

Bioassays of

Garden Point Condominium

Pompano Beach, Broward County, Florida

NPDES #FL0001848

Sampled 11/26/01

May 2002

Biology Section
Division of Resource Assessment & Management

Comprehensive Quality Assurance Plan #870346G

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Pompano Beach, Broward County, Florida

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Bureau of Laboratories
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Introduction

Garden Point Condominium, 700 Pine Drive, Pompano Beach, Broward County, Florida, NPDES #FL0001848, tests performed on 27 to 29 November 2001.

This residential condominium's air-conditioning system has a design flow of 0.150 MGD and an average flow of 0.024 MGD. Groundwater is used as once-through cooling water for the air-conditioning system. The cooling water receives no treatment before being discharged into the Class III marine waters of Pine Lake, a tributary to the Intracoastal Waterway (facility summary provided by Stanley Ganthier, FDEP, West Palm Beach).

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 using the mysid shrimp, *Americamysis bahia*, and the inland silverside, *Menidia beryllina*. The salinity of the sample was approximately six parts per thousand (ppt). The control water was natural seawater (NSW) diluted to the test salinity. The test results did not indicate toxicity to either test species within 48 hours (Tables 1).

Total residual chlorine was not detected in the bioassay sample in the laboratory. Total and unionized ammonia were measured to be 0.422 mg/L and 0.066 mg/L, respectively, in the bioassay sample in the laboratory. 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 November 26, 2001, did not show acute toxicity to either test species within 48 hours.

Table 1. Data recorded during the 48-hour acute screening bioassays of a sample of effluent from the Garden Point Condominium, 700 Pine Drive, Pompano Beach, Broward County, Florida, NPDES# FL0001848 performed from 27 to 29 November 2001.

Facility:	**Garden Point Condominium**		**NPDES #**	**FL0001848**	Facility Type:	**Air-Conditioning**	**Analysts:**	Della Parker-Hanson
Location:	700 Pine Drive		Contact/District:	Davis/Southeast		**Cooling System**		Joshua Ayres
County:	Broward		Test type:	static acute screen				Marshall Faircloth
Sample Collection Date:	11/26/01	Time: 1120	# tests:	2	Receiving Water:	Pine Lake		Victor Brunell
Test Beginning Date:	11/27/01	Time: 1500	Chlorination Type:	non-chlorinated				
Test Ending Date:	11/29/01	Time: 1505				**Page 1 of 1**	**Reviewer:**	David Whiting

Organism: ***Americamysis bahia*** Life stage: 5 days

	Sample/Diluent	SURVIVAL # Alive			pH			TemperatureA			Dissolved Oxygen			Conductivity Uncorrected mmhos/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	8.2	8.3	24.9	23.5	23.6	7.2	7.5	7.6	11.0	13.0
Control B	0/500	5	5	5	7.8	8.2	8.3	25.0	23.5	23.6	7.2	7.4	7.6	11.1	12.3
Control C	0/500	5	5	5	7.8	8.2	8.2	25.0	23.8	23.6	7.3	7.4	7.6	11.2	12.2
Control D	0/500	5	5	5	7.8	8.2	8.3	25.0	23.8	24.0	7.3	7.4	7.6	11.3	11.7
100% A	500/0	5	5	5	8.3	8.4	8.4	24.9	23.7	24.0	7.3	7.5	7.6	10.5	11.9
100% B	500/0	5	4	4	8.3	8.4	8.4	25.0	24.9	23.9	7.3	7.6	7.7	10.4	11.2
100 % C	500/0	5	5	5	8.3	8.4	8.4	25.0	23.8	24.0	7.3	7.5	7.6	10.5	11.6
100% D	500/0	5	5	5	8.3	8.4	8.4	24.9	23.9	24.0	7.3	7.6	7.6	10.4	11.0

[A] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.
Room Temperature range for the test period was 23.0-24.5°C.
Incubator #3 temperature range for the test period was 24.0-25.0°C.

Organism: ***Menidia beryllina*** Life stage: 15 days

	Sample/Diluent	SURVIVAL # Alive			pH			TemperatureB			Dissolved Oxygen			Conductivity Uncorrected mmhos/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	7.9	8.1	8.2	25.0	23.9	23.8	7.3	7.1	7.3	11.1	11.7
Control B	0/500	5	5	5	7.9	8.1	8.2	25.0	23.9	23.8	7.3	7.1	7.3	11.2	11.8
Control C	0/500	5	5	5	7.9	8.2	8.2	25.0	23.6	24.0	7.2	7.0	7.6	11.2	13.1
Control D	0/500	5	4	4	7.9	8.1	8.2	25.0	23.8	24.0	7.2	7.3	7.5	11.1	11.9
100% A	500/0	5	5	5	8.3	8.3	8.3	24.9	23.9	23.9	7.3	7.5	7.2	10.5	10.8
100% B	500/0	5	5	5	8.3	8.3	8.3	24.8	23.8	23.7	7.2	7.2	7.3	10.5	11.6
100 % C	500/0	5	5	5	8.4	8.3	8.4	24.8	23.8	24.0	7.3	7.2	7.6	10.5	11.4
100% D	500/0	5	5	5	8.3	8.3	8.3	24.8	23.7	24.2	7.3	7.2	7.2	10.4	10.8

[B] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.
Room Temperature range for the test period was 23.0-24.5°C.
Incubator #3 temperature range for the test period was 24.0-25.0°C.

Data Transcription Verification	
date:	1/24/02
by:	Della Parker-Hanson
	Karla Whiddon

LIMS	
Job number:	TLH-2001-11-27-12
Sample number:	563593

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

Ammonia	Total (mg/L)	Unionized (mg/L)
NSW	<0.051	<0.051
100% Sample:	0.42	0.07

Alk & Hardness	Alkalinity (mg/L)	Hardness (mg/L)
NSW	132	-
100% Sample:	171	-

Salinity [C]	ppt
NSW	~6
100% Sample	~6

[C] Salinity based on conductivity and temperature.

Table 2. Results of chemical analyses on the effluent from Garden Point Condominium sampled on November 26, 2001.

Metals

Calcium	160	mg/L	
Iron	1780	µg/L	
Lead	2.4	µg/L	[I]
Magnesium	200	mg/L	

Pesticides and Herbicides

None detected

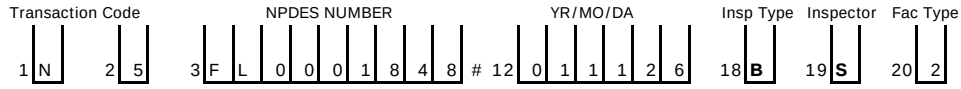
Base, Neutral, & Acid Extractable Organics

None detected

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

The Bioassay of Garden Point Condominium effluent sampled on November 26, 2001, NPDES #FL0001848.

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

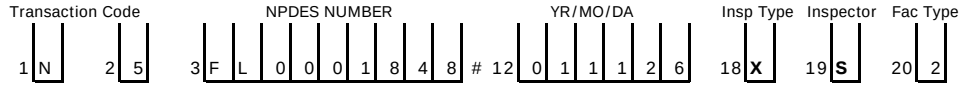


Remarks

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The Priority Pollutants Analysis for Bioassay of Garden Point Condominium effluent sampled on November 26, 2001, NPDES #FL0001848.

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Remarks

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