

Effluent Quality Assessment

Aramark Uniform and Career Apparel, Inc.

Duval County

NPDES #FL0178845

Sampled October 12, 2009

January 2010

Biology Section
Bureau of Laboratories
Division of Environmental Assessment and Restoration

Quality Manual No. 870346G
NELAC Certification No. E31780

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Aramark Uniform and Career Apparel, Inc., 1226 East 8th Street, Jacksonville, Duval County, Florida, 32206. NPDES #FL0178845. Effluent samples for bioassay, chemical and microbiological analyses for this facility were collected on October 12, 2009.

Introduction

Aramark Uniform and Career Apparel, Inc. is a groundwater remediation facility. Wastewater is collected from groundwater wells and is then treated by air-stripping and filtration. The facility has no Administrative Orders, Consent Orders nor Mixing Zones. Permit violations within the past year include an exceedance of the total recoverable iron limit in March 2009 (iron concentration 1.4 mg/L; permit limit 1.0 mg/L) and no reported toxicity tests in the 2008 and 2009 annual Discharge Monitoring Reports. (See Appendix F for detailed facility information provided by Brian Kirts of FDEP Northeast District.)

Methods

Samples for bioassay, algal growth potential (AGP), microbiological and chemical analyses were collected from the NPDES sampling point for Outfall D-001 by Patrick O'Conner (FDEP Northeast District) following DEP-SOP-001/01 FS 2400 Wastewater Sampling. All DEP SOPs are available on the web at: **http://www.floridadep.org/labs/qa/sops.htm**.

See Appendix A for the completed chain of custody forms.

The freshwater acute screening toxicity tests and the algal growth potential test were performed following internal DEP SOPs TA07_01, TA07_02, and TA08_01 through TA08_09. All internal DEP SOPs are available on the web at: http://www.floridadep.org/labs/cgi-bin/sop/biosop.asp.

Results and Discussion

Toxicity Test Results

Tests performed October 13 - 17, 2009.

Ceriodaphnia dubia 96-hour acute definitive bioassay – LC_{50} > 100%, 0% mortality in 100% sample at 96 hours

Cyprinella leedsi 96-hour acute definitive bioassay – LC_{50} > 100%, 0% mortality in 100% sample at 96 hours

The bioassay samples were not acutely toxic to the bioassay test organisms.

See Appendix B for bioassay bench sheets. See Appendix C for results of the last 20 standard reference toxicant (SRT) tests and the bench sheets and statistical analyses of the SRT tests that correspond to these facility tests. See Appendix D for test organism receipts.

Algal Growth Potential

The effluent Algal Growth Potential (AGP) was 1.3 mg dry wt/L of the unicellular green alga, *Pseudokirchneriella subcapitata*, formerly known as *Selenastrum capricornutum*. Raschke and Schultz (1987) found that AGP values above 5.0 mg dry weight/L represent a "problem" threshold for fresh receiving waters, implying nutrient enrichment. The analytical chemistry suggests that the effluent is phosphorus-limited. The predicted AGP based on ortho-phosphate concentrations was 8.6 (±20%) mg dry wt/L (Table 1; Miller et al. 1978). To determine actual nutrient limitation, a limiting-nutrient algal growth potential test should be performed.

See Table 1 for AGP results.

Chemistry Results

Total residual chlorine was not detected in the bioassay sample in the bioassay laboratory. Total ammonia (1.09 mg N/L) was detected in the bioassay sample in the bioassay laboratory. Based on the pH, salinity, and temperature of the bioassay sample, the calculated unionized ammonia concentration was < 0.02 mg N/L. The total ammonia concentration in the sample collected and preserved for chemical analysis was 1.4 mg N/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was < 0.02 mg N/L.

Arsenic and copper were detected in the effluent at levels that comply with Class III freshwater quality criteria (62-302.530, F.A.C.). Effluent iron (1,120 µg/L) violated both the criterion for Class III freshwaters for iron and the permitted limit (≤ 1,000 µg/L; 62-302.530(38), F.A.C.; and NPDES permit #FL0178845). Chromium, lead, nickel, selenium and zinc were detected between the laboratory method detection limits (MDL) and the laboratory practical quantification limits (PQL). Fecal coliforms were not detected in the effluent.

See Table 2 for results of analytes detected in the effluent, and corresponding limits. See Appendix E for a complete list of chemical analyses performed.

Conclusion

The effluent samples collected from the NPDES sampling point for Outfall D-001 for this facility on October 12, 2009, were not acutely toxic to either test species. The effluent AGP result was less than the "problem" threshold for fresh receiving waters. Effluent iron (1,120 µg/L) violated both the criterion for Class III freshwaters for iron and the permitted limit (≤ 1,000 µg/L; 62-302.530(38), F.A.C.; and NPDES permit #FL0178845). Other effluent water quality samples did not violate water quality criteria or permit limits.

Literature Cited

Miller, W. E., T. E. Maloney, and J. C. Greene. 1978. The *Selenastrum capricornutum* Printz algal assay bottle test. EPA-600/9-78-018. U. S. EPA, Cincinnati, Ohio. 126 p.

Raschke, R. L. and D. A. Schultz. 1987. The use of the algal growth potential test for data assessment. J. Wat. Poll. Cont. Fed. 59(4): 222-227.

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Table 1. Measured and predicted algal growth potential (AGP; mg dry weight/L) for total soluble inorganic nitrogen (TSIN), orthophosphate (OP), total nitrogen (TN) and total phosphorus (TP) limitation of the freshwater species *Pseudokirchneriella subcapitata* and ratios of nitrogen to phosphorus for samples collected from the Aramark Uniform and Career Apparel, Inc., facility on October 12, 2009.

Aramark Uniform and Career Apparel, Inc.								
Location	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (OP) ± 20%	Predicted AGP (TN) ± 20%	Predicted AGP (TP) ± 20%	Inorganic N:P ratio	Total N:P ratio
Effluent	1.3	54.6 ± 10.9	8.6 ± 1.7	66.0 ± 13.2	17.6 ± 3.5	71.9	42.4

Table 2. Effluent limits, Class III Freshwater Criteria and chemical and microbiological data for samples collected from the Aramark Uniform and Career Apparel, Inc., facility on October 12, 2009.

Aramark Uniform and Career Apparel, Inc. NPDES# FL0178845	Class III Criteria	Effluent Limits	Effluent	
Organic Constituents (µg/L)				
None Detected	-		None Detected	
Metals (µg/L unless otherwise noted)				
Aluminum	-	-	60	U
Arsenic	≤ 50	-	1.57	
Cadmium	≤ 0.5 b	-	0.03	U
Calcium (mg/L)	-	-	74.7	
Chromium-III	≤ 177.5 b	-	0.54	I
Copper	≤ 19.8 b	-	4.67	
Iron	≤ 1,000	≤ 1,000 s	1120	
Lead	≤ 9.8 b	-	0.67	I
Magnesium (mg/L)	-	-	13.4	
Mercury	≤ 0.012	-	-	
Nickel	≤ 110.1 b	-	0.55	I
Selenium	≤ 5.0	-	0.29	I
Silver	≤ 0.07	-	0.025	U
Zinc	≤ 253.1 b	-	5.1	I
Nutrients (mg/L)				
Ortho-phosphate	-	-	0.02	
Total Phosphorus	-	-	0.041	A
Total Ammonia	-	-	1.4	
Un-ionized Ammonia	≤ 0.02 s	-	≤ 0.02	c
Nitrate and Nitrite	-	-	0.037	J
Total Kjeldahl Nitrogen	-	-	1.7	
Organic Nitrogen	-	-	0.3	c
Total Nitrogen	-	Report	1.737	c
General Physical and Chemical Parameters				
Dissolved Oxygen (mg/L)	≥ 5.0	-	8.7	
pH (SU)	6.0 - 8.5	6.0 - 8.5 s	7.3	
Conductivity (µmhos/cm)	≤ 1,275	-	665	
Temperature (°C)	-	-	25.3	
Sample Depth (m)	-	-	0.1	
Total Residual Chlorine (mg/L)	≤ 0.01	-	0.03	UQ£
Chlorophyll *a* (µg/L) - Corrected	-	-	0.55	U
Phaeophytin (µg/L)	-	-	0.4	U
CBOD, 5 day (mg/L), N - inhibited	-	-	0.91	I
Chloride (mg/L)	-	-	40	A
Fluoride (mg/L)	≤ 10.0	-	0.14	
Sulfate (mg/L)	-	-	110	A
Flow (MGD)	-	≤ 0.096 m	0.03	m
Hardness (mg $CaCO_3$)	-	-	241.71	c
Microbiology (Number of colony forming units/100ml)				
Fecal Coliforms @	≤ 400s #	-	2	U

Value exceeds the Class III Water Quality Criteria or permit limits

b - Value is calculated based on hardness
c - Value is calculated
m - Monthly average
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
J - Estimated value
Q - Sample held beyond normal holding time
U - Material analyzed for but not detected; value reported is the method detection limit
@ - Fecal coliform analysis performed by Advanced Environmental, Jacksonville lab
# - If 10 or fewer samples are taken within a month, the single sample limit is 400 CFU (62-302.530(6), F.A.C.)
£ - Analysis performed in bioassay laboratory

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Request Number: RQ-2009-10-12-29
Aramark

Customer: NE-DIST
Project ID: FYI3
PMAS: 1143

Event ID *

Requester: Jennifer Paris
Collected By: Patrick O'Connor
Sampling Agency: FDEP NED
Field Report Prepared By: Patrick O'Connor
Send Final Report To Tom Kallemeyn

Group: A	Bottle Typ
	AA-AGP
Group: A	Bottle Typ
	BOD-INHB
Group: A	Bottle Typ
	BSY-AS-FCl
	BSY-AS-FFS
Group: A	Bottle Typ
	CHL-CORR-
Group: A	Bottle Typ
	NED-AEJ-F(
Group: A	Bottle Typ
	W-ALK
	W-CL-IC
	W-F
	W-SO4-IC
Group: A	Bottle Typ
	W-BNA
Group: A	Bottle Typ
	W-COLOR-F
	W-PO4-F
Group: A	Bottle Typ
	W-ICP
	W-ICPMS
Group: A	Bottle Typ
	W-NH3
	W-NO2NO3
	W-S-A-TP
	W-TKN
	W-TOC
Group: A	Bottle Typ

Lab ID *	Location / Field ID	Matrix (Include type e.g. Salt, Fresh, etc)	Temp (C)	pH	Latitude	Longitude	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	Sample Depth m / ft	Salinity (PPTh) / Sp Conductance (umho/cm)	NPDES Number	Comments	Bottle Group(s)**
	Aramark Effluent	Effluent (Fresh)	25.28	7.27	o ' "	o ' "	Grab	10/12/09 1315 Central	Date Time Central		8.24		0.1 m	Sp Conductance 6485	FL0178895		A
	Aramark Blank				o ' "	o ' "	Grab	10/12/09 1320 Central	Date Time Central				m / ft				B
					o ' "	o ' "	Comp / Grab	Date Time Eastern Central	Date Time Eastern Central				m / ft				
					o ' "	o ' "	Comp / Grab	Date Time Eastern Central	Date Time Eastern Central				m / ft				
					o ' "	o ' "	Comp / Grab	Date Time Eastern Central	Date Time Eastern Central				m / ft			2 Bronsay Receiving tox by JP. 10:35 10.13.09	

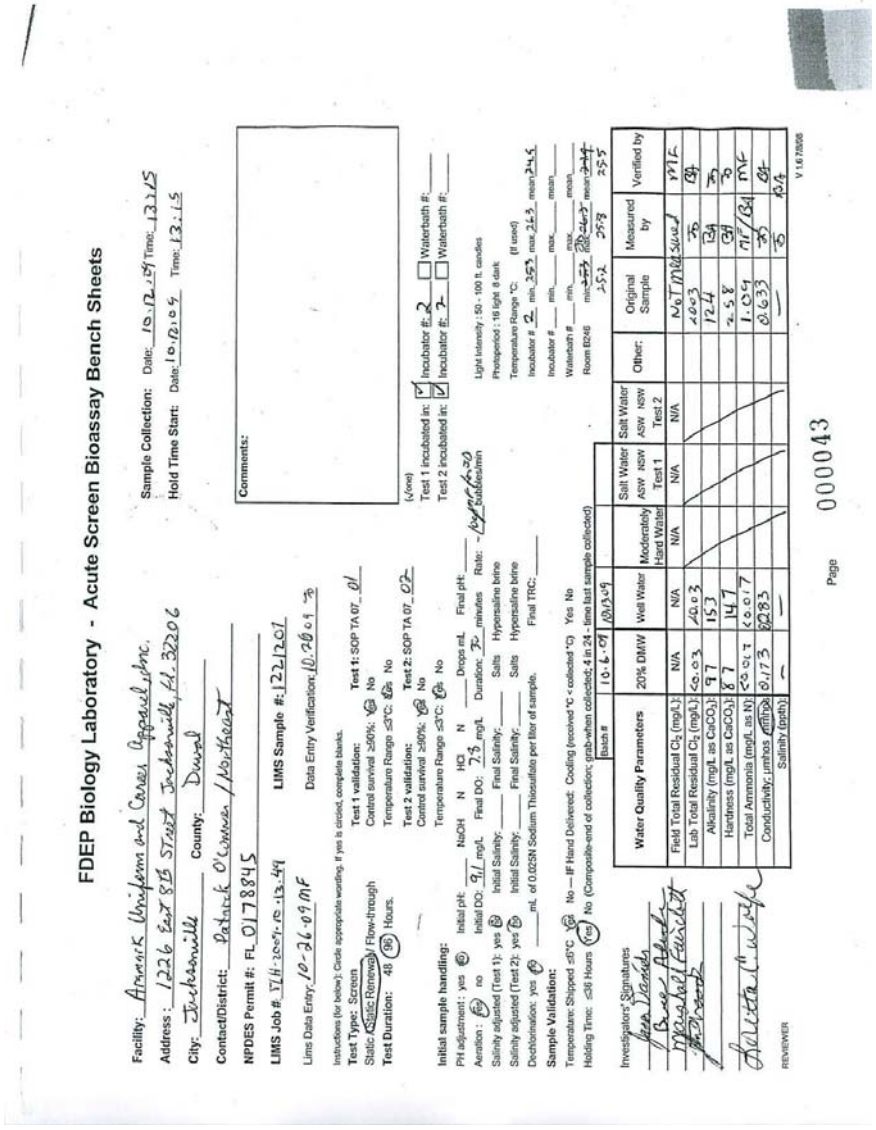
Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
Patrick O'Connor	10/12/09	FedEx						
[illegible]	10/12/09 1500							

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

Appendix B. Bench Sheets



FDEP Biology Laboratory - Acute Screen Bioassay Bench Sheets

Facility: Advanced Wastewater Corp. Effluent Disc.
Address: 1226 East 8th Street Jacksonville, FL 32206
City: Jacksonville County: Duval
Contact/District: Patrick O'Connor / Northeast
NPDES Permit #: FL 0178845
LIMS Job #: 17H-20071015-49 LIMS Sample #: 122707
Lims Data Entry: 10-26-07 MF Data Entry Verification: 10.26.07 TB

Sample Collection: Date: 10.22.07 Time: 1315
Hold Time Start: Date: 10.22.07 Time: 13:15

Comments:

Instructions (for below): Circle appropriate wording. If yes is circled, complete blanks.
Test Type: Screen
Static <Static Renewal> Flow-through
Test Duration: 48 (96) Hours.

Test 1 validation:
Control survival ≥60%: (Yes) No
Temperature Range ≤3°C: (Yes) No
Test 2 validation:
Control survival ≥60%: (Yes) No
Temperature Range ≤3°C: (Yes) No

Test 1: SOP TA 07_01
Test 2: SOP TA 07_02

(circle)
Test 1 incubated in: (✓) Incubator #: 2 ☐ Waterbath #:
Test 2 incubated in: (✓) Incubator #: 2 ☐ Waterbath #:

Initial sample handling:
PH adjustment: yes (no) Initial pH: ___ NaOH N HCl N ___ Drops mL Final pH: ___
Aeration: (yes) no Initial DO: 9.1 mg/L Final DO: 7.5 mg/L Duration: 30 minutes Rate: ~bubbles/min
Salinity adjusted (Test 1): yes (no) Initial Salinity: ___ Final Salinity: ___ Salts Hypersaline brine
Salinity adjusted (Test 2): yes (no) Initial Salinity: ___ Final Salinity: ___ Salts Hypersaline brine
Dechlorination: yes (no) ___mL of 0.025N Sodium Thiosulfate per liter of sample. Final TRC: ___
Sample Validation: (Yes) No — IF Hand Delivered: Cooling (received °C < collected °C) Yes No
Temperature: Shipped ≤6°C (Yes) No (Composite-end of collection; grab-when collected; 4 in 24 - time last sample collected)
Holding Time: ≤36 Hours (Yes) No

Light Intensity: 50 - 100 ft. candles
Photoperiod: 16 light :8 dark
Temperature Range °C: (if used)
Incubator # 2 min. 25.3 max. 26.3 mean 25.6
Incubator # ___ min. ___ max. ___ mean ___
Waterbath # ___ min. ___ max. ___ mean ___
Room B246 min. 25.5 25.8 mean 25.5

Batch #		10-6-09	09/309								
Water Quality Parameters	20% DMW	Well Water	Moderately Hard Water	Salt Water ASW NSW Test 1	Salt Water ASW NSW Test 2	Other:	Original Sample	Measured by	Verified by
Field Total Residual Cl_2 (mg/L)	N/A	N/A	N/A	N/A	N/A		Not Measured	MF	
Lab Total Residual Cl_2 (mg/L)	<0.03	<0.03					<0.03	CH	
Alkalinity (mg/L as $CaCO_3$)	97	153					124	TS	
Hardness (mg/L as $CaCO_3$)	87	147					258	CH	
Total Ammonia (mg/L as N)	<0.017	<0.017					1.054	MF/BH	
Conductivity: µmhos (mS/cm)	0.173	0283					0.633	TS	
Salinity (ppth)	—	—					—	TS	

Investigators' Signatures
Jason Brooks
Rachel Fairchild
Jill Beard
Allison Widzyk

REVIEWER

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V 1.67Mods

Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: ~~122024~~ 122120l 50 Test #: 1/2 SOP#:TA 07 01 Test Started: Date 10.13.09 Time: 13:00

Organism/Batch/Age: C. dubia / 37.09 / <24hrs Test Ended: Date 10-17-09 Time: 0920

Chamber/Test Volume: 30 / 20 ml Diluent/ Batch: DMW / 10.6.09 Test Duration: 48 hr 96 hr

Food/Batch: ☐ YCT 7.15.09 ☐ P.sub 7.23.09

☐ Artemia Lot#____ Batch #: 0hr____ 24hr____ 48hr____ 72hr____

Feeding: ☑ Prior to Test ☑ Prior to Renewal ☑ 0 hr ☐ 24 hr ☐ 48 hr ☐ 72 hr

Concentration	Replicate	Chamber #	Test Hour: 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Ctrl	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
100%	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
Loaded/Verified by: [illegible]		Checked by:	[illegible]	BA	BA	BA	BA	MF

m = missing d = dead BR/AR = Before/After Renewal

Comments:

Test Results:

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

% mortality in 100% sample: 0% LC50: >100%

If Calculated: 95% CI______ Method______

V 2.3 7/15/2008

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

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Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 1221201 Test #: 2/2 SOP#:TA 07 02 Test Started: Date 10.13.09 Time: 1235
Organism/Batch/Age: Cleedsi / 10.13.09 / 13days Test Ended: Date 10-17-09 Time: 0900
Chamber/Test Volume: 1000 / 500 ml Diluent/ Batch: Vell / 10.13.09 Test Duration: 48 hr / 96 hr

Food/Batch: [ ] YCT____ [ ] P.sub____
[X] Artemia Lot# 23616 Batch #: 0hr____ 24hr____ 48hr____ 72hr____

Feeding: [X] Prior to Test [X] Prior to Renewal [X] 0 hr [ ] 24 hr [X] 48 hr [ ] 72 hr

Concentration	Replicate	Chamber #	0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
ctrl	A	B1	5	5	5	5	5	5
	B	B2	5	5	5	5	5	5
	C	B3	5	5	5	5	5	5
	D	B4	5	5	5	5	5	5
100%	A	B5	5	5	5	5	5	5
	B	B6	5	5	5	5	5	5
	C	B7	5	5	5	5	5	5
	D	B8	5	5	5	5	5	5
Loaded/Verified by: JD / MF		Checked by:	JD	JD	JD	JD	JD	MF

m = missing d = dead BR/AR = Before/After Renewal

Comments:

Test Results:

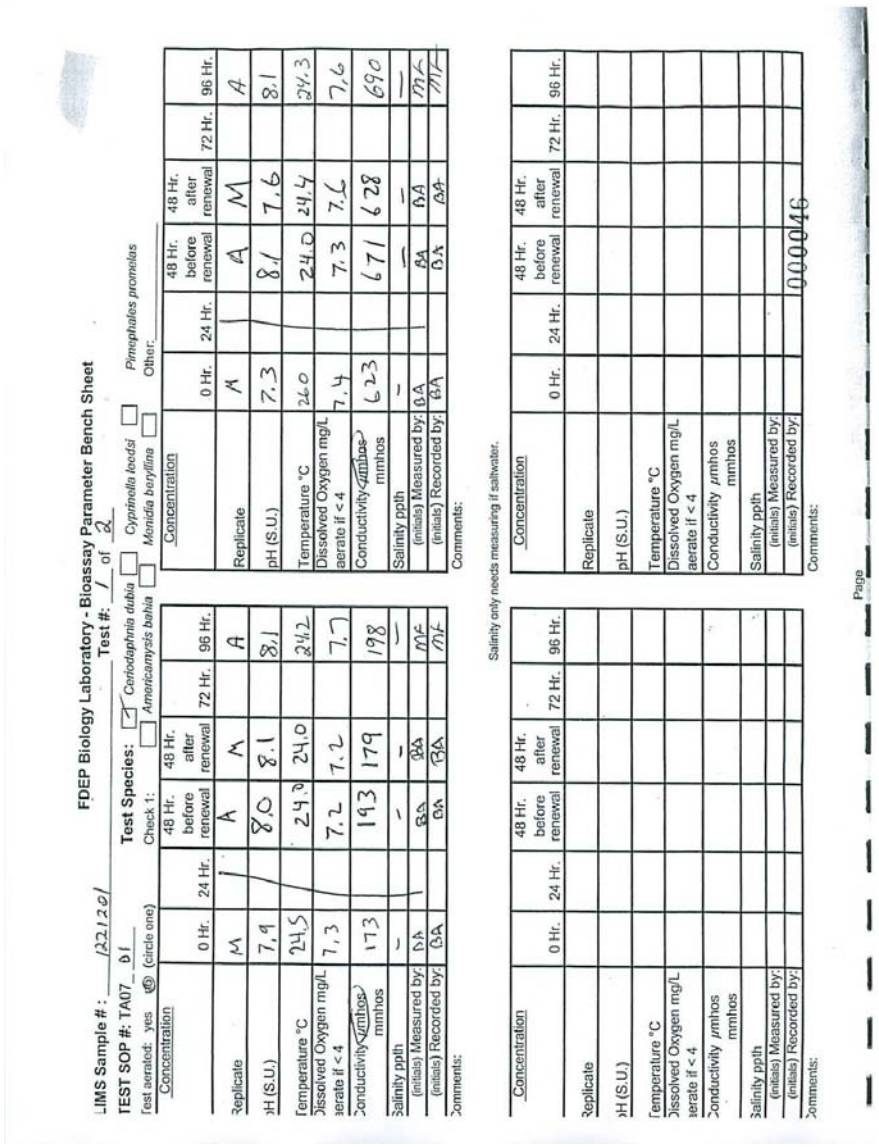
Screening Tests: Report LC50 as >100%, =100%, or <100%.
% mortality in 100% sample: 0% LC50: >100%
If Calculated: 95% CI________ Method________

V 2.3 7/15/2008

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

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Appendix B. (continued)



FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 122120 Test #: 1 of 2

TEST SOP #: TA07_01 Test Species: ☑ Ceriodaphnia dubia ☐ Cyprinella leedsi ☐ Pimephales promelas

Test aerated: yes (no) (circle one) Check 1: ☐ Americamysis bahia ☐ Menidia beryllina ☐ Other:

Concentration	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		A	M		A
pH (S.U.)	7.4		8.0	8.1		8.1
Temperature °C	24.5		24.0	24.0		24.2
Dissolved Oxygen mg/L aerate if < 4	7.3		7.2	7.2		7.7
Conductivity ~~µmhos~~ mmhos	173		193	179		198
Salinity ppth	—		—	—		—
(initials) Measured by:	DA		BA	BA		MF
(initials) Recorded by:	BA		BA	BA		MF

Comments:

Salinity only needs measuring if saltwater.

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 aerate if < 4						
Conductivity µmhos mmhos						
Salinity ppth						
(initials) Measured by:						
(initials) Recorded by:						

Comments:

Concentration	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		A	M		A
pH (S.U.)	7.3		8.1	7.6		8.1
Temperature °C	24.0		24.0	24.4		24.3
Dissolved Oxygen mg/L aerate if < 4	7.4		7.3	7.6		7.6
Conductivity ~~µmhos~~ mmhos	623		671	628		690
Salinity ppth	—		—	—		—
(initials) Measured by:	BA		BA	BA		MF
(initials) Recorded by:	BA		BA	BA		MF

Comments:

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Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample #: 12a1se1 Test #: 2 of 2

TEST SOP #: TA07_02 Test Species: ☐ *Ceriodaphnia dubia* ☒ *Cyprinella leedsi* ☐ *Pimephales promelas*

Test aerated: ~~Yes~~ No (circle one) Check 1: ☐ *Americamysis bahia* ☐ *Menidia beryllina* ☐ Other:

Concentration	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
C/1						
Replicate	A	B	C	C	D	A
pH (S.U.)	7.9	8.2	8.2	8.0	8.1	8.2
Temperature °C	24.2	24.9	24.4	24.7	25.3	25.5
Dissolved Oxygen mg/L aerate if < 4	7.6	7.1	7.3	7.6	6.2	6.8
Conductivity ~~µmhos~~ mmhos	2.33	2.56	2.88	2.74	2.81	2.92
Salinity ppth	—	—	—	—	—	—
(initials) Measured by:	JS	JS	JS	JS	JS	MF
(initials) Recorded by:	JS	JS	JS	JS	JS	MF

Comments:

Salinity only needs measuring if saltwater.

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 aerate if < 4						
Conductivity µmhos mmhos						
Salinity ppth						
(initials) Measured by:						
(initials) Recorded by:						

Comments:

Concentration	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
100%						
Replicate	A	B	C	C	D	A
pH (S.U.)	7.6	8.0	8.1	7.8	7.9	8.1
Temperature °C	25.9	24.1	24.5	24.8	25.1	25.3
Dissolved Oxygen mg/L aerate if < 4	7.8	7.0	7.3	7.6	6.2	6.9
Conductivity ~~µmhos~~ mmhos	6.33	6.35	6.38	6.21	6.17	6.45
Salinity ppth	—	—	—	—	—	—
(initials) Measured by:	JS	JS	JS	JS	JS	MF
(initials) Recorded by:	JS	JS	JS	JS	JS	MF

Comments:

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Appendix B. (continued)

Bioassay Instrument ID

Test ID: Aramark Uniform Services and Cintas Apparel, Inc. Dates: October 13-17, 2009

METER / DEVICE	ID	SOP	Parameter	Method	√used
YSI Model 58 Dissolved Oxygen Meter	90H018262	TA06_04	Dissolved Oxygen	SM 4500 O G	√
Accumet AR-10 pH Meter	93312105	TA06_23	pH	SM 4500 H+	~
Mettler-Toledo SevenMulti Conductivity Meter	SN 1225117049 Probe H04257	TA06_25	Conductivity	SM 2510 B	√
			Salinity	SM 2520 B	√
Denver Model 225 ISE with ammonia probe	SN K01377	TA06_17	Ammonia	SM 4500 NH3 F	√
Thermometer (DO probe)	YSI 5750 SN 05J1720	TA06_05	Temperature	SM-2530B modified DEP SOP-001/01 FT1400	√
Hach Pocket Colorimeter II	05050C026378	TA06_22	Total Residual Chlorine	EPA 330.5 SM 4500 CL G	√
Alkalinity (Hach Kit)	No SN	TA06_08	Alkalinity	SM 2320 B	~
Hardness (Hach Kit)	No SN	TA06_09	Hardness	SM 2340 C	√
OHAUS Balance 250D	1125481084	TA06_21 TA06_27	Weight	-	
S-Weights	BIO-S-WEIGHTS-01	NA	Balance check	-	

SM-2530B modified to allow use of electronic and non-mercury filled thermometers.
Insert other device information in blank spaces(if used). Test ID = Facility or SRTs (acute SRT--Chronic SRT)

entered by SD 10.2009

V 1.1 6/12/08 MF

000048

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Appendix C. SRT Bench Sheets and Statistical Analysis

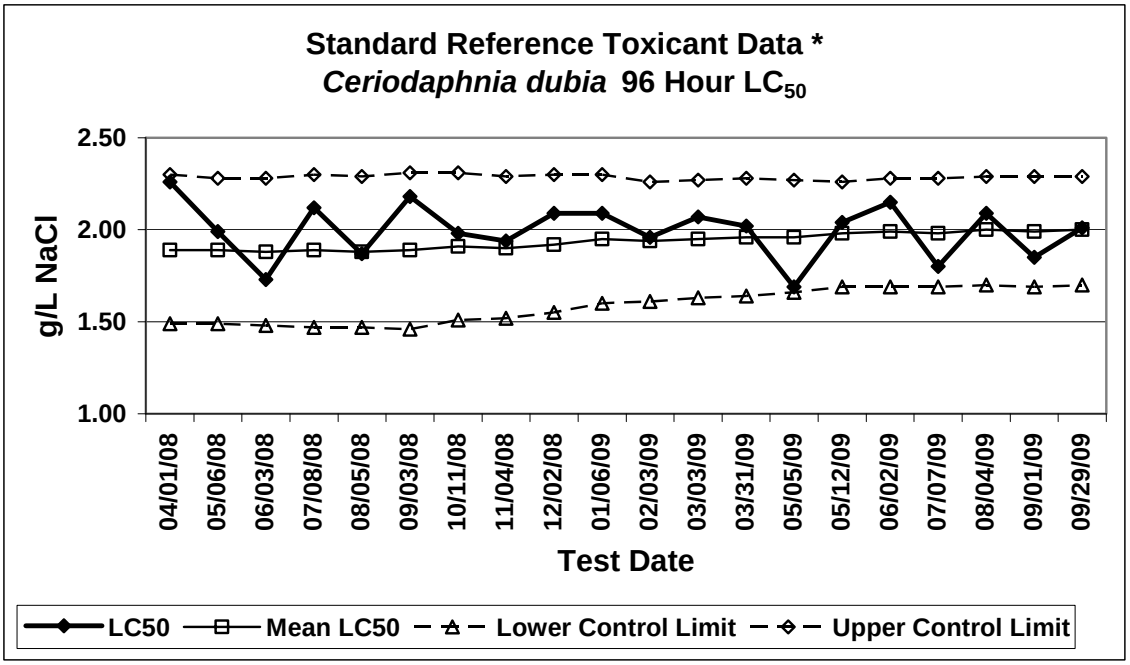
Florida Department of Environmental Protection
Bureau of Laboratories

Standard Reference Toxicant (SRT) Test Data - 96-hour Acute Toxicity
Ceriodaphnia dubia (water flea) - Sodium Chloride (NaCl)

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
04/01/08	2.26	1.89	0.20	1.49	2.30
05/06/08	1.99	1.89	0.20	1.49	2.28
06/03/08	1.73	1.88	0.20	1.48	2.28
07/08/08	2.12	1.89	0.21	1.47	2.30
08/05/08	1.87	1.88	0.20	1.47	2.29
09/03/08	2.18	1.89	0.21	1.46	2.31
10/11/08	1.98	1.91	0.20	1.51	2.31
11/04/08	1.94	1.90	0.19	1.52	2.29
12/02/08	2.09	1.92	0.19	1.55	2.30
01/06/09	2.09	1.95	0.17	1.60	2.30
02/03/09	1.96	1.94	0.16	1.61	2.26
03/03/09	2.07	1.95	0.16	1.63	2.27
03/31/09	2.02	1.96	0.16	1.64	2.28
05/05/09	1.69	1.96	0.15	1.66	2.27
05/12/09	2.04	1.98	0.14	1.69	2.26
06/02/09	2.15	1.99	0.15	1.69	2.28
07/07/09	1.80	1.98	0.15	1.69	2.28
08/04/09	2.09	2.00	0.15	1.70	2.29
09/01/09	1.85	1.99	0.15	1.69	2.29
09/29/09	2.01	2.00	0.15	1.70	2.29

Lower Control Limit = mean - 2 * Std Dev
Upper Control Limit = mean + 2 * Std Dev

CV = 7.47
EPA reference 75th quartile CV = 29%



Appendix C. (continued)

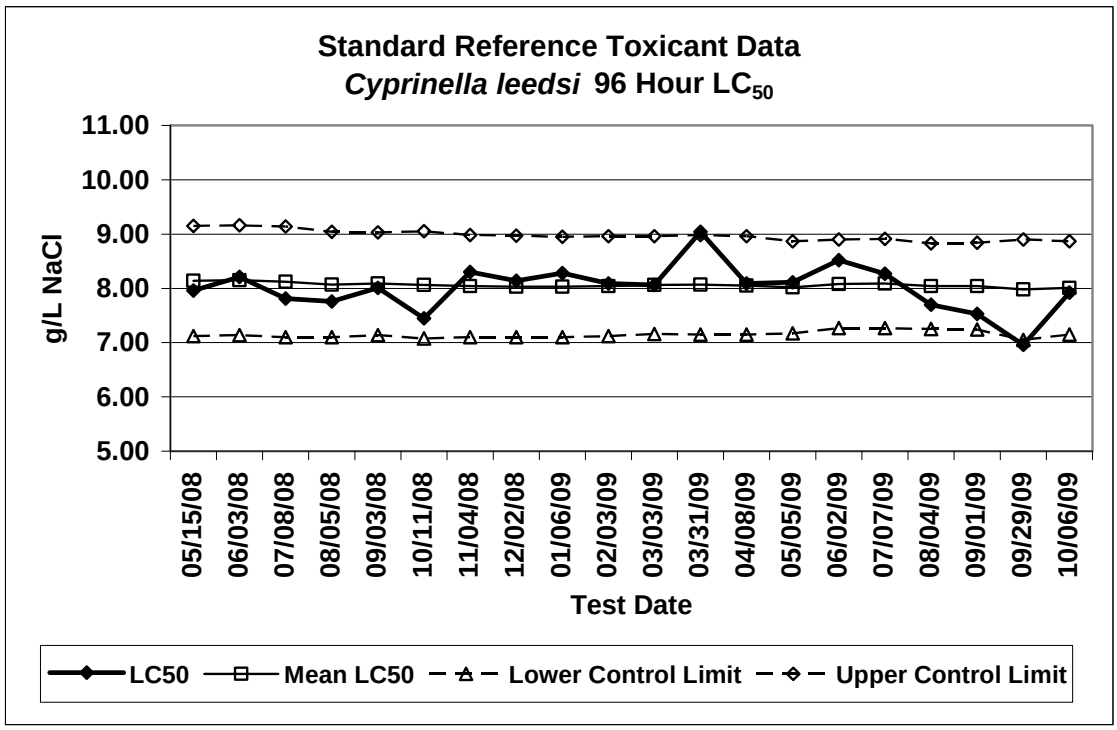
Florida Department of Environmental Protection
Bureau of Laboratories

Standard Reference Toxicant (SRT) Test Data - 96-hour Acute Toxicity
Cyprinella leedsi (bannerfin shiner) - Sodium Chloride (NaCl)

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
05/15/08	7.96	8.14	0.51	7.12	9.15
06/03/08	8.21	8.15	0.51	7.14	9.16
07/08/08	7.81	8.12	0.51	7.10	9.14
08/05/08	7.76	8.07	0.48	7.10	9.04
09/03/08	8.01	8.09	0.47	7.14	9.03
10/11/08	7.45	8.06	0.49	7.08	9.05
11/04/08	8.30	8.04	0.47	7.10	8.98
12/02/08	8.14	8.03	0.47	7.10	8.97
01/06/09	8.28	8.03	0.46	7.10	8.95
02/03/09	8.09	8.04	0.46	7.12	8.96
03/03/09	8.06	8.06	0.45	7.16	8.96
03/31/09	9.04	8.07	0.46	7.15	8.98
04/08/09	8.09	8.05	0.45	7.15	8.96
05/05/09	8.11	8.02	0.43	7.17	8.87
06/02/09	8.52	8.08	0.41	7.27	8.90
07/07/09	8.27	8.09	0.41	7.27	8.91
08/04/09	7.70	8.04	0.40	7.25	8.83
09/01/09	7.53	8.04	0.40	7.24	8.84
09/29/09	6.96	7.98	0.46	7.05	8.90
10/06/09	7.92	8.01	0.43	7.15	8.87

Lower Confidence Limit = mean - 2 * Std Dev
Upper Confidence Limit = mean + 2 * Std Dev

CV = 5.35
EPA reference 75th quartile CV = 19%



Appendix C. (continued)

FDEP Biology Laboratory - Acute SRT Bench Sheet

Method from EPA-821-R-02-012 except *H. azteca*

Test Organism: (check one) ☐ *Americamysis bahia* Method 2007.0 TA07.03 ☐ *Menidia Beryllina* Method 2006.0 TA07.04 ☐ *Hyalella azteca* Method 100.1 EPA-600-R-99-064
☑ *Ceriodaphnia dubia* Method 2002.0 TA07.01 ☐ *Cyprinella leedsi* Method 2000.0 TA07.02 ☐ *Pimephales promelas* Method 2000.0 TA07.02

Test Type: ☐ non-renewal ☑ renewal

Test Page 1 of 2

Diluent/ Batch #: DMW / 8.31.09 Organism Batch: 35-09 Test Beginning: Date: 9.29.09 Time: 14:10
Toxicant/ Batch#: NaCl / 19.2809 Age: 24hr Test Ending: Date: 10-3-09 Time: 0900

Water Quality Parameters:	Diluent	SOP	Initials
Total Residual Cl_2 (mg/L):	2603	TA06_22	JD
Alkalinity (mg/L as $CaCO_3$):	41	TA06_08	JD
Hardness (mg.L as $CaCO_3$):	88	TA06_09	JD
Total Ammonia (mg/L as N):	20017	TA06_17	JD
Conductivity: µmhos mmhos	0.175	TA06_25	JD
Salinity (ppth):	-	TA06_25	JD

Food:		Batch
1	YCT	7.15.09
✓	*P. subcapitata*	7.23.09
☐	Artemia Lot #	

Artemia Batch:
0 hr:
24 hr:
48 hr:
72 hr:

Concentrations prepared by: JD Temperature Range °C:(if used) **Chamber size:** 30 mL **Test volume:** 20 mL per replicate

Test Incubated in: Incubator # 8 Waterbath # ____ Incubator # 2 min. 25.4 max. 26.4 mean 25.9

Light Intensity: 50-100 Ft. candles Waterbath # ___ min. ____ max. ____ mean ____

Photoperiod: 16 hours Light / 8 hours dark Room B246 min. 25.2 max. 25.9 mean 25.6

Feeding: √as needed
- ✓ Before test
- ☐ 0 hr
- ✓ 24 hr
- ☐ 48 hr
- ☐ 72 hr

all species 2 hrs prior to test

mysids daily

all species except *H. azteca* 2 hr prior to renewal

H. azteca 0 hr and 48 hr

Concentration µg/L mg/L g/L	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Control	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
1.5	A	A	5	5	5	5	5	5
	B	B	5	5	5	5	5	5
	C	C	5	5	5	5	5	5
	D	D	5	5	5	5	5	5
2.0	A	A	5	5	4 1D	4	4	3 1D
	B	B	5	5	4 1D	4	4	3 1D
	C	C	5	5	5	5	5	2 3D
	D	D	5	5	5	5	5	3 2D
2.5	A	A	5	2 3D	2	2	1 1D	1
	B	B	5	5	0 5D	—	—	
	C	C	5	5	4 1D	4	1 3D	0 1D
	D	D	5	2 3D	1 4D	1	0 1D	
3.0	A	A	5	0 5D	—	—		
	B	B	5	2 3D	0 2D			
	C	C	5	0 5D	—			
	D	D	5	4 1D	0 4D			
4.0	A	A	5	0 5D	—			
	B	B	5	0 5D	—			
	C	C	5	0 5D	—			
	D	D	5	2 3D	0 2D			
Organisms loaded by: BX		Checked by:	JD	JD	JD	JV	JV	MF

H. azteca		
0 hr	Alk	Hrd
Well		
100%		
96 hr	Alk	Hrd
Well		
100%		

Loading Verified by: ✓ AR = after renewal
m = missing d = dead BR = before renewal hr = hour

Investigators' Signatures
James Daniel
Marshall Faircloth
Chelsea Pruitt

Reviewer: Loretta C. Wolfe

Comments:

Method: TSK

Statistics: LC50	95% confidence intervals Lower	Upper
48 hour: 2.31	2.21	2.47
96 hour: ~~1.90~~ BA 2.01	BA 2.01 1.90	2.14

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Appendix C. (continued)

FDEP Biology Laboratory - Acute SRT Bench Sheet

0-96 hour parameters

Methods from EPA-821-R-02-012 except *H. azteca*

Test Page 2 of 2

Test Organism: (check one)
- ☐ *Americamysis bahia* Method 2007.0 TA07.03
- ☐ *Menidia Beryllina* Method 2006.0 TA07.04
- ☐ *Hyalella azteca* Method 100.1 EPA-600-R-99-064
- ☒ *Ceriodaphnia dubia* Method 2002.0 TA07.01
- ☐ *Cyprinella leedsi* Method 2000.0 TA07.02
- ☐ *Pimephales promelas* Method 2000.0 TA07.02

Test Beginning: Date: 9:29-09 Time: 14:10
Test Ending: Date: 10-3-09 Time: 09[mb] 0900

Test Type: ☐ non-renewal ☒ renewal

hr = hour AR = after renewal BR = before renewal

Concentration µg/L mg/L %	Replicate	Test Hour	pH (SU)	Temperature (°C)	Dissolved Oxygen (mg/L)	Conductivity ~~µmhos~~ mmhos	Salinity (ppth)
Control	M	0 hr	7.9	24.0	7.6	0.175	–
		24 hr					
	M	48 hr BR	7.7	24.1	7.0	0.271	
	M	48 hr AR	7.6	24.0	7.2	0.187	
		72 hr					
	A	96 hr	8.0	24.4	7.5	0.193	
1.5	M	0 hr	7.9	24.0	7.4	2.89	–
		24 hr					
	M	48 hr BR	7.6	24.0	7.1	3.410	
	M	48 hr AR	7.7	24.2	7.4	2.81	
		72 hr					
	A	96 hr	7.9	24.3	7.5	3.19	
2.0	M	0 hr	7.9	24.0	7.3	3.83	–
		24 hr					
	M	48 hr BR	7.9	24.0	7.0	4.46	
	M	48 hr AR	7.8	24.2	7.4	3.81	
		72 hr					
	A	96 hr	8.0	24.3	7.5	4.12	
2.5	M	0 hr	7.9	24.0	7.2	4.67	–
		24 hr					
	M	48 hr BR	8.0	24.0	7.1	5.28	
	M	48 hr AR	7.9	24.3	7.3	4.80	
		72 hr					
	A	96 hr	8.0	24.2	7.4	5.06	
3.0	M	0 hr	8.0	24.0	7.2	5.62	–
		24 hr					
	M	48 hr BR	8.0	24.6	7.1	6.03	
		48 hr AR					
		72 hr					
		96 hr					
4.0	M	0 hr	8.0	24.0	7.2	7.25	–
		24 hr					
	M	48 hr BR	8.0	24.0	7.1	7.71	
		48 hr AR					
		72 hr					
		96 hr					

Investigators Signatures: Brad Thacker, Chelsea Friend, Jorge Daniels, Marshall Faircloth

Reviewed By: Loretta C. Wolfe

Measured by:
- 0 hr: BT
- 24 hr:
- 48 hr BR: JN
- 48 hr AR: JD
- 72 hr:
- 96 hr: MF

Measure/record salinity for marine tests

Comments:

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Appendix C. (continued)

FDEP Biology Laboratory - Acute SRT Bench Sheet

Method from EPA-821-R-02-012 except *H. azteca*

Test Organism: (check one)
- ☐ *Americamysis bahia* Method 2007.0 TA07.03
- ☐ *Menidia Beryllina* Method 2006.0 TA07.04
- ☐ *Hyalella azteca* Method 100.1 EPA-600-R-99-064
- ☐ *Ceriodaphnia dubia* Method 2002.0 TA07.01
- ☒ *Cyprinella leedsi* Method 2000.0 TA07.02
- ☐ *Pimephales promelas* Method 2000.0 TA07.02

Test Type: ☐ non-renewal ☒ renewal

Test Page 1 of 2

Diluent/ Batch #: WCII 10.5.09
Toxicant/ Batch#: NaCl 10.5.09
Organism Batch: 10609 Age: 13d 1.5
Test Beginning: Date: 10.6.09 Time: 1315
Test Ending: Date: 10.10.09 Time: 2115

Water Quality Parameters:	Diluent	SOP	Initials
Total Residual Cl_2 (mg/L):	<.03	TA06_22	JW
Alkalinity (mg/L as $CaCO_3$):	151	TA06_08	BA
Hardness (mg.L as $CaCO_3$):	142	TA06_09	BA
Total Ammonia (mg/L as N):	<.017	TA06_17	MP
Conductivity: µmhos (mmhos)	0.281	TA06_25	JD
Salinity (ppth):	—	TA06_25	—

Food:	Batch
☐ YCT	
☐ *P. subcapitata*	
☒ Artemia Lot # 23613	

Artemia Batch:
0 hr: 134.09
24 hr:
48 hr: 136.09
72 hr:

Chamber size: 1000 mL
Test volume: 500 mL per replicate

Concentrations prepared by: JD
Temperature Range °C:(if used)
Test Incubated in: Incubator # 2 Waterbath # ___ Incubator # 2 min. 24.6 max. 25.6 mean 25.1
Light Intensity: 50-100 Ft. candles Waterbath # ___ min.___ max.___ mean___
Photoperiod: 16 hours Light / 8 hours dark Room B248 min. 22.8 max. 25.8 mean 24.3

Feeding: √as needed

☑	Before test
☐	0 hr
☐	24 hr
☑	48 hr
☐	72 hr

all species 2 hrs prior to test
mysids daily
all species except *H. azteca* 2 hr prior to renewal
H. azteca 0 hr and 48 hr

Concentration µg/L mg/L (circle)	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Control	A	D3	10	10	10	10	10	10
	B	D4	10	10	10	10	10	10
6	A	D5	10	10	10	10	10	10
	B	D6	10	10	10	10	10	10
7	A	D7	10	10	10	10	10	10
	B	D8	10	10	10	10	10	10
8	A	D9	10	5 SD	5	5	5	5
	B	D10	10	4 DD	4	4	4	4
9	A	D11	10	0 DD				
	B	D12	10	0 DD				
10	A	D13	10	0 DD				
	B	D14	10	0 DD				
Organisms loaded by: JD	Checked by:		JD	JD	JD	JM	JD	JD

Loading Verified by: JW AR = after renewal
m = missing d = dead BR = before renewal hr = hour

H. azteca		
0 hr	Alk	Hrd
Well		
100%		
96 hr	Alk	Hrd
Well		
100%		

Investigators' Signatures
James Daniel
Marshall Faircloth
Brett Alderman
Reviewer: Loretta Wolfe

Comments:
~~Repeat of 9-24-09 test~~ 10/10/09
Repeat of NF 9-29-09 Test

Method: TSK	95% confidence intervals	
Statistics: LC50	Lower	Upper
48 hour: 7.92	7.70	8.14
96 hour: 7.92	7.70	8.14

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Appendix C. (continued)

FDEP Biology Laboratory - Acute SRT Bench Sheet
0-96 hour parameters

Methods from EPA-821-R-02-012 except *H. azteca*

Test Page 2 of 2

Test Organism: (check one)
- ☐ *Americamysis bahia* Method 2007.0 TA07.03
- ☐ *Menidia Beryllina* Method 2006.0 TA07.04
- ☐ *Hyalella azteca* Method 100.1 EPA-600-R-99-064
- ☐ *Ceriodaphnia dubia* Method 2002.0 TA07.01
- ☒ *Cyprinella leedsi* Method 2000.0 TA07.02
- ☐ *Pimephales promelas* Method 2000.0 TA07.02

Test Beginning: Date: 10.6.09 Time: 1315
Test Ending: Date: 10.10.09 Time: 1115

Test Type: ☐ non-renewal ☒ renewal

hr = hour; AR = after renewal BR = before renewal

Concentration µg/L mg/L	Replicate	Test Hour	pH (SU)	Temperature (° C)	Dissolved Oxygen (mg/L)	Conductivity ☐ µmhos ☒ mmhos	Salinity (ppth)
Control	A	0 hr	8.0	24.4	7.5	0.281	
	B	24 hr	8.1	24.8	6.8	0.370	
	A	48 hr BR	8.2	24.4	6.5	0.281	
	A	48 hr AR	8.1	24.0	7.2	0.414	
	B	72 hr	8.0	24.1	6.5	0.399	
	A	96 hr	8.1	25.2	6.6	0.387	
6	A	0 hr	8.1	24.5	7.4	11.2	
	B	24 hr	8.1	24.6	6.5	10.7	
	A	48 hr BR	8.2	24.7	6.6	11.5	
	A	48 hr AR	8.0	24.0	7.1	10.7	
	B	72 hr	8.1	24.0	6.6	10.6	
	A	96 hr	8.0	25.2	6.4	11.3	
7	A	0 hr	8.0	24.8	7.4	13.2	
	B	24 hr	8.1	24.4	6.6	13.0	
	A	48 hr BR	8.1	24.7	6.6	13.4	
	A	48 hr AR	8.0	24.0	7.1	12.9	
	B	72 hr	8.1	24.0	6.6	13.3	
	A	96 hr	8.1	25.1	6.5	13.4	
8	A	0 hr	8.0	25.2	7.5	15.0	
	B	24 hr	8.1	24.5	6.5	14.9	
	A	48 hr BR	8.1	24.5	6.7	15.0	
	A	48 hr AR	8.0	24.1	7.2	14.6	
	B	72 hr	8.0	24.1	6.8	14.7	
	A	96 hr	8.1	24.8	6.5	15.4	
9	A	0 hr	8.0	25.9	7.5	17.0	
	B	24 hr	8.0	24.5	6.5	16.4	
		48 hr BR					
		48 hr AR					
		72 hr					
		96 hr					
10	A	0 hr	8.0	25.4	7.1	18.1	
	B	24 hr	8.0	24.6	5.4	18.0	
		48 hr BR					
		48 hr AR					
		72 hr					
		96 hr					

Investigators Signatures: James Daneck, [illegible], Marshall Faircloth, Bruce Wilson

Measured by: 0 hr: JD; 24 hr: JD; 48 hr BR: JD; 48 hr AR: [illegible]; 72 hr: [illegible]; 96 hr: [illegible]

Measure/record salinity for marine tests

Comments:

Reviewed By: Loretta Wolfe

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Appendix C. (continued)
***Ceriodaphnia dubia* Acute Standard Reference Toxicant Test**

DATE: 9-29-09 DURATION: 96 h TOXICANT : NaCl
SPECIES: *Ceriodaphnia dubia*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
.00	20	0
1.50	20	0
2.00	20	9
2.50	20	19
3.00	20	20
4.00	20	20

SPEARMAN-KARBER TRIM: .00%

SPEARMAN-KARBER ESTIMATES: LC50: 2.01
95% LOWER CONFIDENCE: 1.90
95% UPPER CONFIDENCE: 2.14

***Cyprinella leedsi* Acute Standard Reference Toxicant Test**

DATE: 10-06-09 DURATION: 96 h TOXICANT : NaCl
SPECIES: *Cyprinella leedsi*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
.00	20	0
6.00	20	0
7.00	20	0
8.00	20	11
9.00	20	20
10.00	20	20

SPEARMAN-KARBER TRIM: .00%

SPEARMAN-KARBER ESTIMATES: LC50: 7.92
95% LOWER CONFIDENCE: 7.70
95% UPPER CONFIDENCE: 8.14

Appendix D. Test Organism Receipts

MARINCO BIOASSAY LABORATORY
The Aquatic Toxicology Specialists

NELAP Certification # E84191

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 9/28/09 10/5/09

Shipped to: FDEP

P.O. No:

Species	Quantity	Age	Brood Number	Temp.	pH	Salinity
Mysidopsis bahia						
Menidia beryllina	150	12 DAYS	SS090923	25°C	8.0 S.U.	20‰
						Hardness
Cyprinella leedsi	150	12 DAYS	CL090923	25°C	7.8 S.U.	80 mg/L
Pimephales promelas	350	<24 HRS	FM091004-1625	25°C	7.8 S.U.	80 mg/L

Packed by: PM

Shipped Via: FedEx

Notes:

Thank you for your order.

4569 Samuel Street · Sarasota, FL 34233 · Tel: 941-925-3594 · Fax: 941-922-3874 · Web: www.biologylab.com

Appendix D. (continued)

MARINCO BIOASSAY LABORATORY
The Aquatic Toxicology Specialists

NELAP Certification # E84191

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 10/12/09

Shipped to: FDEP

P.O. No: _____

Species	Quantity	Age	Brood Number	Temp.	pH	Salinity
Mysidopsis bahia						
Menidia beryllina	150	12 days	SS090930	25°C	7.9 s.u.	20‰
						Hardness
Cyprinella leedsi	100	12 days	CL090930	25°C	7.8 s.u.	80 mg/L
Pimephales promelas						

Packed by: PM

Shipped Via: FedEx

Notes: _____

Thank you for your order.

4569 Samuel Street · Sarasota, FL 34233 · Tel: 941-925-3594 · Fax: 941-922-3874 · Web: www.biologylab.com

Appendix E. Chemical Analyses performed on the effluent from the Aramark Uniform and Career Apparel, Inc., Outfall D-001, sampled on October 12, 2009.

Date Sampled	Field ID	Analysis	Component	Results	Remark	Units	MDL	PQL
10/12/2009 13:15	Effluent	AGP/LN	Algal Growth Potential	1.31		mg DryWt/L	0.3	0.9
10/12/2009 13:15	Effluent	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.4	U	ug/L	0.4	1.2
10/12/2009 13:15	Effluent	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	0.55	U	ug/L	0.55	1.7
10/12/2009 13:15	Effluent	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	0.91	I	mg/L	0.2	2
10/12/2009 13:15	Effluent	Overflow	Fecal Coliforms-Membrane Filter	2	U	#/100 mL	2	
10/12/2009 13:15	Effluent	Toxicology	Bioassay-Acute-Screen-FW-C.dubia, LC50	100	L	LC50		
10/12/2009 13:15	Effluent	Toxicology	Bioassay-Acute-Screen-FW-Fish, LC50	100	L	LC50		
10/12/2009 13:15	Effluent	Metals	Sodium	28.6		mg/L	0.5	2
10/12/2009 13:15	Effluent	Metals	Cadmium	0.03	U	ug/L	0.03	0.12
10/12/2009 13:15	Effluent	Metals	Chromium	0.54	I	ug/L	0.3	1.2
10/12/2009 13:15	Effluent	Metals	Magnesium	13.4		mg/L	0.04	0.16
10/12/2009 13:15	Effluent	Metals	Nickel	0.55	I	ug/L	0.25	1
10/12/2009 13:15	Effluent	Metals	Zinc	5.1	I	ug/L	5	20
10/12/2009 13:15	Effluent	Metals	Copper	4.67		ug/L	0.5	0.5
10/12/2009 13:15	Effluent	Metals	Lead	0.67	I	ug/L	0.2	0.8
10/12/2009 13:15	Effluent	Metals	Aluminum	60	U	ug/L	60	240
10/12/2009 13:15	Effluent	Metals	Calcium	74.7		mg/L	0.075	0.3
10/12/2009 13:15	Effluent	Metals	Iron	1120		ug/L	30	120
10/12/2009 13:15	Effluent	Metals	Arsenic	1.57		ug/L	0.25	1
10/12/2009 13:15	Effluent	Metals	Selenium	0.29	I	ug/L	0.2	0.8
10/12/2009 13:15	Effluent	Metals	Silver	0.025	U	ug/L	0.025	0.1
10/12/2009 13:15	Effluent	Nutrients	Alkalinity	130		mg CaCO3/L	0.65	2.5
10/12/2009 13:15	Effluent	Nutrients	Sulfate	110	A	mg SO4/L	2	5
10/12/2009 13:15	Effluent	Nutrients	Color (true)	20		PCU	5	5
10/12/2009 13:15	Effluent	Nutrients	Total-P	0.041	A	mg P/L	0.004	0.01
10/12/2009 13:15	Effluent	Nutrients	Organic Carbon	5.1		mg C/L	1	5
10/12/2009 13:15	Effluent	Nutrients	O-Phosphate-P	0.02		mg P/L	0.004	0.01
10/12/2009 13:15	Effluent	Nutrients	NO2NO3-N	0.037	J	mg N/L	0.004	0.01
10/12/2009 13:15	Effluent	Nutrients	Ammonia-N	1.4		mg N/L	0.05	0.1
10/12/2009 13:15	Effluent	Nutrients	Kjeldahl Nitrogen	1.7		mg N/L	0.08	0.2
10/12/2009 13:15	Effluent	Nutrients	Chloride	40	A	mg Cl/L	2	5
10/12/2009 13:15	Effluent	Nutrients	Fluoride	0.14		mg F/L	0.05	0.1
10/12/2009 13:15	Effluent	Pesticides	Ametryn	0.05	UJ	ug/L	0.05	0.2

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Results	Remark	Units	MDL	PQL
10/12/2009 13:15	Effluent	Pesticides	Methoxychlor	0.05	U	ug/L	0.05	0.2
10/12/2009 13:15	Effluent	Pesticides	Naled	0.8	U	ug/L	0.8	3.2
10/12/2009 13:15	Effluent	Pesticides	Aldrin	0.01	U	ug/L	0.01	0.04
10/12/2009 13:15	Effluent	Pesticides	Alpha-BHC	0.01	U	ug/L	0.01	0.04
10/12/2009 13:15	Effluent	Pesticides	DDD-p,p'	0.02	U	ug/L	0.02	0.08
10/12/2009 13:15	Effluent	Pesticides	Endrin	0.05	U	ug/L	0.05	0.2
10/12/2009 13:15	Effluent	Pesticides	Ethion	0.05	U	ug/L	0.05	0.2
10/12/2009 13:15	Effluent	Pesticides	Ethoprop	0.1	U	ug/L	0.1	0.4
10/12/2009 13:15	Effluent	Pesticides	Malathion	0.15	U	ug/L	0.15	0.6
10/12/2009 13:15	Effluent	Pesticides	Metribuzin	0.1	U	ug/L	0.1	0.4
10/12/2009 13:15	Effluent	Pesticides	Phorate	0.05	U	ug/L	0.05	0.2
10/12/2009 13:15	Effluent	Pesticides	Simazine	0.05	U	ug/L	0.05	0.2
10/12/2009 13:15	Effluent	Pesticides	Chlordane	0.2	U	ug/L	0.2	0.8
10/12/2009 13:15	Effluent	Pesticides	Mevinphos	0.2	U	ug/L	0.2	0.8
10/12/2009 13:15	Effluent	Pesticides	Endosulfan II	0.02	U	ug/L	0.02	0.08
10/12/2009 13:15	Effluent	Pesticides	Gamma-BHC	0.01	U	ug/L	0.01	0.04
10/12/2009 13:15	Effluent	Pesticides	Alachlor	0.6	U	ug/L	0.6	2.4
10/12/2009 13:15	Effluent	Pesticides	Metolachlor	0.5	U	ug/L	0.5	2
10/12/2009 13:15	Effluent	Pesticides	Parathion Methyl	0.1	U	ug/L	0.1	0.4
10/12/2009 13:15	Effluent	Pesticides	DDE-p,p'	0.02	U	ug/L	0.02	0.08
10/12/2009 13:15	Effluent	Pesticides	Endrin Aldehyde	0.02	U	ug/L	0.02	0.08
10/12/2009 13:15	Effluent	Pesticides	Heptachlor Epoxide	0.02	U	ug/L	0.02	0.08
10/12/2009 13:15	Effluent	Pesticides	Metalaxyl	0.25	U	ug/L	0.25	1
10/12/2009 13:15	Effluent	Pesticides	Endosulfan Sulfate	0.02	U	ug/L	0.02	0.08
10/12/2009 13:15	Effluent	Pesticides	Chlorpyrifos Ethyl	0.05	U	ug/L	0.05	0.2
10/12/2009 13:15	Effluent	Pesticides	Chlorpyrifos Methyl	0.1	U	ug/L	0.1	0.4
10/12/2009 13:15	Effluent	Pesticides	Fenamiphos	0.2	U	ug/L	0.2	0.8
10/12/2009 13:15	Effluent	Pesticides	Norflurazon	0.15	U	ug/L	0.15	0.6
10/12/2009 13:15	Effluent	Pesticides	Prometryn	0.15	U	ug/L	0.15	0.6
10/12/2009 13:15	Effluent	Pesticides	Beta-BHC	0.01	U	ug/L	0.01	0.04
10/12/2009 13:15	Effluent	Pesticides	DDT-p,p'	0.03	U	ug/L	0.03	0.12
10/12/2009 13:15	Effluent	Pesticides	Delta-BHC	0.01	U	ug/L	0.01	0.04
10/12/2009 13:15	Effluent	Pesticides	Endosulfan I	0.02	U	ug/L	0.02	0.08
10/12/2009 13:15	Effluent	Pesticides	Azinphos Methyl	0.2	UJ	ug/L	0.2	0.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Results	Remark	Units	MDL	PQL
10/12/2009 13:15	Effluent	Pesticides	Fonofos	0.1	U	ug/L	0.1	0.4
10/12/2009 13:15	Effluent	Pesticides	Hexazinone	0.1	U	ug/L	0.1	0.4
10/12/2009 13:15	Effluent	Pesticides	Heptachlor	0.01	U	ug/L	0.01	0.04
10/12/2009 13:15	Effluent	Pesticides	Toxaphene	0.75	U	ug/L	0.75	3
10/12/2009 13:15	Effluent	Pesticides	Atrazine	0.05	U	ug/L	0.05	0.2
10/12/2009 13:15	Effluent	Pesticides	Butylate	0.2	U	ug/L	0.2	0.8
10/12/2009 13:15	Effluent	Pesticides	Diazinon	0.05	U	ug/L	0.05	0.2
10/12/2009 13:15	Effluent	Pesticides	Parathion Ethyl	0.15	U	ug/L	0.15	0.6
10/12/2009 13:15	Effluent	Pesticides	Dieldrin	0.02	U	ug/L	0.02	0.08
10/12/2009 13:15	Effluent	Pesticides	Bromacil	0.2	U	ug/L	0.2	0.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Butyl benzyl phthalate	4.8	U	ug/L	4.8	19
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Di-n-octyl phthalate	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Dimethyl phthalate	9.6	U	ug/L	9.6	38
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	12
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Phenanthrene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	2,4-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	12
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Anthracene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Fluoranthene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Phenol	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	2,4-Dinitrophenol	14	U	ug/L	14	58
10/12/2009 13:15	Effluent	Priority Organic Pollutants	2-Chlorophenol	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Fluorene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.7
10/12/2009 13:15	Effluent	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.7
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Acenaphthene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Benzo(a)anthracene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	14	U	ug/L	14	58
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Chrysene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Diethyl phthalate	0.96	U	ug/L	0.96	3.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Results	Remark	Units	MDL	PQL
10/12/2009 13:15	Effluent	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	UJ	ug/L	1.9	7.7
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Naphthalene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Pentachlorophenol	2.9	UJ	ug/L	2.9	12
10/12/2009 13:15	Effluent	Priority Organic Pollutants	2-Nitrophenol	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	12
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	U	ug/L	2.9	12
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Pyrene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Benzidine	96	UJ	ug/L	96	380
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Benzo(a)pyrene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	12
10/12/2009 13:15	Effluent	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	U	ug/L	2.9	12
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Benzo(b)fluoranthene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Benzo(k)fluoranthene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Isophorone	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.7
10/12/2009 13:15	Effluent	Priority Organic Pollutants	2,6-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38	U	ug/L	38	150
10/12/2009 13:15	Effluent	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	58
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Acenaphthylene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Di-n-butyl phthalate	4.8	U	ug/L	4.8	19
10/12/2009 13:15	Effluent	Priority Organic Pollutants	Hexachlorobenzene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	2,4-Dichlorophenol	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Priority Organic Pollutants	2,4-Dimethylphenol	9.6	U	ug/L	9.6	38
10/12/2009 13:15	Effluent	Priority Organic Pollutants	2-Chloronaphthalene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:15	Effluent	Field Parameter	Sample Depth	0.1		m		
10/12/2009 13:15	Effluent	Field Parameter	Dissolved Oxygen	8.74		mg/L		
10/12/2009 13:15	Effluent	Field Parameter	Specific Conductance	665		umhos/cm		
10/12/2009 13:15	Effluent	Field Parameter	pH	7.27				
10/12/2009 13:15	Effluent	Field Parameter	Temperature	25.28		C		

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Results	Remark	Units	MDL	PQL
10/12/2009 13:20	Blank	Metals	Sodium	0.5	U	mg/L	0.5	2
10/12/2009 13:20	Blank	Metals	Zinc	5	U	ug/L	5	20
10/12/2009 13:20	Blank	Metals	Nickel	0.25	U	ug/L	0.25	1
10/12/2009 13:20	Blank	Metals	Selenium	0.2	U	ug/L	0.2	0.8
10/12/2009 13:20	Blank	Metals	Lead	0.2	U	ug/L	0.2	0.8
10/12/2009 13:20	Blank	Metals	Chromium	0.3	U	ug/L	0.3	1.2
10/12/2009 13:20	Blank	Metals	Cadmium	0.03	U	ug/L	0.03	0.12
10/12/2009 13:20	Blank	Metals	Iron	30	U	ug/L	30	120
10/12/2009 13:20	Blank	Metals	Magnesium	0.04	U	mg/L	0.04	0.16
10/12/2009 13:20	Blank	Metals	Calcium	0.075	U	mg/L	0.075	0.3
10/12/2009 13:20	Blank	Metals	Aluminum	60	U	ug/L	60	240
10/12/2009 13:20	Blank	Metals	Arsenic	0.25	U	ug/L	0.25	1
10/12/2009 13:20	Blank	Metals	Copper	0.5	U	ug/L	0.5	0.5
10/12/2009 13:20	Blank	Metals	Silver	0.025	U	ug/L	0.025	0.1
10/12/2009 13:20	Blank	Nutrients	Chloride	0.2	U	mg Cl/L	0.2	0.5
10/12/2009 13:20	Blank	Nutrients	O-Phosphate-P	0.004	U	mg P/L	0.004	0.01
10/12/2009 13:20	Blank	Nutrients	Total-P	0.004	U	mg P/L	0.004	0.01
10/12/2009 13:20	Blank	Nutrients	Ammonia-N	0.01	U	mg N/L	0.01	0.02
10/12/2009 13:20	Blank	Nutrients	NO2NO3-N	0.013		mg N/L	0.004	0.01
10/12/2009 13:20	Blank	Nutrients	Kjeldahl Nitrogen	0.08	U	mg N/L	0.08	0.2
10/12/2009 13:20	Blank	Nutrients	Fluoride	0.05	U	mg F/L	0.05	0.1
10/12/2009 13:20	Blank	Nutrients	Color (true)	5	U	PCU	5	5
10/12/2009 13:20	Blank	Nutrients	Sulfate	0.2	U	mg SO4/L	0.2	0.5
10/12/2009 13:20	Blank	Nutrients	Alkalinity	0.65	U	mg CaCO3/L	0.65	2.5
10/12/2009 13:20	Blank	Nutrients	Organic Carbon	1	U	mg C/L	1	5
10/12/2009 13:20	Blank	Pesticides	Parathion Methyl	0.11	U	ug/L	0.11	0.44
10/12/2009 13:20	Blank	Pesticides	Delta-BHC	0.011	U	ug/L	0.011	0.044
10/12/2009 13:20	Blank	Pesticides	Heptachlor	0.011	U	ug/L	0.011	0.044
10/12/2009 13:20	Blank	Pesticides	Heptachlor Epoxide	0.021	U	ug/L	0.021	0.084
10/12/2009 13:20	Blank	Pesticides	Diazinon	0.053	U	ug/L	0.053	0.21
10/12/2009 13:20	Blank	Pesticides	Fonofos	0.11	U	ug/L	0.11	0.44
10/12/2009 13:20	Blank	Pesticides	Metolachlor	0.53	U	ug/L	0.53	2.1
10/12/2009 13:20	Blank	Pesticides	Metribuzin	0.11	U	ug/L	0.11	0.44
10/12/2009 13:20	Blank	Pesticides	Norflurazon	0.16	U	ug/L	0.16	0.64

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Results	Remark	Units	MDL	PQL
10/12/2009 13:20	Blank	Pesticides	Parathion Ethyl	0.16	U	ug/L	0.16	0.64
10/12/2009 13:20	Blank	Pesticides	Phorate	0.053	U	ug/L	0.053	0.21
10/12/2009 13:20	Blank	Pesticides	Aldrin	0.011	U	ug/L	0.011	0.044
10/12/2009 13:20	Blank	Pesticides	Alpha-BHC	0.011	U	ug/L	0.011	0.044
10/12/2009 13:20	Blank	Pesticides	DDT-p,p'	0.032	U	ug/L	0.032	0.13
10/12/2009 13:20	Blank	Pesticides	Endrin Aldehyde	0.021	U	ug/L	0.021	0.084
10/12/2009 13:20	Blank	Pesticides	Chlorpyrifos Methyl	0.11	U	ug/L	0.11	0.44
10/12/2009 13:20	Blank	Pesticides	Ethoprop	0.11	U	ug/L	0.11	0.44
10/12/2009 13:20	Blank	Pesticides	Hexazinone	0.11	U	ug/L	0.11	0.44
10/12/2009 13:20	Blank	Pesticides	Chlordane	0.21	U	ug/L	0.21	0.84
10/12/2009 13:20	Blank	Pesticides	Alachlor	0.64	U	ug/L	0.64	2.6
10/12/2009 13:20	Blank	Pesticides	Ametryn	0.053	UJ	ug/L	0.053	0.21
10/12/2009 13:20	Blank	Pesticides	Atrazine	0.053	U	ug/L	0.053	0.21
10/12/2009 13:20	Blank	Pesticides	DDD-p,p'	0.021	U	ug/L	0.021	0.084
10/12/2009 13:20	Blank	Pesticides	Gamma-BHC	0.011	U	ug/L	0.011	0.044
10/12/2009 13:20	Blank	Pesticides	Methoxychlor	0.053	U	ug/L	0.053	0.21
10/12/2009 13:20	Blank	Pesticides	Toxaphene	0.79	U	ug/L	0.79	3.2
10/12/2009 13:20	Blank	Pesticides	Prometryn	0.16	U	ug/L	0.16	0.64
10/12/2009 13:20	Blank	Pesticides	Endosulfan I	0.021	U	ug/L	0.021	0.084
10/12/2009 13:20	Blank	Pesticides	Endrin	0.053	U	ug/L	0.053	0.21
10/12/2009 13:20	Blank	Pesticides	Azinphos Methyl	0.21	UJ	ug/L	0.21	0.84
10/12/2009 13:20	Blank	Pesticides	Bromacil	0.21	U	ug/L	0.21	0.84
10/12/2009 13:20	Blank	Pesticides	Butylate	0.21	U	ug/L	0.21	0.84
10/12/2009 13:20	Blank	Pesticides	Fenamiphos	0.21	U	ug/L	0.21	0.84
10/12/2009 13:20	Blank	Pesticides	Metalaxyl	0.26	U	ug/L	0.26	1
10/12/2009 13:20	Blank	Pesticides	Simazine	0.053	U	ug/L	0.053	0.21
10/12/2009 13:20	Blank	Pesticides	Beta-BHC	0.011	U	ug/L	0.011	0.044
10/12/2009 13:20	Blank	Pesticides	DDE-p,p'	0.021	U	ug/L	0.021	0.084
10/12/2009 13:20	Blank	Pesticides	Dieldrin	0.021	U	ug/L	0.021	0.084
10/12/2009 13:20	Blank	Pesticides	Malathion	0.16	U	ug/L	0.16	0.64
10/12/2009 13:20	Blank	Pesticides	Endosulfan II	0.021	U	ug/L	0.021	0.084
10/12/2009 13:20	Blank	Pesticides	Endosulfan Sulfate	0.021	U	ug/L	0.021	0.084
10/12/2009 13:20	Blank	Pesticides	Chlorpyrifos Ethyl	0.053	U	ug/L	0.053	0.21
10/12/2009 13:20	Blank	Pesticides	Ethion	0.053	U	ug/L	0.053	0.21

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Results	Remark	Units	MDL	PQL
10/12/2009 13:20	Blank	Pesticides	Mevinphos	0.21	U	ug/L	0.21	0.84
10/12/2009 13:20	Blank	Pesticides	Naled	0.85	U	ug/L	0.85	3.4
10/12/2009 13:20	Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.6
10/12/2009 13:20	Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	Diethyl phthalate	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	U	ug/L	2.9	11
10/12/2009 13:20	Blank	Priority Organic Pollutants	Benzidine	96	U	ug/L	96	380
10/12/2009 13:20	Blank	Priority Organic Pollutants	Fluoranthene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	57
10/12/2009 13:20	Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	UJ	ug/L	1.9	7.6
10/12/2009 13:20	Blank	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	11
10/12/2009 13:20	Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	2-Chlorophenol	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38	U	ug/L	38	150
10/12/2009 13:20	Blank	Priority Organic Pollutants	Butyl benzyl phthalate	4.8	U	ug/L	4.8	19
10/12/2009 13:20	Blank	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	U	ug/L	2.9	11
10/12/2009 13:20	Blank	Priority Organic Pollutants	2,4-Dinitrophenol	14	U	ug/L	14	57
10/12/2009 13:20	Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.6
10/12/2009 13:20	Blank	Priority Organic Pollutants	Acenaphthylene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	11
10/12/2009 13:20	Blank	Priority Organic Pollutants	Isophorone	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.6
10/12/2009 13:20	Blank	Priority Organic Pollutants	2,4-Dimethylphenol	9.6	U	ug/L	9.6	38
10/12/2009 13:20	Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	Dimethyl phthalate	9.6	U	ug/L	9.6	38
10/12/2009 13:20	Blank	Priority Organic Pollutants	Fluorene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	Hexachlorobenzene	0.96	U	ug/L	0.96	3.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Results	Remark	Units	MDL	PQL
10/12/2009 13:20	Blank	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	11
10/12/2009 13:20	Blank	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2.9	11
10/12/2009 13:20	Blank	Priority Organic Pollutants	Phenanthrene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	11
10/12/2009 13:20	Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	Acenaphthene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	Anthracene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	Pyrene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	14	U	ug/L	14	57
10/12/2009 13:20	Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	Naphthalene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	Phenol	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	2-Nitrophenol	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	Chrysene	0.96	U	ug/L	0.96	3.8
10/12/2009 13:20	Blank	Priority Organic Pollutants	Di-n-butyl phthalate	4.8	U	ug/L	4.8	19

Appendix F. Facility Summary

State of Florida
Department of Environmental Protection
Facility Introduction & Summary

PART I: Information gathered prior to sampling event	
Prepared By: Brian Kirts	Contact Number: 904-807-3340
Facility Name (as it appears on permit): Aramark Uniform and Career Apparel, Inc	Former Names: NA
NPDES Permit Number: FL0178845	Permit Expiration Date: 7/17/2010
Physical Address: 1226 East 8th Street Jacksonville, FL 32206	
District: NED	County: Duval
Function of Facility: Groundwater Remediation	
Facility Type: Groundwater Remediation	Permitted Capacity (MGD): 96,000 GPD
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): Roughly 30,000GPD with a monthly average flow that is not very consistent on a month to month basis.	
If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months): NA	
Description of type of Discharge: ☐ Continuous ☒ Intermittent ☐ Seasonal ☐ Rainfall Dependent ☐ Other, please specify Believed to be intermittent	
Description of Sampling Location(s) - actual permit designation of permitted sampling point(s): discharge into the on-site stormwater drain	
Description of Permitted Outfall(s): D-001 discharge to a stormwater drain, thence to Deer Creek (Class III Fresh Surface Water), and thence to the St. Johns River (Class III Fresh Surface Water).	
Description of Treatment Process (if multiple discharge points, include a detailed map or diagram of facility): This facility operates a 96,000 gallon per day (gpd), monthly average daily flow (MADF), remediation system. Wastewater is collected from groundwater recovery wells and is then treated by air stripping and filtration.	

Appendix F. (continued)

PART I: Continued										
List current Effluent Limits of Outfall(s) to be Sampled: This should include any AO or CO limits the facility may be under (Leave cell blank if not applicable)										
			Effluent Limitations				Monitoring Requirements			
Parameter	Units	Max/Min	Annual Average	Monthly Average	Weekly Average	Single Sample	Monitoring Frequency	Sample Type	Monitoring Location Site Number	Notes
Flow (MGD) †	MGD	Report Max		.096			Monthly	Meter	EFF-1	
Purgeable Hydro-carbons, meth. 601 (MG/L)	Mg/L						Monthly	Grab	EFF-1	
Purgeable Aromatics Method 602 (MG/L)	Mg/L						Monthly	Grab	EFF-1	
Iron, Total Recoverable (MG/L)	Mg/L	1.0					Monthly	Grab	EFF-1	
Nitrogen, Total (MG/L)	Mg/L	Report					Quarterly	Grab	EFF-1	
pH (SU)	SU	8.5/6.0					Monthly	Grab	EFF-1	
Acute Toxicity	%	>100					Annually	Grab	EFF-1	

Appendix F. (continued)

PART I: Continued	
Receiving Waters: **St. Johns River**	**Classification (indicate whether fresh or marine):** **Fresh**

Toxicity Test Requirements (routine and/or additional test language, test species, salinity adjustment, etc.):
Acute
Routine Tests conducted once per year. Additional tests conducted if needed.
LC50 needs to be at 100% effluent concentration.
The permittee shall conduct 96-hour acute static-renewal toxicity tests using the freshwater **daphnid, *Ceriodaphnia dubia*, and a fish, either the bannerfin shiner, *Cyprinella leedsi*, or fathead minnow, *Pimephales promelas*, concurrently.**
No salinity.

Administrative or Consent Orders (date executed, specific requirements, interim limit dates-if applicable, etc.):
NA

Facility Mixing Zone Details (if applicable):
NA

List Permit Violations (DMR data) and plant upsets that occurred at the plant within the last year:

Date	Parameter and Units	Limit	Result
March 2009 **Toxicity**	**Total Recoverable Iron** **Missing 2008 and 2009 Annual DMR. This will be brought up during the inspection.**	**1.0mg/L**	**1.4 mg/L**

Describe previous FYI and WQBEL study:

Inspection has been archived

Describe previous or current Enforcement Actions (including WLs):

NA

Describe any violations or problems noted in previous inspection:

- A copy of the current laboratory certification was not available.
- The following parameters were missing from recent lab reports: 2-chloroethylvinyl ether (missing from March through September 2008); and benzene, ethylbenzene, and toluene (all missing from September 2008).
- There is no chart recorder. Flow is recorded twice per month, not continuously as required in the permit.

The facility has been placed back into compliance

Discuss whether DMR trends within previous five years are improving or declining:

Data has been relatively consistent

Additional Comments (this should include a trend of the Effluent, i.e. if the facility is now Reuse):
Not in reuse

PART II: Sampling Event Information

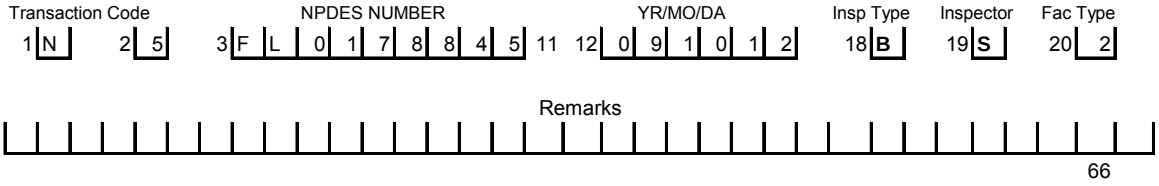
Appendix F. (continued)

Date(s) sample collected:	**Sampler(s):**
Temperature (Deg C):	**pH (SU):**
Dissolved Oxygen (mg/L):	**Conductivity (umhos/cm):**
Total Residual Chlorine (mg/L):	**Total Residual Chlorine - after Disinfection (mg/L):**
Method of Chlorination:	**Method of De-chlorination:**
Flow During Sample Collection for each outfall(MGD):	
Mean Flow for each outfall for previous 12 months based on sampling date (If samples are taken on more than one day, indicate Mean Flow for each day):	
Describe Discharge during Sampling Event: ☐ **Continuous** ☐ **Intermittent** ☐ **Seasonal** ☐ **Rainfall Dependent** ☐ **Other, please specify**	
Describe any conditions, difficulties or abnormal events that occurred during the sample collection and any other additional comments here:	

Appendix G. EPA End Sheet

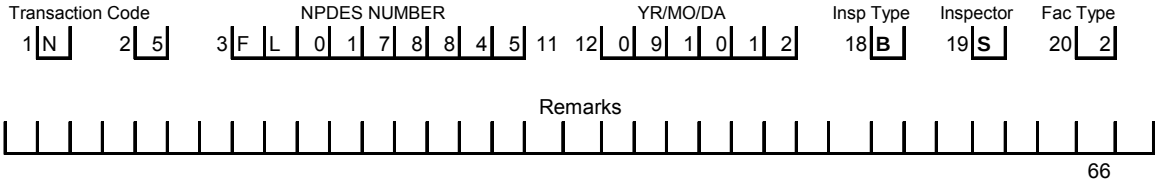
The Bioassay of the Aramark Uniform and Career Apparel, Inc., effluent sampled on October 12, 2009. NPDES #FL0178845.

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



The Priority Pollutants Analysis of the Aramark Uniform and Career Apparel, Inc., effluent sampled on October 12, 2009. NPDES #FL0178845.

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



Biological Analyses of the Aramark Uniform and Career Apparel, Inc., effluent sampled on October 12, 2009. NPDES #FL0178845.

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

