

Bioassays of

Florida Power and Light – Putnam Plant

Putnam County

NPDES #FL0032166

Sampled November 29, 2004

March 2005

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

Florida Power and Light Company – Putnam Plant, 392 US Highway 17 South, East Palatka, Putnam County, Florida, NPDES #FL0032166. Effluent samples for this facility were collected on November 29, 2004

Introduction

The Florida Power and Light Putnam facility is an electric generation facility, consisting of two combined cycle units using natural gas and No. 2 distillate as fuels, with a total nameplate reading of 506 Megawatts. Makeup water from the cooling towers is withdrawn from the St. Johns River, and from onsite water reuse sources. The facility discharges the cooling tower blowdown into one of two 3-million gallon storage tanks. When one tank is full, the water is tested to make sure it meets all permit limitations before discharging via outfall D-001 into the Class III fresh waters of the St. Johns River. There is no design flow for this facility. The average daily flow from November 2003 through November 2004 was 0.231 million gallons per day (MGD), and the average daily maximum for that period was 2.194 MGD. Typically, the facility only discharges a full tank two to three times per month. Low volume wastewater, which includes metal cleaning wastes, boiler blowdown, and oily wastewater, is treated in on-site sedimentation and neutralization ponds. Although the permit authorizes discharge from these ponds, the facility recycles this water for use as cooling tower makeup water. The facility's permit grants mixing zones for total residual chlorine (TRC), copper, iron, zinc, specific conductance, and temperature. The mixing zones are defined as the area from surface to bottom in the St. Johns River encompassed by a circle with the following parameter specific radii and centered at the end of discharge pipe: TRC, 5.18 m (17 feet; 2 hrs limit per day); copper, 253.29 m (831 feet); iron, 7.01 m (23 feet); zinc, 1.52 m (5 feet); specific conductance, 192.63 m (632 feet); temperature, 112.78 m (370 feet). Compliance with the daily maximum limit shall be determined by taking grab samples prior to the point of final discharge (at the storage tank for batch discharges) (facility information provided by Jeremy RiCharde of FDEP Northeast District).

Methods

Samples were collected from the D-001 NPDES sampling point by Jeremy RiCharde and Joe Jordan (FDEP Northeast District) following DEP-SOP-001/01 FS 2400 Wastewater Sampling. All DEP SOP's are available on the web at: http://www.floridadep.org/labs/qa/sops.htm

The 96-hour static renewal acute screening toxicity tests and algal growth potential test were performed following internal DEP SOP's TA07_03,TA07_04, and TA08_01 through TA08_07. All internal DEP SOP's are available on the web at: http://www.floridadep.org/labs/cgi-bin/sop/biosop.asp

Sample salinity was increased from 1.83 parts per thousand (ppth) to 9.83 ppth and 2.83 ppth for the mysid and fish tests, respectively, per permit conditions (revised November 6, 2003; permit now requires the following adjustment for effluent with 1-5 ppth salinity - "effluent salinity + 8 ppth" for the mysid test and "effluent salinity + 1 ppth" for the fish test).

Toxicity Test Results

Tests were performed November 30 – December 4, 2004.

Americamysis bahia 96-hr acute screening bioassay –	No Result
Menidia beryllina 96-hr acute screening bioassay –	LC_{50} > 100%, 0% mortality in 100% sample at 96 hours

The mysid (*A. bahia*) test was invalidated due to excessive mortality in the Control.

The bioassay samples were not acutely toxic to the fish, *M. beryllina*.

See Appendix 1 for bioassay bench sheets.

Algal Growth Potential

The effluent Algal Growth Potential (AGP) was 29.7 mg dry wt/L of *Dunaliella tertiolecta.* Although these receiving waters are fresh, the effluent salinity made the marine AGP test the appropriate one for the sample. Raschke and Shultz found that AGP values above 10.0 mg dry weight/L represent a “problem” threshold for marine receiving waters, implying nutrient enrichment (personal communication with Ron Raschke USEPA Region 4 1987). The analytical chemistry suggests that the effluent is nitrogen-limited.

See Table 1 for AGP results.

Chemistry Results

Total residual chlorine was not detected in the bioassay sample in the laboratory. Total ammonia was detected in the bioassay sample in the laboratory at 0.53 mg/L. The total ammonia concentration in the sample collected and preserved for chemical analysis was 0.18 mg/L. Based on the pH, salinity and temperature of the effluent as collected, the calculated unionized ammonia concentration was < 0.02 mg/L.

Aluminum was detected in the effluent. Nickel and zinc were detected in the effluent at levels that comply with Class III fresh water quality criteria. Chromium-III and lead were detected between the laboratory minimum detection limits (MDL) and practical quantitation limits (PQL).

Effluent levels of copper (32 µg/L), iron (2,110 µg/L), and specific conductance (3,281 µmhos/cm) exceeded fresh water quality criteria (30.5 µg/L, 1,000 µg/L, and 1,275 µmhos/cm, respectively; 62-302.530(24)(39)(23), F.A.C.) but did not exceed permit limits as the facility has mixing zones for these analytes.

See Table 2 for results of analytes detected in the effluent, and corresponding limits.

See Appendix 2 for a complete list of chemical analyses performed.

Conclusion

The effluent samples collected from D-001 for this facility on November 29, 2004, did not show acute toxicity to the fish test species during the 96-hour bioassays. The mysid test was invalidated due to excessive control mortality. The effluent AGP result exceeded the "problem” threshold for marine receiving waters, suggesting nutrient enrichment may be an issue. Effluent copper, iron, and specific conductance exceeded fresh water quality criteria, but not permit limits.

Table 1. Algal growth potential (AGP; mg dry weight/L) of Dunaliella tertiolecta *and nitrogen to phosphorus ratios for samples collected from the Florida Power and Light - Putnam Facility on November 29, 2004.*

Location	AGP (measured)	Inorganic N:P ratio	Total N:P ratio
Effluent Samples	29.7 A	3.42	10.14

A - Value reported is the mean of two or more determinations

Table 2. Effluent limits, Class III Fresh Water Criteria, and chemical data for samples collected from the Florida Power and Light - Putnam Facility on November 29, 2004.

Florida Power and Light - Putnam Facility	Class III Stds	Effluent Limits	Effluent Samples
Organic Constituents (µg/L)			
None Detected	-	-	-
Metals (µg/L unless otherwise noted)			
Aluminum	-	-	143
Arsenic	≤ 50	-	6 U
Cadmium	≤ 3.4 b	-	0.37 U
Calcium (mg/L)	-	-	217
Chromium-III	≤ 268.2 b	-	3.5 I
Copper	≤ 30.5 b	≤ 250 s	32
Iron	≤ 1000	≤ 4700 s	2110
Lead	≤ 18.6 b	-	0.93 I
Magnesium (mg/L)	-	-	74.6
Nickel	≤ 168.5 b	-	25
Selenium	≤ 5	-	2.5 U
Silver	≤ 0.07	-	0.1 U
Zinc	≤ 387.8 b	≤ 270 s	42
Nutrients (mg/L)			
Ortho-phosphate	-	-	0.52
Total Phosphorus	-	-	0.69
Ammonia	-	-	0.18
Unionized Ammonia	≤ 0.02	-	≤ 0.02 c
Nitrate+Nitrite	-	-	1.6 A
Total Kjeldahl Nitrogen	-	-	5.4
Organic Nitrogen	-	-	5.22 c
Total Nitrogen	-	-	7.0 c
General Physical and Chemical Parameters			
Dissolved Oxygen (mg/L)	≥ 5	-	5.1
pH (S.U.)	6.0 - 8.5	6.0 - 8.5	7.4
Conductivity (umhos/cm)	≤ 1275	≤ 6560 s	3281
Temperature (C)	-	≤ 36.67 s	21.5
Total Residual Chlorine (TRC; mg/L)	≤ 0.01	≤ 0.01*	-
Hardness (mg/L)	-	-	849.1 c

* For up to 2 hours per day, the TRC limit is 0.038 mg/L

Value exceeds the Class III Fresh Water Quality Criteria (62-302, F.A.C.)

b - Value is calculated based on hardness

c - calculated value

s - Single sample

A - Value reported is the mean of two or more determinations

I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit

U - Material analyzed for but not detected; value reported is the minimum detection limit

FDEP Biology Section - Acute
Bioassay Bench Sheets

Facility: FPL Putnam

Address: 392 US. Highway 17 South

City: East Palatka **County:** Putnam

Contact/District: Jeremy Richards / Northeast - Jacksonville

NPDES Permit #: FL 0032166

LIMS Job #: FLH-2004-11-30-48 **LIMS Sample #:** 799572

Sample Collection: Date: 11-29-04 Time: 1233

Hold time Start: Date: 11/29/04 Time: 1233

Comments: Sample salinity adjusted from ~ 1.83 ppth to ~ 9.83 ppth for the mysid test. Sample salinity adjusted from ~ 1.83 ppth To ~ 2.83 ppth with marine mix (40 fathoms) artificial Sea Salts for fish test. Salt control controls prepared by diluting 20 ppth ASW (batch #53) to ~ 1.83 ppth and salinity adjusting with artificial sea salts to match the test salinity. MF 11-30-04
mysid test - control failure at 24 hours 20% mortality test reported as NO result.
NCR-1471 created. MF 12-10-04
(A) NM = Not measured, DN. 12/01/04
(B) Corrected information MF 12-10-04

Lims Data Entry: MF 12-10-04

Data Entry Verification: 12.10.04 J.D.

(with well water)

Instructions (for below): Circle appropriate wording. If yes is circled complete blanks.

Test Type: Screening/Definitive

Static / Static Renewal / Flow-through

Test Duration: 48 96 hours.

Light Intensity : 50 - 100 ft. candles.

Photoperiod : 16 hours light 8 hours dark.

Initial sample handling:

mysid **Test 1 validation:**
Control survival ≥90%: Yes (No) 20% mortality in ASW control
Temperature Range ≤3°C: (Yes) No
No mortality in salt control.

fish **Test 2 validation:**
Control survival ≥90%: (Yes) No
Temperature Range ≤3°C: (Yes) No

PH adjustment : yes (no) Initial pH NaOH N HCl N Drops mL Final pH

Aeration : yes (no) 2nd Initial DO: mg/L Final DO: mg/L Duration: minutes Rate: ~ bubbles/min

Salinity adjusted (Test 1): (yes) no Initial Salinity: ~1.83 Final Salinity: ~2.83 (Salts) Hypersaline brine Fish test

Salinity adjusted (Test 2): (yes) no Initial Salinity: ~1.83 Final Salinity: ~9.83 (Salts) Hypersaline brine mysid test

Dechlorination: yes (no) mL of 0.025N Sodium Thiosulfate per liter of sample. Final TRC

Sample Validation:

Temperature: Shipped ≤6°C (Yes) No Hand Delivered: Cooling (received °C < collected °C) Yes No

Holding Time: ≤36 Hours (Yes) No (Composite-end of collection; grab-when collected; 4 in 24 - time last sample collected)

Temperature Range °C

Incubator # 3 Range 24.8 - 25.2

Room B246: 24.1 - 24.4

Waterbath: N/A

Investigators' Signatures

Sarah Richard

Marshall Faircloth

Robert Wratten

Debra McCallister

James Dumas

Myla Witterdaff

REVIEWER

Water Quality Parameters	20% DMW	Well Water	Salt Water (ASW) NSW Test 1	Salt Water (ASW) NSW Test 2	Moderately Hard Water	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl2 (mg/L):	N/A	N/A	N/A	N/A	N/A	(A) NM	—	—	DN
Lab Total Residual Cl2 (mg/L):			<0.03	<0.03		<0.03	HACH	SP	DN
Alkalinity (mg/L as $CaCO_3$):			195	200		194	HACH	SP	DN
Hardness (mg/L as $CaCO_3$):			(A) NM	NM		NM	HACH	—	DN
Total Ammonia (mg/L as N):			<0.051	<0.051		0.530	DENVER	MF	DN
Salinity (ppth):			~1.8	~2.8		~1.8	YSI Mettler	MF	DN

V.3 10/12/04

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Appendix 1. Bench Sheets

FDEP Biology Section - - Bioassay Bench Sheet

Survival

LIMS Sample #: 799572 Test #: 1 Test Started: Date 11-30-04 Time: 1300

Organism: A.bahia Test Ended: Date 12/04/04 Time: 1325

Organism Batch: 318 Diluent/ Batch: ASW / 53

Organism Age: 1day Food: YCT *P. subcapitata* Artemia 42354256

Chamber Size: 1000 mL Batch:

Test Volume 500 mL Feeding: Prior to test Prior to renewal Daily

Concentration	Chamber# ~~Replicate~~	Replicate ~~Chamber #~~	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
CTRL	E1	A	5	3 2D	3	3	—	—
	E2	B	5	3 2D	3	3	—	—
	E3	C	5	5	5	5	—	—
	E4	D	5	5	5	5	—	—
Salt Ctrl	E5	A	5	5	5	5	5	5
	E6	B	5	5	5	5	5	5
	E7	C	5	5	5	5	5	5
	E8	D	5	5	5	5	5	5
100% (salted)	E9	A	5	5	5	5	5	5
	E10	B	5	5	4 1D	4	4	4
	E11	C	5	5	4 1D	4	4	3 1D
	E12	D	5	5	5	5	5	5
Organisms loaded by: JD	Checked by:		JD	MF	JD	JD	JD	DN
Loading Verified by:	(initials)							

m = missing d = dead BR = before renewal AR = after renewal

Comments: Test invalidated – excess control mortality reported as NS result, Control NCR 1471 MF 12-11-04

Test Results:

% mortality in 100% sample 15%

LC_{50}: >100 If Calculated: 95% CI Method:

Screening Tests: Report LC50 as >100%, =100%, or <100%.

Substitue highest test concentration used if other than 100% (example: Ocean outfall tested at 30% concentration).

renewal error MF 12/6/04

V.1 2/23/04

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FDEP Biology Section - - Bioassay Bench Sheet

Survival

LIMS Sample #: 799572 Test #: 2 Test Started: Date 11-30-04 Time: 1300

Organism: M. beryllina Test Ended: Date 12/04/04 Time: 1330

Organism Batch: 34 Diluent/ Batch: ASW 1.53

Organism Age: 14 Food: YCT *P. subcapitata* Artemia

Chamber Size 1000 mL Batch: ____ ____ 412542SG

Test Volume 500 mL Feeding: Prior to test Prior to renewal - Daily

Concentration	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Ctrl	A	E13	5	5	5	5	5	5
	B	E14	5	5	5	5	5	5
	C	E15	5	5	5	5	5	5
	D	E16	5	5	5	5	5	5
Salt Std Ctrl	A	E17	5	5	5	5	5	5
	B	E18	5	5	5	5	5	5
	C	E19	5	5	5	5	5	5
	D	E20	5	4D	4	4	4	4
100% (salted)	A	E21	5	5	5	5	5	5
	B	E22	5	5	5	5	5	5
	C	E23	5	5	5	5	5	5
	D	E24	5	5	5	5	5	5
Organisms loaded by: JJ		Checked by:	JJ	JJ	JJ	JJ	JJ	DN
Loading Verified by:		(initials)						

m = missing d = dead BR = before renewal AR = after renewal

Comments:

Test Results:

% mortality in 100% sample 0

LC_{50}: >100 If Calculated: 95% CI ____ Method: ____

Screening Tests: Report LC50 as >100%, =100%, or <100%.

Substitue highest test concentration used if other than 100% (example: Ocean outfall tested at 30% concentration).

V.1 2/23/04

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Bioassay Parameters

LIMS Sample # : 799572 **Test # :** 1 **of** 2

TEST SOP: TA07_ 03 **Test Species:** *Ceriodaphnia dubia Cyprinella leedsi Pimephales promelas* (*Americamysis bahia*) *Menidia beryllina* Other:_____

V.1 2/24/04

Concentration: Ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.3	8.1	8.2	(A)		
Temperature °C	24.3	25.8	25.2			
Dissolved Oxygen mg/L	7.4	6.4	6.2			
Conductivity µmhos (mmhos)	16.5	17.18	17.5			
(initials) Measured by:	MF	SD/DN	SD			DN
(initials) Recorded by:	MF	SD/DN	SD			DN

Comments: (A) Parameters not taken for Control @ 48 hrs due to control failure. DN 11/02/04.

Concentration: Salt Ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.3	8.3	8.3	8.5	8.2	8.0
Temperature °C	24.5	24.8	25.9	25.0	24.0	24.4
Dissolved Oxygen mg/L	7.4	6.7	6.3	7.3	6.4	5.9
Conductivity µmhos mmhos	16.7	17.1	17.7	16.9	16.9	17.4
(initials) Measured by:	MF	SD/DN	SD	DN	SD	DN
(initials) Recorded by:	MF	SD/DN	SD	DN	SD	DN

Comments:

Concentration: 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.1	8.1	8.1	8.1	8.0	7.8
Temperature °C	24.6	25.7	24.8	25.0	24.2	24.9
Dissolved Oxygen mg/L	7.1	6.4	6.3	7.4	6.0	4.1
Conductivity µmhos (mmhos)	16.9	17.2	17.6	17.2	16.7	17.6
(initials) Measured by:	MF	SD/DN	SD	DN	SD	DN
(initials) Recorded by:	MF	SD/DN	SD	DN	SD	DN

Comments:

Concentration	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate						
pH (S.U.)						
Temperature °C						
Dissolved Oxygen mg/L						
Conductivity µmhos mmhos						
(initials) Measured by:						
(initials) Recorded by:						

Comments:

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V.1 2/24/04

Bioassay Parameters

LIMS Sample # : 799572 **Test # :** 2 **of** 2

TEST SOP: TA07_ 04 **Test Species:** *Ceriodaphnia dubia* *Cyprinella leedsi* *Pimephales promelas* *Americamysis bahia* *Menidia beryllina* Other:_____

V.1 2/24/04

Concentration Ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.1	8.2	8.3	8.4	8.2	7.7
Temperature °C	24.1	25.0	25.9	24.5	24.7	24.1
Dissolved Oxygen mg/L	7.4	7.2	6.0	7.8	6.2	6.3
Conductivity µmhos (mmhos)	5.23	6.02	6.4	5.55	6.05	5.67
(initials) Measured by:	MF	JD/DN	JD	DN	JD	DN
(initials) Recorded by:	MF	JD/DN	JD	DN	JD	DN

Comments:

Concentration Salt Ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	8.1	8.2	8.3	8.4	7.9	7.8
Temperature °C	24.5	25.9	25.9	24.9	24.9	24.6
Dissolved Oxygen mg/L	7.9	6.7	6.0	7.7	6.0	6.3
Conductivity µmhos (mmhos)	5.15	5.95	61	5.56	5.71	5.65
(initials) Measured by:	MF	JD/DN	JD	DN	JD	DN
(initials) Recorded by:	MF	JD/DN	JD	DN	JD	DN

Comments:

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C	C	D	A
pH (S.U.)	7.7	7.9	8.1	7.7	7.8	7.8
Temperature °C	24.2	25.2	25.8	24.8	24.3	24.3
Dissolved Oxygen mg/L	7.7	6.8	6.1	7.3	5.6	5.5
Conductivity µmhos (mmhos)	5.44	6.09	6.3	5.47	5.45	5.77
(initials) Measured by:	MF	JD/DN	JD	DN	JD	DN
(initials) Recorded by:	MF	JD/DN	JD	DN	JD	DN

Comments:

Concentration	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate						
pH (S.U.)						
Temperature °C						
Dissolved Oxygen mg/L						
Conductivity µmhos (mmhos)						
(initials) Measured by:						
(initials) Recorded by:						

Comments:

Appendix 2. Chemical Analyses performed on the effluent from the Florida Power and Light - Putnam Plant Outfall D-001, sampled on November 29, 2004.

Date sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
11/29/2004 12:23	FINAL EFFLUENT	Bio-AGP/LimNut	Algal Growth Potential	29.7	mg DryWt/L	A	0.3	0.9
11/29/2004 12:23	FINAL EFFLUENT	Bio-Chl-a	Chlorophyll-A, Monochromatic, Water	4.3	ug/L	U	4.3	13
11/29/2004 12:23	FINAL EFFLUENT	Bio-Chl-a	Phaeophytin-A, Monochromatic, Water	4.3	ug/L	U	4.3	13
11/29/2004 12:23	FINAL EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Fish	100	LC50	L		
11/29/2004 12:23	FINAL EFFLUENT	Bio-Toxicology	Bioassay-Acute-Screen-SW-Mysid	No Result	LC50			
11/29/2004 12:23	EQUIP BLANK	BNA-Water	1,2,4-Trichlorobenzene	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	1,2-Dichlorobenzene	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	1,3-Dichlorobenzene	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	1,4-Dichlorobenzene	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	2,4,6-Trichlorophenol	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	2,4-Dichlorophenol	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	2,4-Dimethylphenol	53	ug/L	U	53	210
11/29/2004 12:23	EQUIP BLANK	BNA-Water	2,4-Dinitrophenol	16	ug/L	UJ	16	63
11/29/2004 12:23	EQUIP BLANK	BNA-Water	2,4-Dinitrotoluene	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	2,6-Dinitrotoluene	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	2-Chloronaphthalene	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	2-Chlorophenol	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	2-Methyl-4,6-dinitrophenol	3.2	ug/L	U	3.2	13
11/29/2004 12:23	EQUIP BLANK	BNA-Water	2-Nitrophenol	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	3,3'-Dichlorobenzidine	42	ug/L	U	42	170
11/29/2004 12:23	EQUIP BLANK	BNA-Water	4,4'-DDD	1.6	ug/L	U	1.6	6.3
11/29/2004 12:23	EQUIP BLANK	BNA-Water	4,4'-DDE	1.6	ug/L	U	1.6	6.3
11/29/2004 12:23	EQUIP BLANK	BNA-Water	4,4'-DDT	1.6	ug/L	U	1.6	6.3
11/29/2004 12:23	EQUIP BLANK	BNA-Water	4-Bromophenyl phenyl ether	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	4-Chloro-3-methylphenol	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	4-Chlorophenyl phenyl ether	2.1	ug/L	U	2.1	8.4
11/29/2004 12:23	EQUIP BLANK	BNA-Water	4-Nitrophenol	16	ug/L	UJ	16	63
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Acenaphthene	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Acenaphthylene	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Aldrin	1.6	ug/L	U	1.6	6.3
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Anthracene	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Benzidine	110	ug/L	U	110	420
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Benzo(a)anthracene	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Benzo(a)pyrene	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Benzo(b)fluoranthene	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Benzo(g,h,i)perylene	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Benzo(k)fluoranthene	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Bis(2-chloroethoxy)methane	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Bis(2-chloroethyl)ether	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Bis(2-chloroisopropyl)ether	3.2	ug/L	U	3.2	13
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Bis(2-ethylhexyl)phthalate	16	ug/L	U	16	63
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Butyl benzyl phthalate	5.3	ug/L	U	5.3	21
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Chrysene	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Di-n-butyl phthalate	5.3	ug/L	U	5.3	21
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Di-n-octyl phthalate	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Dibenzo(a,h)anthracene	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Dieldrin	1.6	ug/L	U	1.6	6.3
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Diethyl phthalate	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Dimethyl phthalate	53	ug/L	U	53	210
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Endosulfan I	4.2	ug/L	U	4.2	17
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Endosulfan II	4.2	ug/L	U	4.2	17
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Endosulfan sulfate	1.6	ug/L	U	1.6	6.3
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Endrin	1.6	ug/L	U	1.6	6.3
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Endrin aldehyde	4.2	ug/L	U	4.2	17
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Fluoranthene	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Fluorene	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Heptachlor	1.6	ug/L	U	1.6	6.3

Date sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Heptachlor epoxide	1.6	ug/L	U	1.6	6.3
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Hexachlorobenzene	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Hexachlorobutadiene	3.2	ug/L	U	3.2	13
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Hexachlorocyclopentadiene	3.2	ug/L	UJ	3.2	13
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Hexachloroethane	3.2	ug/L	U	3.2	13
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Indeno(1,2,3-cd)pyrene	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Isophorone	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	N-Nitrosodi-n-propylamine	2.1	ug/L	U	2.1	8.4
11/29/2004 12:23	EQUIP BLANK	BNA-Water	N-Nitrosodimethylamine	2.1	ug/L	U	2.1	8.4
11/29/2004 12:23	EQUIP BLANK	BNA-Water	N-Nitrosodiphenylamine	3.2	ug/L	U	3.2	13
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Naphthalene	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Nitrobenzene	2.1	ug/L	U	2.1	8.4
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Pentachlorophenol	3.2	ug/L	U	3.2	13
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Phenanthrene	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Phenol	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	Pyrene	1.1	ug/L	U	1.1	4.2
11/29/2004 12:23	EQUIP BLANK	BNA-Water	alpha-BHC	1.6	ug/L	U	1.6	6.3
11/29/2004 12:23	EQUIP BLANK	BNA-Water	beta-BHC	1.6	ug/L	U	1.6	6.3
11/29/2004 12:23	EQUIP BLANK	BNA-Water	delta-BHC	1.6	ug/L	U	1.6	6.3
11/29/2004 12:23	EQUIP BLANK	BNA-Water	gamma-BHC	1.6	ug/L	U	1.6	6.3
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	1,2,4-Trichlorobenzene	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	1,2-Dichlorobenzene	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	1,3-Dichlorobenzene	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	1,4-Dichlorobenzene	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	2,4,6-Trichlorophenol	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	2,4-Dichlorophenol	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	2,4-Dimethylphenol	52	ug/L	U	52	210
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	2,4-Dinitrophenol	15	ug/L	UJ	15	62
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	2,4-Dinitrotoluene	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	2,6-Dinitrotoluene	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	2-Chloronaphthalene	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	2-Chlorophenol	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	2-Methyl-4,6-dinitrophenol	3.1	ug/L	U	3.1	12
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	2-Nitrophenol	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	3,3'-Dichlorobenzidine	41	ug/L	U	41	160
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	4,4'-DDD	1.5	ug/L	U	1.5	6.2
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	4,4'-DDE	1.5	ug/L	U	1.5	6.2
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	4,4'-DDT	1.5	ug/L	U	1.5	6.2
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	4-Bromophenyl phenyl ether	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	4-Chloro-3-methylphenol	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	4-Chlorophenyl phenyl ether	2.1	ug/L	U	2.1	8.2
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	4-Nitrophenol	15	ug/L	UJ	15	62
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Acenaphthene	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Acenaphthylene	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Aldrin	1.5	ug/L	U	1.5	6.2
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Anthracene	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Benzidine	100	ug/L	U	100	410
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Benzo(a)anthracene	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Benzo(a)pyrene	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Benzo(b)fluoranthene	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Benzo(g,h,i)perylene	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Benzo(k)fluoranthene	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Bis(2-chloroethoxy)methane	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Bis(2-chloroethyl)ether	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Bis(2-chloroisopropyl)ether	3.1	ug/L	U	3.1	12
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Bis(2-ethylhexyl)phthalate	15	ug/L	U	15	62
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Butyl benzyl phthalate	5.2	ug/L	U	5.2	21
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Chrysene	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Di-n-butyl phthalate	5.2	ug/L	U	5.2	21
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Di-n-octyl phthalate	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Dibenzo(a,h)anthracene	1	ug/L	U	1	4.1

Date sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Dieldrin	1.5	ug/L	U	1.5	6.2
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Diethyl phthalate	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Dimethyl phthalate	52	ug/L	U	52	210
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Endosulfan I	4.1	ug/L	U	4.1	16
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Endosulfan II	4.1	ug/L	U	4.1	16
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Endosulfan sulfate	1.5	ug/L	U	1.5	6.2
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Endrin	1.5	ug/L	U	1.5	6.2
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Endrin aldehyde	4.1	ug/L	U	4.1	16
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Fluoranthene	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Fluorene	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Heptachlor	1.5	ug/L	U	1.5	6.2
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Heptachlor epoxide	1.5	ug/L	U	1.5	6.2
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Hexachlorobenzene	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Hexachlorobutadiene	3.1	ug/L	U	3.1	12
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Hexachlorocyclopentadiene	3.1	ug/L	UJ	3.1	12
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Hexachloroethane	3.1	ug/L	U	3.1	12
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Indeno(1,2,3-cd)pyrene	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Isophorone	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	N-Nitrosodi-n-propylamine	2.1	ug/L	U	2.1	8.2
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	N-Nitrosodimethylamine	2.1	ug/L	U	2.1	8.2
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	N-Nitrosodiphenylamine	3.1	ug/L	U	3.1	12
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Naphthalene	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Nitrobenzene	2.1	ug/L	U	2.1	8.2
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Pentachlorophenol	3.1	ug/L	U	3.1	12
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Phenanthrene	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Phenol	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	Pyrene	1	ug/L	U	1	4.1
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	alpha-BHC	1.5	ug/L	U	1.5	6.2
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	beta-BHC	1.5	ug/L	U	1.5	6.2
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	delta-BHC	1.5	ug/L	U	1.5	6.2
11/29/2004 12:23	FINAL EFFLUENT	BNA-Water	gamma-BHC	1.5	ug/L	U	1.5	6.2
11/29/2004 12:23	EQUIP BLANK	GC-Water	Alachlor	0.61	ug/L	U	0.61	2.4
11/29/2004 12:23	EQUIP BLANK	GC-Water	Ametryn	0.051	ug/L	U	0.051	0.2
11/29/2004 12:23	EQUIP BLANK	GC-Water	Atrazine	0.051	ug/L	U	0.051	0.2
11/29/2004 12:23	EQUIP BLANK	GC-Water	Azinphos Methyl	0.051	ug/L	U	0.051	0.2
11/29/2004 12:23	EQUIP BLANK	GC-Water	Bromacil	0.2	ug/L	U	0.2	0.8
11/29/2004 12:23	EQUIP BLANK	GC-Water	Butylate	0.2	ug/L	U	0.2	0.8
11/29/2004 12:23	EQUIP BLANK	GC-Water	Chlorpyrifos Ethyl	0.051	ug/L	U	0.051	0.2
11/29/2004 12:23	EQUIP BLANK	GC-Water	Chlorpyrifos Methyl	0.1	ug/L	U	0.1	0.4
11/29/2004 12:23	EQUIP BLANK	GC-Water	Diazinon	0.051	ug/L	UJ	0.051	0.2
11/29/2004 12:23	EQUIP BLANK	GC-Water	Ethion	0.051	ug/L	U	0.051	0.2
11/29/2004 12:23	EQUIP BLANK	GC-Water	Ethoprop	0.1	ug/L	U	0.1	0.4
11/29/2004 12:23	EQUIP BLANK	GC-Water	Fenamiphos	0.2	ug/L	U	0.2	0.8
11/29/2004 12:23	EQUIP BLANK	GC-Water	Fonofos	0.1	ug/L	U	0.1	0.4
11/29/2004 12:23	EQUIP BLANK	GC-Water	Hexazinone	0.1	ug/L	U	0.1	0.4
11/29/2004 12:23	EQUIP BLANK	GC-Water	Malathion	0.15	ug/L	U	0.15	0.6
11/29/2004 12:23	EQUIP BLANK	GC-Water	Metalaxyl	0.25	ug/L	UJ	0.25	1
11/29/2004 12:23	EQUIP BLANK	GC-Water	Metolachlor	0.51	ug/L	U	0.51	2
11/29/2004 12:23	EQUIP BLANK	GC-Water	Metribuzin	0.1	ug/L	U	0.1	0.4
11/29/2004 12:23	EQUIP BLANK	GC-Water	Mevinphos	0.2	ug/L	U	0.2	0.8
11/29/2004 12:23	EQUIP BLANK	GC-Water	Naled	0.81	ug/L	UJ	0.81	3.2
11/29/2004 12:23	EQUIP BLANK	GC-Water	Norflurazon	0.1	ug/L	U	0.1	0.4
11/29/2004 12:23	EQUIP BLANK	GC-Water	Parathion Ethyl	0.15	ug/L	UJ	0.15	0.6
11/29/2004 12:23	EQUIP BLANK	GC-Water	Parathion Methyl	0.1	ug/L	U	0.1	0.4
11/29/2004 12:23	EQUIP BLANK	GC-Water	Phorate	0.051	ug/L	UJ	0.051	0.2
11/29/2004 12:23	EQUIP BLANK	GC-Water	Prometryn	0.15	ug/L	U	0.15	0.6
11/29/2004 12:23	EQUIP BLANK	GC-Water	Simazine	0.051	ug/L	U	0.051	0.2
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Alachlor	0.6	ug/L	U	0.6	2.4
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Ametryn	0.05	ug/L	U	0.05	0.2
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Atrazine	0.05	ug/L	U	0.05	0.2
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Azinphos Methyl	0.05	ug/L	U	0.05	0.2

Date sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Bromacil	0.2	ug/L	U	0.2	0.8
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Butylate	0.2	ug/L	U	0.2	0.8
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Chlorpyrifos Ethyl	0.05	ug/L	U	0.05	0.2
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Chlorpyrifos Methyl	0.1	ug/L	U	0.1	0.4
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Diazinon	0.05	ug/L	UJ	0.05	0.2
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Ethion	0.05	ug/L	U	0.05	0.2
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Ethoprop	0.1	ug/L	U	0.1	0.4
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Fenamiphos	0.2	ug/L	U	0.2	0.8
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Fonofos	0.1	ug/L	U	0.1	0.4
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Hexazinone	0.1	ug/L	U	0.1	0.4
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Malathion	0.15	ug/L	U	0.15	0.6
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Metalaxyl	0.25	ug/L	UJ	0.25	1
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Metolachlor	0.5	ug/L	U	0.5	2
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Metribuzin	0.1	ug/L	U	0.1	0.4
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Mevinphos	0.2	ug/L	U	0.2	0.8
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Naled	0.8	ug/L	UJ	0.8	3.2
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Norflurazon	0.1	ug/L	U	0.1	0.4
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Parathion Ethyl	0.15	ug/L	UJ	0.15	0.6
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Parathion Methyl	0.1	ug/L	U	0.1	0.4
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Phorate	0.05	ug/L	UJ	0.05	0.2
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Prometryn	0.15	ug/L	U	0.15	0.6
11/29/2004 12:23	FINAL EFFLUENT	GC-Water	Simazine	0.05	ug/L	U	0.05	0.2
11/29/2004 12:23	EQUIP BLANK	Metals-Water	Aluminum	5	ug/L	U	5	20
11/29/2004 12:23	EQUIP BLANK	Metals-Water	Arsenic	6	ug/L	U	6	24
11/29/2004 12:23	EQUIP BLANK	Metals-Water	Cadmium	0.075	ug/L	U	0.075	0.3
11/29/2004 12:23	EQUIP BLANK	Metals-Water	Calcium	0.05	mg/L	U	0.05	0.2
11/29/2004 12:23	EQUIP BLANK	Metals-Water	Chromium	2	ug/L	U	2	8
11/29/2004 12:23	EQUIP BLANK	Metals-Water	Copper	0.75	ug/L	U	0.75	3
11/29/2004 12:23	EQUIP BLANK	Metals-Water	Iron	10	ug/L	U	10	40
11/29/2004 12:23	EQUIP BLANK	Metals-Water	Lead	0.075	ug/L	U	0.075	0.3
11/29/2004 12:23	EQUIP BLANK	Metals-Water	Magnesium	0.02	mg/L	U	0.02	0.08
11/29/2004 12:23	EQUIP BLANK	Metals-Water	Nickel	2	ug/L	U	2	8
11/29/2004 12:23	EQUIP BLANK	Metals-Water	Selenium	0.5	ug/L	U	0.5	2
11/29/2004 12:23	EQUIP BLANK	Metals-Water	Silver	0.02	ug/L	U	0.02	0.08
11/29/2004 12:23	EQUIP BLANK	Metals-Water	Zinc	3	ug/L	U	3	12
11/29/2004 12:23	FINAL EFFLUENT	Metals-Water	Aluminum	143	ug/L		5	20
11/29/2004 12:23	FINAL EFFLUENT	Metals-Water	Arsenic	6	ug/L	U	6	24
11/29/2004 12:23	FINAL EFFLUENT	Metals-Water	Cadmium	0.37	ug/L	U	0.37	1.5
11/29/2004 12:23	FINAL EFFLUENT	Metals-Water	Calcium	217	mg/L		0.1	0.4
11/29/2004 12:23	FINAL EFFLUENT	Metals-Water	Chromium	3.5	ug/L	I	2	8
11/29/2004 12:23	FINAL EFFLUENT	Metals-Water	Copper	32	ug/L		3.8	15
11/29/2004 12:23	FINAL EFFLUENT	Metals-Water	Iron	2110	ug/L		10	40
11/29/2004 12:23	FINAL EFFLUENT	Metals-Water	Lead	0.93	ug/L	I	0.37	1.5
11/29/2004 12:23	FINAL EFFLUENT	Metals-Water	Magnesium	74.6	mg/L		0.02	0.08
11/29/2004 12:23	FINAL EFFLUENT	Metals-Water	Nickel	25	ug/L		2	8
11/29/2004 12:23	FINAL EFFLUENT	Metals-Water	Selenium	2.5	ug/L	U	2.5	10
11/29/2004 12:23	FINAL EFFLUENT	Metals-Water	Silver	0.1	ug/L	U	0.1	0.4
11/29/2004 12:23	FINAL EFFLUENT	Metals-Water	Zinc	42	ug/L		3	12
11/29/2004 12:23	EQUIP BLANK	Nutrients-Liquid	Ammonia-N	0.01	mg N/L	U	0.01	0.02
11/29/2004 12:23	EQUIP BLANK	Nutrients-Liquid	Kjeldahl Nitrogen	0.06	mg N/L	U	0.06	0.2
11/29/2004 12:23	EQUIP BLANK	Nutrients-Liquid	NO2NO3-N	0.004	mg N/L	U	0.004	0.01
11/29/2004 12:23	EQUIP BLANK	Nutrients-Liquid	O-Phosphate-P	0.004	mg P/L	U	0.004	0.01
11/29/2004 12:23	EQUIP BLANK	Nutrients-Liquid	Total-P	0.02	mg P/L	U	0.02	0.06
11/29/2004 12:23	FINAL EFFLUENT	Nutrients-Liquid	Ammonia-N	0.18	mg N/L		0.01	0.02
11/29/2004 12:23	FINAL EFFLUENT	Nutrients-Liquid	Kjeldahl Nitrogen	5.4	mg N/L		0.6	2
11/29/2004 12:23	FINAL EFFLUENT	Nutrients-Liquid	NO2NO3-N	1.6	mg N/L	A	0.04	0.1
11/29/2004 12:23	FINAL EFFLUENT	Nutrients-Liquid	O-Phosphate-P	0.52	mg P/L		0.04	0.1
11/29/2004 12:23	FINAL EFFLUENT	Nutrients-Liquid	Total-P	0.69	mg P/L		0.02	0.06

The Bioassay of Florida Power and Light - Putnam Plant effluent sampled on November 29, 2004, NPDES #FL0032166.

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

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 0 3 2 1 6 6 11	12 0 4 1 1 2 9	18 **B**	19 **S**	20 2

Remarks

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The Priority Pollutants Analysis for Bioassay of Florida Power and Light - Putnam Plant effluent sampled on November 29, 2004, NPDES #FL0032166.

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

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 0 3 2 1 6 6 11	12 0 4 1 1 2 9	18 **X**	19 **S**	20 2

Remarks

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