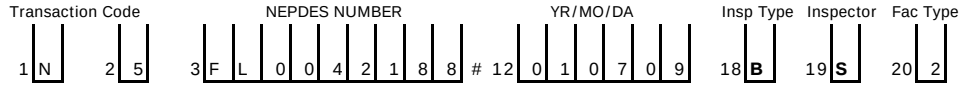
Base, Neutral, & Acid Extractable Organics

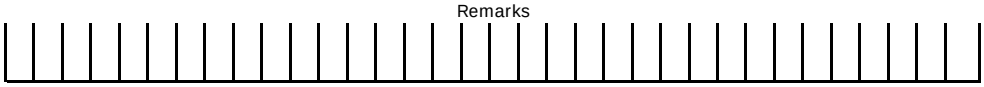
None detected

[I] Value reported is less than the minimum quantitation limit, and greater than or equal to the minimum detection limit.

The Bioassay of V-Bar Edge Trailor Park Wastewater Treatment Plant effluent sampled on July 9, 2001, NPDES #FL0042188.

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

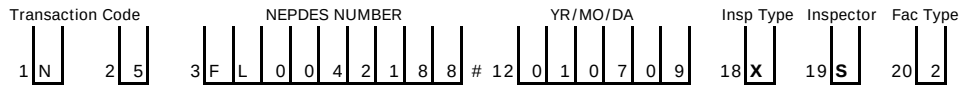


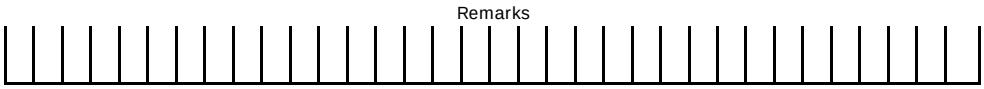


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The Priority Pollutants Analysis for Bioassay of V-bar Edge Trailor Park Wastewater Treatment Plant effluent sampled on July 9, 2001, NPDES #FL0042188.

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