

# Rhode Island Airport Corporation

**Fourth Quarter 2017**

**Outfall Sampling**

**T.F. Green Airport**

Prepared by:  
Rhode Island Airport Corporation

January 2018

## **Background**

The RIPDES permit identifies a total of 16 perimeter outfalls at PVD. Outfalls 001A, 002A, 003A, 004A and 013A discharge to tributaries of Warwick Pond. Outfalls, 006A, 006B, 006C, 006D, 007A, 007B, 008A and 009A discharge to tributaries of Buckeye Brook downstream of Warwick Pond. Outfalls 010A, 011A, and 012A discharge to Tuscatucket Brook. Figure 1 identifies outfall locations. Major outfalls, 002A, 003A, 008A, and 010A, are those outfalls which receive or may receive drainage from areas where aircraft deicing fluid is applied. Sampling for these major outfalls is defined at Part I.A.1 of the permit. Minor outfalls drain taxiways, runways and other paved services. Outfall 005A was combined with Outfall 006A during construction of Runway 34 Safety Area Improvements. Sampling for these minor outfalls is defined at Part I.A.2. of the permit. Additional sampling requirements are defined at Part I.A.5. and Parts I.C. and I.D. Table 1 lists parameters sampled.

Industrial activities at PVD with the potential to impact stormwater quality include the use of glycol-based Aircraft Deicing and Anti-icing Fluids (ADFs/AAFs) and pavement deicers. Only propylene glycol (PG)-based ADFs/AAFs are used at PVD. Pavement deicers used at PVD include solid sodium formate, and liquid potassium acetate. Approximately 11,242 gallons of deicing fluid was applied to aircraft during the event. Approximately 412,000 gallons of fluid were diverted to storage at the Deicing Treatment Facility.

## **Summary of Storm**

Fourth Quarter (October 1 through December 31) sampling includes the major outfalls (002A, 003A, 008A and 010A) hourly for twelve hours, and sampling the minor outfalls (001A, 004A, 006A, 007A, 009A, 011A, 012A, and 013A) hourly for the first three hours. The sampling began upon a precipitation event of sufficient magnitude as specified in the RIPDES permit.

Light snow began falling around 9:00 AM December 9, 2017. Although aircraft deicing commenced at approximately 9:00 AM, we did not get 0.1" precipitation until shortly before 12:00 noon. Sampling commenced at 12:30 PM and continued until shortly before Midnight.

A total of 0.45 inches of precipitation (as water equivalent) with 2.8 inches of snow was measured at PVD on December 9, 2017. Precipitation data is summarized in Table 2.

## **Summary of Flow**

Flow meters are installed at three of the major outfalls: OF-002A, OF-003A, and OF-008A. Continuous flow measurements during the 12 hours of sampling were made using these Isco 2150 area velocity meters programmed to measure level and velocity at 15 minute increments. No flow meters are installed at minor outfalls or at outfall 010A, as it is off airport property.

Maximum daily and average monthly flows for the major outfalls were calculated and are presented in Table 3. Estimated runoff volumes for minor outfalls are presented in Table 5. Estimates for outfall 010A and minor outfalls are based upon calculations presented in Table 7.

### **Sample Collection**

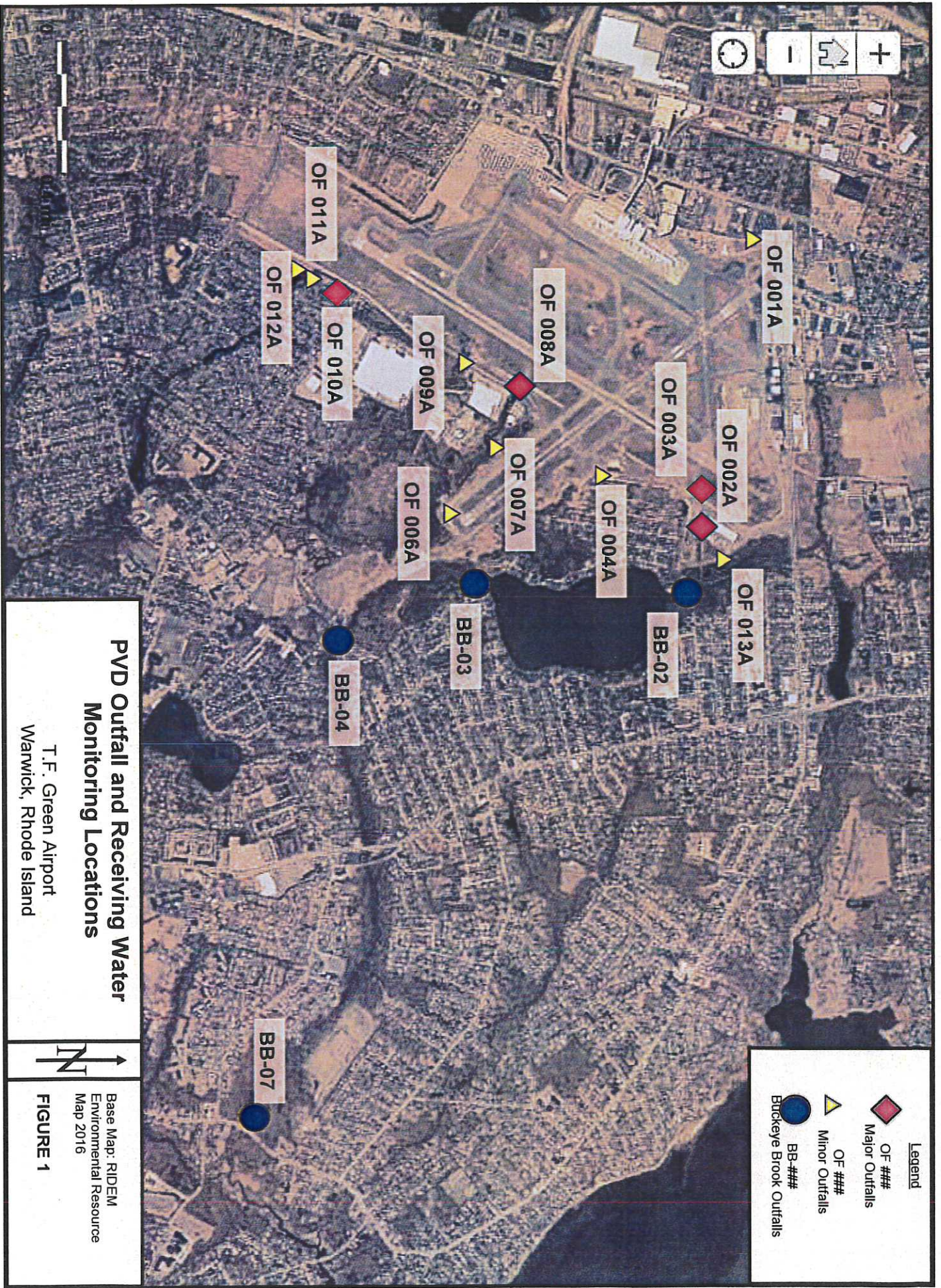
For the Fourth Quarter the major outfalls (002A, 003A, 008A, and 010A) were sampled hourly for twelve hours, beginning at 12:30 PM on December 9, 2017. Flow was not observed for 010A, and therefore, samples were not collected. Also during this sampling event, four of the eight minor outfalls (001A, 004A, 007A, and 012A) were sampled hourly, beginning at 07:30 on December 12, 2016. Four of the minor outfalls (006A, 009A, 011A, and 013A) did not have observed flow, and therefore, samples were not collected.

All samples were collected directly into sample bottles. The bottles were then placed in ice in a cooler for transport to the laboratory for analysis. Because of the short sample holding time for Fecal Coliform, all samples collected in the first three hours were transported to the laboratory immediately following the third hour of sampling.

At the major outfalls measurements for temperature, pH, dissolved oxygen (DO), and specific conductance were taken and recorded in the field.

### **Sampling Results**

A summary of sampling results for major outfalls are presented in Tables 3 and 4. Sampling results for minor outfalls are presented in Tables 5 and 6. Certificates of Analysis are attached to this report.



**Legend**

- OF ### Major Outfalls
- OF ### Minor Outfalls
- BB ### Buckeye Brook Outfalls

**PVD Outfall and Receiving Water  
Monitoring Locations**

T.F. Green Airport  
Warwick, Rhode Island



Base Map: RIDEM  
Environmental Resource  
Map 2016

**FIGURE 1**

**TABLE 1**  
**LABORATORY ANALYTICAL PARAMETERS**  
**T.F. GREEN AIRPORT**  
**WARWICK, RHODE ISLAND**  
**FOURTH QUARTER 2017**

Sample Identification	Hours 1-3	Hours 4-12
OF-001A, OF-004A, OF-006A, OF-007A, OF-009A, OF-011A, OF-012A, OF-013A	<ul style="list-style-type: none"> <li>• BOD, TSS, and pH</li> <li>• Fecal coliform</li> <li>• Dissolved Potassium and Sodium</li> <li>• Oil &amp; grease - 1664</li> </ul>	
OF-002A, OF-003A, OF-008A, OF-010A	<ul style="list-style-type: none"> <li>• Fecal coliform</li> <li>• Oil &amp; grease - 1664</li> <li>• pH, and Temperature, and Dissolved Oxygen</li> <li>• BOD, TSS, surfactants, and pH</li> <li>• COD, TOC</li> <li>• Propylene glycol</li> <li>• Dissolved Potassium and Sodium</li> <li>• Total Metals (aluminum, chromium, copper, iron, lead, and zinc)</li> </ul>	<ul style="list-style-type: none"> <li>• pH, and Temperature, and Dissolved Oxygen</li> <li>• BOD, TSS, surfactants, and pH</li> <li>• COD, TOC</li> <li>• Propylene glycol</li> <li>• Dissolved Potassium and Sodium</li> <li>• Total Metals (aluminum, chromium, copper, iron, lead, and zinc)</li> </ul>

BOD -Biological oxygen demand  
COD -Chemical oxygen demand  
TOC -Total organic carbon  
TPH -Total petroleum hydrocarbons  
TSS -Total suspended solids

**TABLE 2  
PRECIPITATION AMOUNTS  
T.F. GREEN AIRPORT  
WARWICK, RHODE ISLAND  
FOURTH QUARTER 2017  
December 9, 2017**

Date	Total Precipitation (water equivalent,in inches)	Snow (inches)
December 7, 2017	0	0
December 8, 2017	0	0
December 9, 2017	0.45	2.8
December 10, 2017	0	0.3

Sampling commenced at 12:30 on December 9, 2017 and continued until 23:59

**TABLE 3  
ANALYTICAL RESULTS  
MAJOR OUTFALLS  
T.F. GREEN AIRPORT  
WARWICK, RHODE ISLAND  
FOURTH QUARTER 2017**

Parameter	Major Outfalls							
	Outfall 002A		Outfall 003A		Outfall 008A		Outfall 010A	
	Average Monthly	Maximum Daily	Average Monthly	Maximum Daily	Average Monthly	Maximum Daily	Average Monthly	Maximum Daily
Flow (gpd) <sup>1, 8</sup>	92,908	111,209	27,633	39,854	1,179,059	1,295,752	317,683	317,683
Oil & Grease (mg/l) <sup>5</sup>		ND		ND		ND		2.2
TSS (mg/l) <sup>4, 5</sup>	12	15	ND	ND	6.9	15	ND	ND
Fecal Coliform (MPN/100ml) <sup>7, 5</sup>	ND	ND	ND	ND	ND	ND	1	2
BOD <sub>5</sub> (mg/l) <sup>2, 6</sup>	ND	ND	12	100	61	130	6	72
Propylene Glycol (mg/l) <sup>2, 6</sup>	ND	ND	7.5	62	44.8	160	2.7	32
COD (mg/l) <sup>2, 6</sup>	ND	ND	24.0	200	174	590	23	270
Dissolved Potassium (mg/l) <sup>2, 6</sup>	3002	3130	4891	5220	6679	16900	15100	18000
Dissolved Sodium (mg/l) <sup>2, 6</sup>	5189	6140	10623	20800	767452	3290000	260408	3030000
Surfactants (ug/l) <sup>2, 6</sup>	ND	ND	ND	ND	132	532	47	440
Dissolved Oxygen (mg/l) <sup>2, 3</sup>	8.47	9.37	9.47	10.13	9.36	10.93	7.85	8.96
TOC (mg/l) <sup>2, 6</sup>	1.4	1.9	7.28	52	41.1	160	3.7	29
Total Aluminum (ug/l) <sup>2, 6</sup>	ND	ND	ND	ND	70	279	22	261
Total Chromium (ug/l) <sup>2, 6</sup>	ND	ND	ND	ND	0.8	3.4	0.3	3.6
Total Copper (ug/l) <sup>2, 6</sup>	ND	ND	ND	ND	ND	ND	ND	ND
Total Iron (ug/l) <sup>2, 6</sup>	5,989	6,620	706	1,010	1,849	7,290	578	1,690
Total Lead (ug/l) <sup>2, 6</sup>	ND	ND	ND	ND	ND	ND	ND	ND
Total Zinc (ug/l) <sup>2, 6</sup>	ND	ND	ND	ND	15	107	9.0	109.0

<sup>1</sup> Results reported as average monthly were determined using the arithmetic average of measurement made every 15 minutes during the 12 hours of sampling. Results reported as maximum daily was the maximum flow measurements over the 12 hours of sampling. Both reported values were converted from GPM to GPD reflecting a 24 hour day

<sup>2</sup> Results reported as maximum daily were the maximum of the 12 samples collected during the 12 hours of sampling.

<sup>3</sup> Results reported as average monthly were determined using the arithmetic average of the 12 samples collected during the 12 hours of sampling.

<sup>4</sup> Results reported as average monthly were determined using the arithmetic average of the 3 samples collected (when available) during the first 3 hours of sampling.

<sup>5</sup> Results reported as maximum daily were the maximum of the 3 samples collected (when available) during the first 3 hours of sampling

<sup>6</sup> Results reported as average monthly were determined by using a flow-weighted average of the 12 samples collected during the 12 hours of sampling.

<sup>7</sup> Results reported as average monthly were determined by using a geometric mean of the 3 samples collected (when available) during the 3 hours of sampling

<sup>8</sup> Outfall 010A: Results reported as average monthly were determined using the arithmetic average of rainfall amount during the entire storm for the outfall drainage area. Results reported as maximum daily was determined from maximum rainfall measurement for the duration of the storm for each outfall drainage area.

BOD<sub>5</sub> - Biological oxygen demand 5-day test

COD - Chemical oxygen demand

gpd - Gallons per day

mg/l - Milligrams per liter

TOC - Total organic carbon

TSS - Total suspended solids

ug/l - Micrograms per liter

TABLE 4  
 FIELD ANALYTICAL RESULTS  
 MAJOR OUTFALLS  
 T.F. GREEN AIRPORT  
 WARWICK, RHODE ISLAND  
 FOURTH QUARTER 2017

Parameter	Major Outfalls							
	Outfall 002A		Outfall 003A		Outfall 008A		Outfall 010A	
	Minimum Daily <sup>1</sup>	Maximum Daily <sup>2</sup>	Minimum Daily <sup>1</sup>	Maximum Daily <sup>2</sup>	Minimum Daily <sup>1</sup>	Maximum Daily <sup>2</sup>	Minimum Daily <sup>1</sup>	Maximum Daily <sup>2</sup>
pH	6.80	7.10	6.60	7.2	6.50	7.00	<b>6.40</b>	7.00
Temperature (°F)		56.6		54.1		51.9		52.4

**Bold text** indicates exceedance of permit standards

- <sup>1</sup> Results reported as minimum daily were the minimum of the samples collected during the 12 hours of sampling.
- <sup>2</sup> Results reported as maximum daily were the maximum of the samples collected during the 12 hours of sampling.



**TABLE 5**  
**ANALYTICAL RESULTS**  
**MINOR OUTFALLS**  
**T. F. GREEN AIRPORT**  
**WARWICK, RHODE ISLAND**  
**FOURTH QUARTER 2017**

Parameter	Minor Outfalls											
	Outfall 001A	Outfall 004A	Outfall 006A	Outfall 007A	Outfall 009A	Outfall 011A	Outfall 012A	Outfall 013A	Outfall 014A	Outfall 015A	Outfall 016A	Outfall 017A
	Average Monthly	Maximum Daily	Average Monthly	Maximum Daily	Average Monthly	Maximum Daily	Average Monthly	Maximum Daily	Average Monthly	Maximum Daily	Average Monthly	Maximum Daily
Flow (gpd) <sup>1</sup>	No Flow		367,779	367,779	No Flow		No Flow		No Flow		No Flow	
Oil & Grease (mg/l) <sup>3</sup>			ND	0.8								
TSS (mg/l) <sup>2,3</sup>			ND	ND								
Fecal Coliform (MPN/100ml) <sup>2,3</sup>			1.2	1.8								
BOD <sub>5</sub> (mg/l) <sup>2,3</sup>			ND	ND								
Dissolved Potassium (mg/l) <sup>2,3</sup>			3540	3650								
Dissolved Sodium (mg/l) <sup>2,3</sup>			3207	3290								

<sup>1</sup> Results reported as average monthly were determined using the arithmetic average of rainfall amount during the entire storm for the outfall drainage area. Results reported as maximum daily was determined from maximum rainfall measurement for the duration of the storm for each outfall drainage area.

<sup>2</sup> Results reported as average monthly were determined using the arithmetic average of the 3 samples collected (when available) during the first 3 hours of sampling.

<sup>3</sup> Results reported as maximum daily were the maximum of the 3 samples collected (when available) during the first 3 hours of sampling

gpd - Gallons per day  
 mg/l - Milligrams per liter  
 TSS - Total suspended solids

TABLE 6  
 FIELD ANALYTICAL RESULTS  
 MINOR OUTFALLS  
 T.F. GREEN AIRPORT  
 WARWICK, RHODE ISLAND  
 FOURTH QUARTER 2017

Parameter	Outfall 001A		Outfall 004A		Outfall 006A		Outfall 007A		Outfall 009A		Outfall 011A		Outfall 012A		Outfall 013A	
	Minimum Daily <sup>1</sup>	Maximum Daily <sup>2</sup>	Minimum Daily <sup>1</sup>	Maximum Daily <sup>2</sup>	Minimum Daily <sup>1</sup>	Maximum Daily <sup>2</sup>	Minimum Daily <sup>1</sup>	Maximum Daily <sup>2</sup>	Minimum Daily <sup>1</sup>	Maximum Daily <sup>2</sup>	Minimum Daily <sup>1</sup>	Maximum Daily <sup>2</sup>	Minimum Daily <sup>1</sup>	Maximum Daily <sup>2</sup>	Minimum Daily <sup>1</sup>	Maximum Daily <sup>2</sup>
pH	No Flow	No Flow	6.80	7.00	No Flow	No Flow	No Flow	No Flow	No Flow	No Flow	No Flow	No Flow	No Flow	No Flow	No Flow	No Flow

**Bold text** indicates exceedance of permit standards

<sup>1</sup> Results reported as minimum daily were the minimum of the samples collected during the 3 hours of sampling.  
<sup>2</sup> Results reported as maximum daily were the maximum of the samples collected during the 3 hours of sampling.

**TABLE 7  
PVD RUNOFF VOLUME CALCULATION  
T.F. GREEN AIRPORT  
WARWICK, RHODE ISLAND  
FOURTH QUARTER 2017**

December 9, 2017

Precip (inches): 0.45

Drainage Basin ID	PVD Outfall	Receiving Water	Drainage Area (ac)	cu ft precip	gal precip
1	Outfall 001A	Warwick Pond	5.9	9,637.7	72,090
2	Outfall 002A	Warwick Pond	93.4	152,568.9	1,141,215
3	Outfall 003A	Warwick Pond	119.8	195,693.3	1,463,786
4	Outfall 004A	Warwick Pond	30.1	49,168.4	367,779
4B	Outfall 004B	Buckeye Brook	2	3,267.0	24,437
4C	Outfall 004C	Buckeye Brook	3	4,900.5	36,656
Former 5	Outfall 006A	Buckeye Brook	3.1	5,063.9	37,878
6	Outfall 006A	Buckeye Brook	7.6	12,414.6	92,861
6B	Outfall 006B	Buckeye Brook	1.5	2,450.3	18,328
6C	Outfall 006C	Buckeye Brook	0.8	1,306.8	9,775
6D	Outfall 006D	Buckeye Brook	0.7	1,143.5	8,553
7	Outfall 007A	Buckeye Brook	9.6	15,681.6	117,298
7B	Outfall 007B	Buckeye Brook	1.2	1,960.2	14,662
8	Outfall 008A	Buckeye Brook	240.6	393,020.1	2,939,790
9	Outfall 009A	Buckeye Brook	38.4	62,726.4	469,193
10	Outfall 010A	Tuscatucket Brook	26	42,471.0	317,683
11	Outfall 011A	Tuscatucket Brook	14	22,869.0	171,060
12	Outfall 012A	Tuscatucket Brook	46.4	75,794.4	566,942
13	Outfall 013A	Warwick Pond	28	45,738.0	342,120
<b>TOTAL AREA</b>			<b>672.1</b>	<b>1,097,875.4</b>	<b>8,212,108</b>



## LABORATORY REPORT

Rhode Island Airport Corp.  
Attn: Mr. Jay Brolin  
2000 Post Road  
Warwick, RI 02886

**Date Received:** 12/9/2017  
**Date Reported:** 12/26/2017  
**P.O. Number** 27529

**Work Order #:** 1712-26697

**Project Name:** T.F. GREEN RIPDES MONITORING

Enclosed are the analytical results and Chain of Custody for your project referenced above. The sample(s) were analyzed by our Warwick, RI laboratory unless noted otherwise. When applicable, indication of sample analysis at our Hudson, MA laboratory and/or subcontracted results are noted and subcontracted reports are enclosed in their entirety.

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results or in a case narrative.

The Detection Limit is defined as the lowest level that can be reliably achieved during routine laboratory conditions.

These results only pertain to the samples submitted for this Work Order # and this report shall not be reproduced except in its entirety.

We certify that the following results are true and accurate to the best of our knowledge. If you have questions or need further assistance, please contact our Customer Service Department.

Approved by:



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Melissa A. Manamon  
QA /QC Officer

Laboratory Certification Numbers (as applicable to sample's origin state):

Warwick RI \* RI LAI00033, MA M-RI015, CT PH-0508, ME RI00015, NH 2070, NY 11726

Hudson MA \* M-MA1117, RI LAO00319

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26697

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 001  
**Sample Description:** OUTFALL 002A-01  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 12:48

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.9		SU	SM4500H+B	12/10/2017 18:30	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/10/2017 11:28	EEM
Total Suspended Solids	13	2.0	mg/l	SM2540D 18-21ed	12/13/2017 22:54	RHF
COD	<10	10	mg/l	SM5220D 18-21ed	12/13/2017 10:00	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/10/2017 13:00	JWC
TOC	0.96	0.5	mg/l	SM5310C 21 ed.	12/12/2017 9:12	DEL
Oil & Grease Gravimetric	<0.5	0.5	mg/l	EPA 1664A	12/15/2017 8:44	AM
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/12/2017 23:52	RBR
Dissolved Metals						
Potassium	3060	1000	ug/l	EPA 200.7	12/13/2017 12:23	AJD
Sodium	4830	3000	ug/l	EPA 200.7	12/13/2017 12:23	AJD
Total Metals						
Chromium	<2.5	2.5	ug/l	EPA 200.8	12/13/2017 16:32	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/13/2017 16:32	JRW
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/19/2017 12:32	AJD
Copper	<20	20	ug/l	EPA 200.7	12/19/2017 12:32	AJD
Iron	5760	100	ug/l	EPA 200.7	12/19/2017 12:32	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/19/2017 12:32	AJD
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 10:30	AGJ
ICPMS Digestion				EPA 200.8	12/13/2017 14:30	DDP
ICP Digestion				EPA 200.7	12/18/2017 18:20	DDP
Fecal Coliform (MPN)	<1.8	1.8	MPN/100 ml	SM9221E2 19-21ed	12/9/2017 17:45	ERG

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26697

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 002  
**Sample Description:** OUTFALL 003A-01  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 12:37

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	7.2		SU	SM4500H+B	12/10/2017 18:30	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/10/2017 11:30	EEM
Total Suspended Solids	<2.0	2.0	mg/l	SM2540D 18-21ed	12/13/2017 22:54	RHF
COD	<10	10	mg/l	SM5220D 18-21ed	12/13/2017 10:00	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/10/2017 13:00	JWC
TOC	0.78	0.5	mg/l	SM5310C 21 ed.	12/12/2017 9:12	DEL
Oil & Grease Gravimetric	<0.5	0.5	mg/l	EPA 1664A	12/15/2017 8:44	AM
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/13/2017 0:23	RBR
Dissolved Metals						
Potassium	5220	1000	ug/l	EPA 200.7	12/13/2017 12:32	AJD
Sodium	8900	3000	ug/l	EPA 200.7	12/13/2017 12:32	AJD
Total Metals						
Chromium	<2.5	2.5	ug/l	EPA 200.8	12/13/2017 16:35	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/13/2017 16:35	JRW
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/19/2017 12:34	AJD
Copper	<20	20	ug/l	EPA 200.7	12/19/2017 12:34	AJD
Iron	1010	100	ug/l	EPA 200.7	12/19/2017 12:34	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/19/2017 12:34	AJD
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 10:30	AGJ
ICPMS Digestion				EPA 200.8	12/13/2017 14:30	DDP
ICP Digestion				EPA 200.7	12/18/2017 18:20	DDP
Fecal Coliform (MPN)	<1.8	1.8	MPN/100 ml	SM9221E2 19-21ed	12/9/2017 17:45	ERG

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26697

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 003  
**Sample Description:** OUTFALL 008A-01  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 12:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.8		SU	SM4500H+B	12/10/2017 18:30	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/10/2017 11:32	EEM
Total Suspended Solids	<2.0	2.0	mg/l	SM2540D 18-21ed	12/13/2017 22:54	RHF
COD	<10	10	mg/l	SM5220D 18-21ed	12/13/2017 10:00	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/10/2017 13:00	JWC
TOC	0.75	0.5	mg/l	SM5310C 21 ed.	12/12/2017 9:12	DEL
Oil & Grease Gravimetric	<0.5	0.5	mg/l	EPA 1664A	12/15/2017 8:44	AM
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/13/2017 0:54	RBR
Dissolved Metals						
Potassium	5290	1000	ug/l	EPA 200.7	12/13/2017 12:34	AJD
Sodium	31300	3000	ug/l	EPA 200.7	12/13/2017 12:34	AJD
Total Metals						
Chromium	<2.5	2.5	ug/l	EPA 200.8	12/13/2017 16:38	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/13/2017 16:38	JRW
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/19/2017 12:41	AJD
Copper	<20	20	ug/l	EPA 200.7	12/19/2017 12:41	AJD
Iron	1250	100	ug/l	EPA 200.7	12/19/2017 12:41	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/19/2017 12:41	AJD
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 10:30	AGJ
ICPMS Digestion				EPA 200.8	12/13/2017 14:30	DDP
ICP Digestion				EPA 200.7	12/18/2017 18:20	DDP
Fecal Coliform (MPN)	<1.8	1.8	MPN/100 ml	SM9221E2 19-21ed	12/9/2017 17:45	ERG

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.



## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26697

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 004  
**Sample Description:** OUTFALL 010A-01  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 13:10

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.8		SU	SM4500H+B	12/10/2017 18:30	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/10/2017 11:34	EEM
Total Suspended Solids	<2.0	2.0	mg/l	SM2540D 18-21ed	12/13/2017 22:54	RHF
COD	<10	10	mg/l	SM5220D 18-21ed	12/13/2017 10:00	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/10/2017 13:00	JWC
TOC	1.3	0.5	mg/l	SM5310C 21 ed.	12/12/2017 9:12	DEL
Oil & Grease Gravimetric	1.0	0.5	mg/l	EPA 1664A	12/15/2017 8:44	AM
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/13/2017 1:26	RBR
Dissolved Metals						
Potassium	16500	1000	ug/l	EPA 200.7	12/13/2017 12:36	AJD
Sodium	6010	3000	ug/l	EPA 200.7	12/13/2017 12:36	AJD
Total Metals						
Chromium	<2.5	2.5	ug/l	EPA 200.8	12/13/2017 16:41	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/13/2017 16:41	JRW
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/19/2017 12:43	AJD
Copper	<20	20	ug/l	EPA 200.7	12/19/2017 12:43	AJD
Iron	386	100	ug/l	EPA 200.7	12/19/2017 12:43	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/19/2017 12:43	AJD
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 10:30	AGJ
ICPMS Digestion				EPA 200.8	12/13/2017 14:30	DDP
ICP Digestion				EPA 200.7	12/18/2017 18:20	DDP
Fecal Coliform (MPN)	<1.8	1.8	MPN/100 ml	SM9221E2 19-21ed	12/9/2017 17:45	ERG

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26697

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 005  
**Sample Description:** OUTFALL 002A-02  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 13:48

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.9		SU	SM4500H+B	12/10/2017 18:30	JWC
BOD 5	<6.0	6.0	mg/l	SM5210B 21ed	12/10/2017 11:36	EEM
Total Suspended Solids	8.7	2.0	mg/l	SM2540D 18-21ed	12/13/2017 22:54	RHF
COD	<10	10	mg/l	SM5220D 18-21ed	12/13/2017 10:00	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/10/2017 13:00	JWC
TOC	1.0	0.5	mg/l	SM5310C 21 ed.	12/12/2017 9:12	DEL
Oil & Grease Gravimetric	<0.5	0.5	mg/l	EPA 1664A	12/15/2017 8:44	AM
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/13/2017 4:33	RBR
Dissolved Metals						
Potassium	3130	1000	ug/l	EPA 200.7	12/13/2017 12:37	AJD
Sodium	4840	3000	ug/l	EPA 200.7	12/13/2017 12:37	AJD
Total Metals						
Chromium	<2.5	2.5	ug/l	EPA 200.8	12/13/2017 16:51	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/13/2017 16:51	JRW
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/19/2017 12:44	AJD
Copper	<20	20	ug/l	EPA 200.7	12/19/2017 12:44	AJD
Iron	5610	100	ug/l	EPA 200.7	12/19/2017 12:44	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/19/2017 12:44	AJD
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 10:30	AGJ
ICPMS Digestion				EPA 200.8	12/13/2017 14:30	DDP
ICP Digestion				EPA 200.7	12/18/2017 18:20	DDP
Fecal Coliform (MPN)	<1.8	1.8	MPN/100 ml	SM9221E2 19-21ed	12/9/2017 17:45	ERG

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26697

**Project Name:** T.F. GREEN RIPDES MONITORING

**Sample Number:** 006  
**Sample Description:** OUTFALL 003A-02  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 13:36

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	7.2		SU	SM4500H+B	12/10/2017 18:30	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/10/2017 11:38	EEM
Total Suspended Solids	<2.0	2.0	mg/l	SM2540D 18-21ed	12/13/2017 22:54	RHF
COD	<10	10	mg/l	SM5220D 18-21ed	12/13/2017 10:00	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/10/2017 13:00	JWC
TOC	0.72	0.5	mg/l	SM5310C 21 ed.	12/12/2017 9:12	DEL
Oil & Grease Gravimetric	<0.5	0.5	mg/l	EPA 1664A	12/15/2017 8:44	AM
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/13/2017 5:04	RBR
Dissolved Metals						
Potassium	5130	1000	ug/l	EPA 200.7	12/13/2017 12:39	AJD
Sodium	8870	3000	ug/l	EPA 200.7	12/13/2017 12:39	AJD
Total Metals						
Chromium	<2.5	2.5	ug/l	EPA 200.8	12/13/2017 16:54	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/13/2017 16:54	JRW
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/19/2017 12:46	AJD
Copper	<20	20	ug/l	EPA 200.7	12/19/2017 12:46	AJD
Iron	803	100	ug/l	EPA 200.7	12/19/2017 12:46	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/19/2017 12:46	AJD
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 10:30	AGJ
ICPMS Digestion				EPA 200.8	12/13/2017 14:30	DDP
ICP Digestion				EPA 200.7	12/18/2017 18:20	DDP
Fecal Coliform (MPN)	<1.8	1.8	MPN/100 ml	SM9221E2 19-21ed	12/9/2017 17:45	ERG

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26697

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 007  
**Sample Description:** OUTFALL 008A-02  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 13:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.8		SU	SM4500H+B	12/10/2017 18:30	JWC
BOD 5	96	60	mg/l	SM5210B 21ed	12/10/2017 11:40	EEM
Total Suspended Solids	15	2.0	mg/l	SM2540D 18-21ed	12/13/2017 22:54	RHF
COD	220	150	mg/l	SM5220D 18-21ed	12/13/2017 10:00	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/10/2017 13:00	JWC
TOC	60	0.5	mg/l	SM5310C 21 ed.	12/13/2017 12:49	DEL
Oil & Grease Gravimetric	<0.5	0.5	mg/l	EPA 1664A	12/15/2017 8:44	AM
GC/FID						
Propylene Glycol	62	10	mg/l	GC-FID	12/13/2017 5:35	RBR
Dissolved Metals						
Potassium	10100	1000	ug/l	EPA 200.7	12/13/2017 12:40	AJD
Sodium	77800	3000	ug/l	EPA 200.7	12/13/2017 12:40	AJD
Total Metals						
Chromium	<2.5	2.5	ug/l	EPA 200.8	12/13/2017 16:57	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/13/2017 16:57	JRW
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/19/2017 12:47	AJD
Copper	<20	20	ug/l	EPA 200.7	12/19/2017 12:47	AJD
Iron	7290	100	ug/l	EPA 200.7	12/19/2017 12:47	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/19/2017 12:47	AJD
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 10:30	AGJ
ICPMS Digestion				EPA 200.8	12/13/2017 14:30	DDP
ICP Digestion				EPA 200.7	12/18/2017 18:20	DDP
Fecal Coliform (MPN)	<1.8	1.8	MPN/100 ml	SM9221E2 19-21ed	12/9/2017 17:45	ERG

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26697

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 008  
**Sample Description:** OUTFALL 010A-02  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 14:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.8		SU	SM4500H+B	12/10/2017 18:30	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/10/2017 11:42	EEM
Total Suspended Solids	<2.0	2.0	mg/l	SM2540D 18-21ed	12/13/2017 22:54	RHF
COD	<10	10	mg/l	SM5220D 18-21ed	12/13/2017 10:00	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/10/2017 13:00	JWC
TOC	1.3	0.5	mg/l	SM5310C 21 ed.	12/12/2017 9:12	DEL
Oil & Grease Gravimetric	2.2	0.5	mg/l	EPA 1664A	12/15/2017 8:44	AM
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/13/2017 6:07	RBR
Dissolved Metals						
Potassium	17000	1000	ug/l	EPA 200.7	12/13/2017 12:42	AJD
Sodium	5040	3000	ug/l	EPA 200.7	12/13/2017 12:42	AJD
Total Metals						
Chromium	<2.5	2.5	ug/l	EPA 200.8	12/13/2017 17:01	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/13/2017 17:01	JRW
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/19/2017 12:49	AJD
Copper	<20	20	ug/l	EPA 200.7	12/19/2017 12:49	AJD
Iron	364	100	ug/l	EPA 200.7	12/19/2017 12:49	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/19/2017 12:49	AJD
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 10:30	AGJ
ICPMS Digestion				EPA 200.8	12/13/2017 14:30	DDP
ICP Digestion				EPA 200.7	12/18/2017 18:20	DDP
Fecal Coliform (MPN)	2.0	1.8	MPN/100 ml	SM9221E2 19-21ed	12/9/2017 17:45	ERG

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26697

**Project Name:** T.F. GREEN RIPDES MONITORING

**Sample Number:** 009  
**Sample Description:** OUTFALL 002A-03  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 14:35

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	7.1		SU	SM4500H+B	12/10/2017 18:30	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/10/2017 12:18	EEM
Total Suspended Solids	15	2.0	mg/l	SM2540D 18-21ed	12/13/2017 22:54	RHF
COD	<10	10	mg/l	SM5220D 18-21ed	12/14/2017 9:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/10/2017 13:00	JWC
TOC	0.90	0.5	mg/l	SM5310C 21 ed.	12/12/2017 9:12	DEL
Oil & Grease Gravimetric	<0.5	0.5	mg/l	EPA 1664A	12/15/2017 8:44	AM
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/13/2017 6:38	RBR
Dissolved Metals						
Potassium	3090	1000	ug/l	EPA 200.7	12/13/2017 12:43	AJD
Sodium	4820	3000	ug/l	EPA 200.7	12/13/2017 12:43	AJD
Total Metals						
Chromium	<2.5	2.5	ug/l	EPA 200.8	12/13/2017 17:10	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/13/2017 17:10	JRW
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/19/2017 12:51	AJD
Copper	<20	20	ug/l	EPA 200.7	12/19/2017 12:51	AJD
Iron	6120	100	ug/l	EPA 200.7	12/19/2017 12:51	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/19/2017 12:51	AJD
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 10:30	AGJ
ICPMS Digestion				EPA 200.8	12/13/2017 14:30	DDP
ICP Digestion				EPA 200.7	12/18/2017 18:20	DDP
Fecal Coliform (MPN)	<1.8	1.8	MPN/100 ml	SM9221E2 19-21ed	12/9/2017 17:45	ERG

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26697

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 010  
**Sample Description:** OUTFALL 003A-03  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 14:46

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	7.2		SU	SM4500H+B	12/10/2017 18:30	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/10/2017 11:44	EEM
Total Suspended Solids	<2.0	2.0	mg/l	SM2540D 18-21ed	12/13/2017 22:54	RHF
COD	<10	10	mg/l	SM5220D 18-21ed	12/14/2017 9:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/10/2017 13:00	JWC
TOC	0.82	0.5	mg/l	SM5310C 21 ed.	12/12/2017 9:12	DEL
Oil & Grease Gravimetric	<0.5	0.5	mg/l	EPA 1664A	12/15/2017 8:44	AM
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/13/2017 7:09	RBR
Dissolved Metals						
Potassium	4890	1000	ug/l	EPA 200.7	12/13/2017 12:48	AJD
Sodium	9720	3000	ug/l	EPA 200.7	12/13/2017 12:48	AJD
Total Metals						
Chromium	<2.5	2.5	ug/l	EPA 200.8	12/13/2017 17:14	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/13/2017 17:14	JRW
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/19/2017 12:52	AJD
Copper	<20	20	ug/l	EPA 200.7	12/19/2017 12:52	AJD
Iron	841	100	ug/l	EPA 200.7	12/19/2017 12:52	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/19/2017 12:52	AJD
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 10:30	AGJ
ICPMS Digestion				EPA 200.8	12/13/2017 14:30	DDP
ICP Digestion				EPA 200.7	12/18/2017 18:20	DDP
Fecal Coliform (MPN)	<1.8	1.8	MPN/100 ml	SM9221E2 19-21ed	12/9/2017 17:45	ERG

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26697

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 011  
**Sample Description:** OUTFALL 008A-03  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 14:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.6		SU	SM4500H+B	12/10/2017 18:30	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/10/2017 11:46	EEM
Total Suspended Solids	5.7	2.0	mg/l	SM2540D 18-21ed	12/13/2017 22:54	RHF
COD	590	150	mg/l	SM5220D 18-21ed	12/13/2017 10:00	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/10/2017 13:00	JWC
TOC	160	0.5	mg/l	SM5310C 21 ed.	12/13/2017 12:49	DEL
Oil & Grease Gravimetric	<0.5	0.5	mg/l	EPA 1664A	12/15/2017 8:44	AM
GC/FID						
Propylene Glycol	160	10	mg/l	GC-FID	12/13/2017 7:40	RBR
Dissolved Metals						
Potassium	6620	1000	ug/l	EPA 200.7	12/13/2017 12:50	AJD
Sodium	48100	3000	ug/l	EPA 200.7	12/13/2017 12:50	AJD
Total Metals						
Chromium	<2.5	2.5	ug/l	EPA 200.8	12/13/2017 17:17	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/13/2017 17:17	JRW
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/19/2017 12:54	AJD
Copper	<20	20	ug/l	EPA 200.7	12/19/2017 12:54	AJD
Iron	2500	100	ug/l	EPA 200.7	12/19/2017 12:54	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/19/2017 12:54	AJD
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 10:30	AGJ
ICPMS Digestion				EPA 200.8	12/13/2017 14:30	DDP
ICP Digestion				EPA 200.7	12/18/2017 18:20	DDP
Fecal Coliform (MPN)	<1.8	1.8	MPN/100 ml	SM9221E2 19-21ed	12/9/2017 17:45	ERG

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.



## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26697

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 012  
**Sample Description:** OUTFALL 010A-03  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 15:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.7		SU	SM4500H+B	12/10/2017 18:30	JWC
BOD 5	<24	24	mg/l	SM5210B 21ed	12/18/2017 18:10	MA
Total Suspended Solids	<2.0	2.0	mg/l	SM2540D 18-21ed	12/14/2017 21:52	RHF
COD	<10	10	mg/l	SM5220D 18-21ed	12/14/2017 9:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/10/2017 13:00	JWC
TOC	1.6	0.5	mg/l	SM5310C 21 ed.	12/13/2017 12:49	DEL
Oil & Grease Gravimetric	1.5	0.5	mg/l	EPA 1664A	12/15/2017 8:44	AM
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/13/2017 8:11	RBR
Dissolved Metals						
Potassium	13400	1000	ug/l	EPA 200.7	12/13/2017 12:52	AJD
Sodium	11000	3000	ug/l	EPA 200.7	12/13/2017 12:52	AJD
Total Metals						
Chromium	<2.5	2.5	ug/l	EPA 200.8	12/13/2017 17:20	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/13/2017 17:20	JRW
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/19/2017 13:00	AJD
Copper	<20	20	ug/l	EPA 200.7	12/19/2017 13:00	AJD
Iron	506	100	ug/l	EPA 200.7	12/19/2017 13:00	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/19/2017 13:00	AJD
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 10:30	AGJ
ICPMS Digestion				EPA 200.8	12/13/2017 14:30	DDP
ICP Digestion				EPA 200.7	12/18/2017 18:20	DDP
Fecal Coliform (MPN)	<1.8	1.8	MPN/100 ml	SM9221E2 19-21ed	12/9/2017 17:45	ERG

Initial BOD analysis run on 12/10/2017 at 11:48 yeilded a result of >12 mg/L. Sample was reset on 12/18/2017.

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26697

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 013  
**Sample Description:** OUTFALL 004A-01  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 12:51

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.9		SU	SM4500H+B	12/10/2017 18:30	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/10/2017 11:52	EEM
Total Suspended Solids	<2.0	2.0	mg/l	SM2540D 18-21ed	12/14/2017 21:52	RHF
Oil & Grease Gravimetric	0.8	0.5	mg/l	EPA 1664A	12/15/2017 8:44	AM
Dissolved Metals						
Potassium	3630	1000	ug/l	EPA 200.7	12/13/2017 12:53	AJD
Sodium	3160	3000	ug/l	EPA 200.7	12/13/2017 12:53	AJD
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 10:30	AGJ
Fecal Coliform (MPN)	<1.8	1.8	MPN/100 ml	SM9221E2 19-21ed	12/9/2017 17:45	ERG

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

**Sample Number:** 014  
**Sample Description:** OUTFALL 004A-02  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 13:47

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.8		SU	SM4500H+B	12/10/2017 18:30	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/10/2017 11:50	EEM
Total Suspended Solids	<2.0	2.0	mg/l	SM2540D 18-21ed	12/14/2017 21:52	RHF
Oil & Grease Gravimetric	<0.5	0.5	mg/l	EPA 1664A	12/15/2017 8:44	AM
Dissolved Metals						
Potassium	3650	1000	ug/l	EPA 200.7	12/13/2017 12:55	AJD
Sodium	3290	3000	ug/l	EPA 200.7	12/13/2017 12:55	AJD
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 10:30	AGJ
Fecal Coliform (MPN)	1.8	1.8	MPN/100 ml	SM9221E2 19-21ed	12/9/2017 17:45	ERG

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26697

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 015  
**Sample Description:** OUTFALL 004A-03  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 14:41

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	7.0		SU	SM4500H+B	12/10/2017 18:30	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/10/2017 12:14	EEM
Total Suspended Solids	<2.0	2.0	mg/l	SM2540D 18-21ed	12/14/2017 21:52	RHF
Oil & Grease Gravimetric	<0.5	0.5	mg/l	EPA 1664A	12/15/2017 8:44	AM
Dissolved Metals						
Potassium	3340	1000	ug/l	EPA 200.7	12/13/2017 12:56	AJD
Sodium	3170	3000	ug/l	EPA 200.7	12/13/2017 12:56	AJD
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 10:30	AGJ
Fecal Coliform (MPN)	<1.8	1.8	MPN/100 ml	SM9221E2 19-21ed	12/9/2017 17:45	ERG

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

**Sample Number:** 016  
**Sample Description:** OUTFALL 001A-01  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 12:34

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Dry - no sample	NO FLOW				12/9/2017 12:34	*CS

**Sample Number:** 017  
**Sample Description:** OUTFALL 006A-01  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 13:01

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Dry - no sample	NO FLOW				12/9/2017 13:01	*CS

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26697

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 018  
**Sample Description:** OUTFALL 007A-01  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 13:05

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Dry - no sample	NO FLOW				12/9/2017 13:05	*CS

**Sample Number:** 019  
**Sample Description:** OUTFALL 001A-02  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 13:38

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Dry - no sample	NO FLOW				12/9/2017 13:38	*CS

**Sample Number:** 020  
**Sample Description:** OUTFALL 006A-02  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 13:56

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Dry - no sample	NO FLOW				12/9/2017 13:56	*CS

**Sample Number:** 021  
**Sample Description:** OUTFALL 007A-02  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 14:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Dry - no sample	NO FLOW				12/9/2017 14:00	*CS

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26697

**Project Name:** T.F. GREEN RIPDES MONITORING

**Sample Number:** 022  
**Sample Description:** OUTFALL 001A-03  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 14:32

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Dry - no sample	NO FLOW				12/9/2017 14:32	*CS

**Sample Number:** 023  
**Sample Description:** OUTFALL 006A-03  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 14:52

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Dry - no sample	NO FLOW				12/9/2017 14:52	*CS

**Sample Number:** 024  
**Sample Description:** OUTFALL 007A-03  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 14:55

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
Dry - no sample	NO FLOW				12/9/2017 14:55	*CS

\*CS - Field sampling data was provided by the client.

# CHAIN OF CUSTODY RECORD

## R.I. Analytical Laboratories, Inc.

41 Illinois Avenue  
Warwick, RI 02888  
Tel: 800-937-2580  
Fax: 401-738-1970

131 Coolidge St, Bldg. 2  
Hudson, MA 01749  
Tel: 888-228-3334  
Fax: 978-568-0078

Date Collected	Time Collected	Field Sample Identification	Grab or Composite	# of Containers & Type <sup>T</sup>	Preservation Code <sup>P</sup>	Matrix Code <sup>M</sup>	Fecal Coliform	BOD, TSS, Surfactants, pH	COD, TOC	Oil & Grease 1664	Propylene Glycol	Total Metals	Dissolved K & Na
12/9/17	1248	Outfall 002A-01	G	* *	O		1	1	1	1	1	1	1
	1237	Outfall 003A-01	G	* *	O		1	1	1	1	1	1	1
	1230	Outfall 008A-01	G	* *	O		1	1	1	1	1	1	1
	1310	Outfall 010A-01	G	* *	O		1	1	1	1	1	1	1
	1348	Outfall 002A-02	G	* *	O		1	1	1	1	1	1	1
	1334	Outfall 003A-02	G	* *	O		1	1	1	1	1	1	1
	1330	Outfall 008A-02	G	* *	O		1	1	1	1	1	1	1
	1400	Outfall 010A-02	G	* *	O		1	1	1	1	1	1	1
	1435	Outfall 002A-03	G	* *	O		1	1	1	1	1	1	1
	1446	Outfall 003A-03	G	* *	O		1	1	1	1	1	1	1
	1430	Outfall 008A-03	G	* *	O		1	1	1	1	1	1	1
	1500	Outfall 010A-03	G	* *	O		1	1	1	1	1	1	1

\*Fecal Coliform - 1 Sterile Non Preserved  
BOD, TSS, Surfactants, pH - 1 500mL Non Preserved  
COD, TOC - 1 250mL Sulfuric Acid Preserved  
Oil & Grease 1664 - 32 oz Amber Glass Sulfuric Preserved  
Propylene Glycol - 2 40mL Non-Preserved VOA Vial  
Metals - 250mL Nitric Preserved  
Dissolved Metals - 250ml Non Preserved

Total Metals:  
Aluminum - 200.7  
Chromium - 200.8  
Copper - 200.7  
Iron - 200.7  
Lead - 200.7  
Zinc - 200.7

Client Information		Project Information	
Company	Rhode Island Airport Corp	ProjectName:	T.F. Green RIPDES Monitoring
Address:	2000 Post Rd	P.O. Number:	27529 Project Number:
City / State /	Warwick, RI 02886	Sampled by:	
Telephone:	691-2490 Fax: 691-2560	Email :address:	jbrolin@pvdairport.com
Contact Person:	Jay Brolin	Email :address:	

Relinquished By	Date	Time	Received By
<i>Jay Brolin</i>	12/9/17	1539	<i>Ruthin Phuan</i>

Turn Around Time	
<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> EMAIL Report
5 Business days. Possible	
<input type="checkbox"/> Rush	_____ (business

Matrix Codes: GW=Groundwater, SW=Surface Water, WW=Wastewater, DW=Drinking Water, S=Soil, Sl=Sludge, A=Air, B=Bulk/Solid, O= Storm Water

Lab Use Only	
	Sample Pick Up Only
	RIAL sampled; attach field hours
<i>yes</i>	Shipped on ice <i>2.5°C</i>
Workorder No:	<i>1712-26097</i>

# CHAIN OF CUSTODY RECORD

R.I. Analytical Laboratories, Inc.

41 Illinois Avenue  
Warwick, RI 02888  
Tel: 800-937-2580  
Fax: 401-738-1970

131 Coolidge St, Bldg. 2  
Hudson, MA 01749  
Tel: 888-228-3334  
Fax: 978-568-0078

Date Collected	Time Collected	Field Sample Identification		Grab or Composite	# of Containers & Type <sup>T</sup>	Preservation Code <sup>P</sup>	Matrix Code <sup>M</sup>	Fecal Coliform	BOD, TSS, pH	Oil & Grease 1664	Dissolved Metals**						
12/9/17	1237	Outfall 001A-01	no flow	G	*	*	0										
"	1251	Outfall 004A-01		G	*	*	0	1	1	1	1						
"	1301	Outfall 006A-01	no flow	G	*	*	0										
"	1305	Outfall 007A-01	no flow	G	*	*	0										
"		Outfall 009A-01	no flow	G	*	*	0										
"		Outfall 011A-01	no flow	G	*	*	0										
"		Outfall 012A-01	no flow	G	*	*	0										
"		Outfall 013A-01	no flow	G	*	*	0										
12/9/17	1338	Outfall 001A-02	no flow	G	*	*	0										
"	1347	Outfall 004A-02		G	*	*	0	1	1	1	1						
"	1356	Outfall 006A-02	no flow	G	*	*	0										
"	1400	Outfall 007A-02	no flow	G	*	*	0										
"		Outfall 009A-02	no flow	G	*	*	0										
"		Outfall 011A-02	no flow	G	*	*	0										
"		Outfall 012A-02	no flow	G	*	*	0										
"		Outfall 013A-02	no flow	G	*	*	0										
12/9/17	1432	Outfall 001A-03	no flow	G	*	*	0										
"	1441	Outfall 004A-03		G	*	*	0	1	1	1	1						
"	1452	Outfall 006A-03	no flow	G	*	*	0										
"	1455	Outfall 007A-03	no flow	G	*	*	0										
"		Outfall 009A-03	no flow	G	*	*	0										
"		Outfall 011A-03	no flow	G	*	*	0										
"		Outfall 012A-03	no flow	G	*	*	0										
"		Outfall 013A-03	no flow	G	*	*	0										

\*Fecal Coliform - 1 Sterile Non Preserved  
BOD, TSS, pH - 1 1000mL Non Preserved  
Oil & Grease 1664 - 32 oz Amber Glass Sulfuric Preserved  
Metals - 1 250mL Nitric Preserved

\*\* Potassium - 200.7  
Sodium - 200.7

Client Information				Project Information			
Company	Rhode Island Airport Corp			ProjectName:	T.F. Green RIPDES Monitoring		
Address:	2000 Post Rd			P.O. Number:	27529	Project Number:	
City / State /	Warwick, RI 02886			Sampled by:	RIAL Personnel (MUM 12/28/17)		
Telephone:	691.2490	Fax:	691.2560	Email :address:	jbrolin@pvdairport.com		
Contact Person:	Jay Brolin			Email :address:			

Relinquished By	Date	Time	Received By
<i>[Signature]</i>	12/9/17	1539	<i>[Signature]</i>

Turn Around Time	
<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> EMAIL Report
5 Business days. Possible surcharge	
<input type="checkbox"/> Rush	_____ (business days)

pg. 2/2

Lab Use Only	
	Sample Pick Up Only
<input checked="" type="checkbox"/>	RIAL sampled; attach field hours
<input checked="" type="checkbox"/>	Shipped on ice 250
Workorder No: 1712-26697	







## LABORATORY REPORT

Rhode Island Airport Corp.  
Attn: Mr. Jay Brolin  
2000 Post Road  
Warwick, RI 02886

**Date Received:** 12/10/2017  
**Date Reported:** 12/28/2017  
**P.O. Number** 27529

**Work Order #:** 1712-26698

**Project Name:** T.F. GREEN RIPDES MONITORING

Enclosed are the analytical results and Chain of Custody for your project referenced above. The sample(s) were analyzed by our Warwick, RI laboratory unless noted otherwise. When applicable, indication of sample analysis at our Hudson, MA laboratory and/or subcontracted results are noted and subcontracted reports are enclosed in their entirety.

All samples were analyzed within the established guidelines of US EPA approved methods with all requirements met, unless otherwise noted at the end of a given sample's analytical results or in a case narrative.

The Detection Limit is defined as the lowest level that can be reliably achieved during routine laboratory conditions.

These results only pertain to the samples submitted for this Work Order # and this report shall not be reproduced except in its entirety.

We certify that the following results are true and accurate to the best of our knowledge. If you have questions or need further assistance, please contact our Customer Service Department.

Approved by:

---

Dawne E. Smart  
Data Reporting Manager

Laboratory Certification Numbers (as applicable to sample's origin state):

Warwick RI \* RI LAI00033, MA M-RI015, CT PH-0508, ME RI00015, NH 2070, NY 11726  
Hudson MA \* M-MA1117, RI LAO00319

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

**Project Name:** T.F. GREEN RIPDES MONITORING

**Sample Number:** 001  
**Sample Description:** OUTFALL 002A-04  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 15:48

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.9		SU	SM4500H+B	12/10/2017 18:30	JWC
BOD 5	<6.0	6.0	mg/l	SM5210B 21ed	12/10/2017 12:22	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/14/2017 9:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/10/2017 13:00	JWC
TOC	1.2	0.5	mg/l	SM5310C 21 ed.	12/13/2017 12:49	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/11/2017 13:13	RBR
Dissolved Metals						
Potassium	3040	1000	ug/l	EPA 200.7	12/13/2017 12:58	AJD
Sodium	4840	3000	ug/l	EPA 200.7	12/13/2017 12:58	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/19/2017 13:02	AJD
Copper	<20	20	ug/l	EPA 200.7	12/19/2017 13:02	AJD
Iron	5630	100	ug/l	EPA 200.7	12/19/2017 13:02	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/19/2017 13:02	AJD
Total Metals						
Chromium	<2.5	2.5	ug/l	EPA 200.8	12/13/2017 17:23	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/13/2017 17:23	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 10:30	AGJ
ICP Digestion				EPA 200.7	12/18/2017 18:20	DDP
ICPMS Digestion				EPA 200.8	12/13/2017 14:30	DDP

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

**Project Name:** T.F. GREEN RIPDES MONITORING

**Sample Number:** 002  
**Sample Description:** OUTFALL 003A-04  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 15:35

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	7.04		SU	SM4500H+B	12/10/2017 18:30	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/10/2017 12:10	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/14/2017 9:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/10/2017 13:00	JWC
TOC	1.1	0.5	mg/l	SM5310C 21 ed.	12/13/2017 12:49	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/11/2017 13:44	RBR
Dissolved Metals						
Potassium	4690	1000	ug/l	EPA 200.7	12/13/2017 12:59	AJD
Sodium	8940	3000	ug/l	EPA 200.7	12/13/2017 12:59	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/19/2017 13:03	AJD
Copper	<20	20	ug/l	EPA 200.7	12/19/2017 13:03	AJD
Iron	890	100	ug/l	EPA 200.7	12/19/2017 13:03	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/19/2017 13:03	AJD
Total Metals						
Chromium	<2.5	2.5	ug/l	EPA 200.8	12/13/2017 17:33	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/13/2017 17:33	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 10:30	AGJ
ICP Digestion				EPA 200.7	12/18/2017 18:20	DDP
ICPMS Digestion				EPA 200.8	12/13/2017 14:30	DDP

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 003  
**Sample Description:** OUTFALL 008A-04  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 15:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.8		SU	SM4500H+B	12/10/2017 18:30	JWC
BOD 5	130	60	mg/l	SM5210B 21ed	12/18/2017 18:02	MA
COD	270	150	mg/l	SM5220D 18-21ed	12/14/2017 9:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/10/2017 13:00	JWC
TOC	70	2.5	mg/l	SM5310C 21 ed.	12/14/2017 8:44	DEL
GC/FID						
Propylene Glycol	77	10	mg/l	GC-FID	12/11/2017 14:16	RBR
Dissolved Metals						
Potassium	5060	1000	ug/l	EPA 200.7	12/13/2017 13:01	AJD
Sodium	42700	3000	ug/l	EPA 200.7	12/13/2017 13:01	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/19/2017 13:05	AJD
Copper	<20	20	ug/l	EPA 200.7	12/19/2017 13:05	AJD
Iron	1120	100	ug/l	EPA 200.7	12/19/2017 13:05	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/19/2017 13:05	AJD
Total Metals						
Chromium	<2.5	2.5	ug/l	EPA 200.8	12/13/2017 17:36	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/13/2017 17:36	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 10:30	AGJ
ICP Digestion				EPA 200.7	12/18/2017 18:20	DDP
ICPMS Digestion				EPA 200.8	12/13/2017 14:30	DDP

Initial BOD analysis on 12/10/2017 at 12:08 yielded a result >12 mg/L. Result is reported from re-analysis outside of hold time, consistent with reported COD.

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

**Project Name:** T.F. GREEN RIPDES MONITORING

**Sample Number:** 004  
**Sample Description:** OUTFALL 010A-04  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 16:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.8		SU	SM4500H+B	12/10/2017 18:30	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/10/2017 12:06	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/14/2017 9:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/10/2017 17:00	JWC
TOC	1.5	0.5	mg/l	SM5310C 21 ed.	12/13/2017 12:49	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/11/2017 14:47	RBR
Dissolved Metals						
Potassium	14700	1000	ug/l	EPA 200.7	12/13/2017 13:02	AJD
Sodium	9170	3000	ug/l	EPA 200.7	12/13/2017 13:02	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/19/2017 13:06	AJD
Copper	<20	20	ug/l	EPA 200.7	12/19/2017 13:06	AJD
Iron	823	100	ug/l	EPA 200.7	12/19/2017 13:06	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/19/2017 13:06	AJD
Total Metals						
Chromium	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 15:00	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 15:00	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 10:30	AGJ
ICP Digestion				EPA 200.7	12/18/2017 18:20	DDP
ICPMS Digestion				EPA 200.8	12/14/2017 11:46	JRW

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 005  
**Sample Description:** OUTFALL 002A-05  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 16:42

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.8		SU	SM4500H+B	12/10/2017 19:00	JWC
BOD 5	<6.0	6.0	mg/l	SM5210B 21ed	12/11/2017 9:08	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/14/2017 9:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/10/2017 17:00	JWC
TOC	1.2	0.5	mg/l	SM5310C 21 ed.	12/13/2017 12:49	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/11/2017 15:18	RBR
Dissolved Metals						
Potassium	3040	1000	ug/l	EPA 200.7	12/13/2017 13:07	AJD
Sodium	4890	3000	ug/l	EPA 200.7	12/13/2017 13:07	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/19/2017 13:08	AJD
Copper	<20	20	ug/l	EPA 200.7	12/19/2017 13:08	AJD
Iron	6240	100	ug/l	EPA 200.7	12/19/2017 13:08	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/19/2017 13:08	AJD
Total Metals						
Chromium	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 15:05	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 15:05	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 10:30	AGJ
ICP Digestion				EPA 200.7	12/18/2017 18:20	DDP
ICPMS Digestion				EPA 200.8	12/14/2017 11:46	JRW

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

**Project Name:** T.F. GREEN RIPDES MONITORING

**Sample Number:** 006  
**Sample Description:** OUTFALL 003A-05  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 16:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	7.0		SU	SM4500H+B	12/10/2017 19:00	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/10/2017 11:54	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/14/2017 9:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/10/2017 17:00	JWC
TOC	1.4	0.5	mg/l	SM5310C 21 ed.	12/13/2017 12:49	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/11/2017 15:50	RBR
Dissolved Metals						
Potassium	4480	1000	ug/l	EPA 200.7	12/13/2017 13:16	AJD
Sodium	8750	3000	ug/l	EPA 200.7	12/13/2017 13:16	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/19/2017 13:10	AJD
Copper	<20	20	ug/l	EPA 200.7	12/19/2017 13:10	AJD
Iron	737	100	ug/l	EPA 200.7	12/19/2017 13:10	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/19/2017 13:10	AJD
Total Metals						
Chromium	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 15:27	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 15:27	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 11:20	AGJ
ICP Digestion				EPA 200.7	12/18/2017 18:20	DDP
ICPMS Digestion				EPA 200.8	12/14/2017 11:46	JRW

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 007  
**Sample Description:** OUTFALL 008A-05  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 16:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.7		SU	SM4500H+B	12/10/2017 19:00	JWC
BOD 5	59	24	mg/l	SM5210B 21ed	12/18/2017 18:08	MA
COD	110	10	mg/l	SM5220D 18-21ed	12/14/2017 9:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/10/2017 17:00	JWC
TOC	32	1.0	mg/l	SM5310C 21 ed.	12/14/2017 8:44	DEL
GC/FID						
Propylene Glycol	32	10	mg/l	GC-FID	12/11/2017 16:21	RBR
Dissolved Metals						
Potassium	5020	1000	ug/l	EPA 200.7	12/13/2017 13:26	AJD
Sodium	115000	3000	ug/l	EPA 200.7	12/13/2017 13:26	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/19/2017 13:11	AJD
Copper	<20	20	ug/l	EPA 200.7	12/19/2017 13:11	AJD
Iron	1120	100	ug/l	EPA 200.7	12/19/2017 13:11	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/19/2017 13:11	AJD
Total Metals						
Chromium	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 16:10	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 16:10	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 11:20	AGJ
ICP Digestion				EPA 200.7	12/18/2017 18:20	DDP
ICPMS Digestion				EPA 200.8	12/14/2017 11:46	JRW

Initial BOD analysis on 12/10/2017 at 12:02 yielded a result >12 mg/L. Result is reported from re-analysis outside of hold time, consistent with reported COD.

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.



## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 008  
**Sample Description:** OUTFALL 010A-05  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 16:55

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.8		SU	SM4500H+B	12/10/2017 19:00	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/10/2017 12:04	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/14/2017 9:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/10/2017 17:00	JWC
TOC	1.5	0.5	mg/l	SM5310C 21 ed.	12/13/2017 12:49	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/11/2017 16:52	RBR
Dissolved Metals						
Potassium	16500	1000	ug/l	EPA 200.7	12/13/2017 13:27	AJD
Sodium	5500	3000	ug/l	EPA 200.7	12/13/2017 13:27	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/19/2017 13:19	AJD
Copper	<20	20	ug/l	EPA 200.7	12/19/2017 13:19	AJD
Iron	441	100	ug/l	EPA 200.7	12/19/2017 13:19	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/19/2017 13:19	AJD
Total Metals						
Chromium	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 16:31	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 16:31	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 11:20	AGJ
ICP Digestion				EPA 200.7	12/18/2017 18:20	DDP
ICPMS Digestion				EPA 200.8	12/14/2017 11:46	JRW

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

**Project Name:** T.F. GREEN RIPDES MONITORING

**Sample Number:** 009  
**Sample Description:** OUTFALL 002A-06  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 17:37

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.9		SU	SM4500H+B	12/10/2017 19:00	JWC
BOD 5	<6.0	6.0	mg/l	SM5210B 21ed	12/11/2017 9:54	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/14/2017 9:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/10/2017 17:00	JWC
TOC	1.2	0.5	mg/l	SM5310C 21 ed.	12/13/2017 12:49	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/11/2017 17:23	RBR
Dissolved Metals						
Potassium	3040	1000	ug/l	EPA 200.7	12/13/2017 13:29	AJD
Sodium	4890	3000	ug/l	EPA 200.7	12/13/2017 13:29	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/18/2017 12:51	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 12:51	AJD
Iron	6510	100	ug/l	EPA 200.7	12/18/2017 12:51	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/18/2017 12:51	AJD
Total Metals						
Chromium	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 16:37	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 16:37	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 11:20	AGJ
ICP Digestion				EPA 200.7	12/16/2017 11:53	DDP
ICPMS Digestion				EPA 200.8	12/14/2017 11:46	JRW

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 010  
**Sample Description:** OUTFALL 003A-06  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 17:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	7.0		SU	SM4500H+B	12/10/2017 19:00	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/10/2017 11:58	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/14/2017 9:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/10/2017 17:00	JWC
TOC	1.4	0.5	mg/l	SM5310C 21 ed.	12/13/2017 12:49	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/11/2017 17:54	RBR
Dissolved Metals						
Potassium	4660	1000	ug/l	EPA 200.7	12/13/2017 13:30	AJD
Sodium	7770	3000	ug/l	EPA 200.7	12/13/2017 13:30	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/18/2017 12:55	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 12:55	AJD
Iron	975	100	ug/l	EPA 200.7	12/18/2017 12:55	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/18/2017 12:55	AJD
Total Metals						
Chromium	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 16:53	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 16:53	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 11:20	AGJ
ICP Digestion				EPA 200.7	12/16/2017 11:53	DDP
ICPMS Digestion				EPA 200.8	12/14/2017 11:46	JRW

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 011  
**Sample Description:** OUTFALL 008A-06  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 17:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.6		SU	SM4500H+B	12/10/2017 19:00	JWC
BOD 5	69	24	mg/l	SM5210B 21ed	12/18/2017 18:16	MA
COD	120	10	mg/l	SM5220D 18-21ed	12/14/2017 9:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/10/2017 17:00	JWC
TOC	32	1.0	mg/l	SM5310C 21 ed.	12/14/2017 8:44	DEL
GC/FID						
Propylene Glycol	44	10	mg/l	GC-FID	12/11/2017 21:01	RBR
Dissolved Metals						
Potassium	4360	1000	ug/l	EPA 200.7	12/13/2017 13:32	AJD
Sodium	344000	3000	ug/l	EPA 200.7	12/13/2017 13:32	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/18/2017 12:59	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 12:59	AJD
Iron	1050	100	ug/l	EPA 200.7	12/18/2017 12:59	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/18/2017 12:59	AJD
Total Metals						
Chromium	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 16:58	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 16:58	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 11:20	AGJ
ICP Digestion				EPA 200.7	12/16/2017 11:53	DDP
ICPMS Digestion				EPA 200.8	12/14/2017 11:46	JRW

Initial BOD analysis run on 12/10/2017 at 12:00 yeilded a result of >12 mg/L. Sample was reset on 12/18/2017.

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 012  
**Sample Description:** OUTFALL 010A-06  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 18:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.8		SU	SM4500H+B	12/10/2017 19:00	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/10/2017 11:56	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/14/2017 9:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/11/2017 16:15	JWC
TOC	1.4	0.5	mg/l	SM5310C 21 ed.	12/13/2017 12:49	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/11/2017 21:32	RBR
Dissolved Metals						
Potassium	16100	1000	ug/l	EPA 200.7	12/13/2017 13:34	AJD
Sodium	6760	3000	ug/l	EPA 200.7	12/13/2017 13:34	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/18/2017 13:08	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 13:08	AJD
Iron	577	100	ug/l	EPA 200.7	12/18/2017 13:08	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/18/2017 13:08	AJD
Total Metals						
Chromium	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 18:41	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 18:41	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 11:20	AGJ
ICP Digestion				EPA 200.7	12/16/2017 11:53	DDP
ICPMS Digestion				EPA 200.8	12/14/2017 11:46	JRW

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 013  
**Sample Description:** OUTFALL 002A-07  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 18:42

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.8		SU	SM4500H+B	12/10/2017 19:00	JWC
BOD 5	<6.0	6.0	mg/l	SM5210B 21ed	12/11/2017 9:16	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/15/2017 9:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/11/2017 16:15	JWC
TOC	1.6	0.5	mg/l	SM5310C 21 ed.	12/14/2017 18:02	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/11/2017 22:04	RBR
Dissolved Metals						
Potassium	2960	1000	ug/l	EPA 200.7	12/13/2017 13:35	AJD
Sodium	5140	3000	ug/l	EPA 200.7	12/13/2017 13:35	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/18/2017 13:10	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 13:10	AJD
Iron	6620	100	ug/l	EPA 200.7	12/18/2017 13:10	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/18/2017 13:10	AJD
Total Metals						
Chromium	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 17:15	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 17:15	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 11:20	AGJ
ICP Digestion				EPA 200.7	12/16/2017 11:53	DDP
ICPMS Digestion				EPA 200.8	12/14/2017 11:46	JRW

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 014  
**Sample Description:** OUTFALL 003A-07  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 18:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	7.1		SU	SM4500H+B	12/11/2017 17:45	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/11/2017 9:32	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/14/2017 9:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/11/2017 16:15	JWC
TOC	1.2	0.5	mg/l	SM5310C 21 ed.	12/13/2017 12:49	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/11/2017 22:35	RBR
Dissolved Metals						
Potassium	4800	1000	ug/l	EPA 200.7	12/13/2017 13:37	AJD
Sodium	8050	3000	ug/l	EPA 200.7	12/13/2017 13:37	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/18/2017 13:12	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 13:12	AJD
Iron	661	100	ug/l	EPA 200.7	12/18/2017 13:12	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/18/2017 13:12	AJD
Total Metals						
Chromium	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 17:36	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 17:36	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 11:20	AGJ
ICP Digestion				EPA 200.7	12/16/2017 11:53	DDP
ICPMS Digestion				EPA 200.8	12/14/2017 11:46	JRW

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

**Project Name:** T.F. GREEN RIPDES MONITORING

**Sample Number:** 015  
**Sample Description:** OUTFALL 008A-07  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 18:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.6		SU	SM4500H+B	12/11/2017 17:45	JWC
BOD 5	90	60	mg/l	SM5210B 21ed	12/18/2017 18:04	MA
COD	180	150	mg/l	SM5220D 18-21ed	12/14/2017 9:30	SNI
Surfactants (MBAS)	190	100	ug/l	SM5540C 18-21ed	12/11/2017 16:15	JWC
TOC	42	1.0	mg/l	SM5310C 21 ed.	12/14/2017 18:02	DEL
GC/FID						
Propylene Glycol	41	10	mg/l	GC-FID	12/11/2017 23:06	RBR
Dissolved Metals						
Potassium	4460	1000	ug/l	EPA 200.7	12/13/2017 13:38	AJD
Sodium	745000	3000	ug/l	EPA 200.7	12/13/2017 13:38	AJD
Total Metals						
Aluminum	122	100	ug/l	EPA 200.7	12/18/2017 13:13	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 13:13	AJD
Iron	1180	100	ug/l	EPA 200.7	12/18/2017 13:13	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/18/2017 13:13	AJD
Total Metals						
Chromium	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 17:42	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 17:42	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 11:20	AGJ
ICP Digestion				EPA 200.7	12/16/2017 11:53	DDP
ICPMS Digestion				EPA 200.8	12/14/2017 11:46	JRW

Initial BOD analysis on 12/11/2017 at 9:28 yielded a result >12 mg/L. Result is reported from re-analysis outside of hold time, consistent with reported COD.

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.



## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 016  
**Sample Description:** OUTFALL 010A-07  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 19:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	7.0		SU	SM4500H+B	12/11/2017 17:45	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/11/2017 9:52	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/15/2017 9:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/11/2017 18:00	JWC
TOC	1.6	0.5	mg/l	SM5310C 21 ed.	12/14/2017 18:02	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/11/2017 23:37	RBR
Dissolved Metals						
Potassium	16300	1000	ug/l	EPA 200.7	12/13/2017 13:40	AJD
Sodium	8170	3000	ug/l	EPA 200.7	12/13/2017 13:40	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/18/2017 13:15	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 13:15	AJD
Iron	440	100	ug/l	EPA 200.7	12/18/2017 13:15	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/18/2017 13:15	AJD
Total Metals						
Chromium	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 17:47	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 17:47	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 11:20	AGJ
ICP Digestion				EPA 200.7	12/16/2017 11:53	DDP
ICPMS Digestion				EPA 200.8	12/14/2017 11:46	JRW

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 017  
**Sample Description:** OUTFALL 002A-08  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 19:42

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.9		SU	SM4500H+B	12/11/2017 17:45	JWC
BOD 5	<6.0	6.0	mg/l	SM5210B 21ed	12/11/2017 9:10	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/15/2017 9:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/11/2017 18:00	JWC
TOC	1.9	0.5	mg/l	SM5310C 21 ed.	12/14/2017 18:02	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/11/2017 0:08	RBR
Dissolved Metals						
Potassium	2990	1000	ug/l	EPA 200.7	12/13/2017 13:45	AJD
Sodium	5260	3000	ug/l	EPA 200.7	12/13/2017 13:45	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/18/2017 13:16	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 13:16	AJD
Iron	6390	100	ug/l	EPA 200.7	12/18/2017 13:16	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/18/2017 13:16	AJD
Total Metals						
Chromium	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 17:52	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 17:52	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 11:20	AGJ
ICP Digestion				EPA 200.7	12/16/2017 11:53	DDP
ICPMS Digestion				EPA 200.8	12/14/2017 11:46	JRW

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 018  
**Sample Description:** OUTFALL 003A-08  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 19:36

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	7.1		SU	SM4500H+B	12/11/2017 17:45	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/11/2017 9:40	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/15/2017 9:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/11/2017 18:00	JWC
TOC	1.0	0.5	mg/l	SM5310C 21 ed.	12/14/2017 18:02	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/11/2017 0:40	RBR
Dissolved Metals						
Potassium	4970	1000	ug/l	EPA 200.7	12/13/2017 13:46	AJD
Sodium	8160	3000	ug/l	EPA 200.7	12/13/2017 13:46	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/18/2017 13:18	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 13:18	AJD
Iron	519	100	ug/l	EPA 200.7	12/18/2017 13:18	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/18/2017 13:18	AJD
Total Metals						
Chromium	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 18:03	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 18:03	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 11:20	AGJ
ICP Digestion				EPA 200.7	12/16/2017 11:53	DDP
ICPMS Digestion				EPA 200.8	12/14/2017 11:46	JRW

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 019  
**Sample Description:** OUTFALL 008A-08  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 19:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.6		SU	SM4500H+B	12/11/2017 17:45	JWC
BOD 5	70	24	mg/l	SM5210B 21ed	12/18/2017 18:22	MA
COD	110	10	mg/l	SM5220D 18-21ed	12/15/2017 9:30	SNI
Surfactants (MBAS)	220	100	ug/l	SM5540C 18-21ed	12/11/2017 18:00	JWC
TOC	31	1.0	mg/l	SM5310C 21 ed.	12/15/2017 16:18	DEL
GC/FID						
Propylene Glycol	28	10	mg/l	GC-FID	12/11/2017 1:11	RBR
Dissolved Metals						
Potassium	4560	1000	ug/l	EPA 200.7	12/13/2017 13:48	AJD
Sodium	869000	3000	ug/l	EPA 200.7	12/14/2017 15:54	AJD
Total Metals						
Aluminum	106	100	ug/l	EPA 200.7	12/18/2017 13:20	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 13:20	AJD
Iron	1160	100	ug/l	EPA 200.7	12/18/2017 13:20	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/18/2017 13:20	AJD
Total Metals						
Chromium	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 18:09	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 18:09	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 11:20	AGJ
ICP Digestion				EPA 200.7	12/16/2017 11:53	DDP
ICPMS Digestion				EPA 200.8	12/14/2017 11:46	JRW

Initial BOD analysis on 12/11/2017 at 9:44 yielded a result >12 mg/L. Result is reported from re-analysis outside of hold time, consistent with reported COD.

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 020  
**Sample Description:** OUTFALL 010A-08  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 20:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.9		SU	SM4500H+B	12/11/2017 17:45	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/11/2017 9:42	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/15/2017 9:30	SNI
Surfactants (MBAS)	120	100	ug/l	SM5540C 18-21ed	12/11/2017 18:00	JWC
TOC	1.4	0.5	mg/l	SM5310C 21 ed.	12/14/2017 18:02	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/11/2017 1:42	RBR
Dissolved Metals						
Potassium	16900	1000	ug/l	EPA 200.7	12/13/2017 13:50	AJD
Sodium	8250	3000	ug/l	EPA 200.7	12/13/2017 13:50	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/18/2017 13:21	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 13:21	AJD
Iron	382	100	ug/l	EPA 200.7	12/18/2017 13:21	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/18/2017 13:21	AJD
Total Metals						
Chromium	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 18:14	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 18:14	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 11:20	AGJ
ICP Digestion				EPA 200.7	12/16/2017 11:53	DDP
ICPMS Digestion				EPA 200.8	12/14/2017 11:46	JRW

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 021  
**Sample Description:** OUTFALL 002A-09  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 20:37

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.9	.	SU	SM4500H+B	12/11/2017 17:45	JWC
BOD 5	<6.0	6.0	mg/l	SM5210B 21ed	12/11/2017 9:56	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/15/2017 9:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/11/2017 18:00	JWC
TOC	1.9	0.5	mg/l	SM5310C 21 ed.	12/14/2017 18:02	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/12/2017 12:55	RBR
Dissolved Metals						
Potassium	2880	1000	ug/l	EPA 200.7	12/13/2017 13:51	AJD
Sodium	5540	3000	ug/l	EPA 200.7	12/13/2017 13:51	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/18/2017 13:23	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 13:23	AJD
Iron	5720	100	ug/l	EPA 200.7	12/18/2017 13:23	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/18/2017 13:23	AJD
Total Metals						
Chromium	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 18:19	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/14/2017 18:19	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 11:20	AGJ
ICP Digestion				EPA 200.7	12/16/2017 11:53	DDP
ICPMS Digestion				EPA 200.8	12/14/2017 11:46	JRW

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

**Project Name:** T.F. GREEN RIPDES MONITORING

**Sample Number:** 022  
**Sample Description:** OUTFALL 003A-09  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 20:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.6		SU	SM4500H+B	12/11/2017 20:00	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/11/2017 9:38	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/15/2017 9:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/11/2017 18:30	JWC
TOC	1.1	0.5	mg/l	SM5310C 21 ed.	12/14/2017 18:02	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/12/2017 13:27	RBR
Dissolved Metals						
Potassium	4970	1000	ug/l	EPA 200.7	12/13/2017 13:53	AJD
Sodium	8520	3000	ug/l	EPA 200.7	12/13/2017 13:53	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/18/2017 13:28	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 13:28	AJD
Iron	608	100	ug/l	EPA 200.7	12/18/2017 13:28	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/18/2017 13:28	AJD
Total Metals						
Chromium	<2.0	2.0	ug/l	EPA 200.8	12/18/2017 15:38	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/18/2017 15:38	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 11:20	AGJ
ICP Digestion				EPA 200.7	12/16/2017 11:53	DDP
ICPMS Digestion				EPA 200.8	12/18/2017 13:52	DDP

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 023  
**Sample Description:** OUTFALL 008A-09  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 20:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	7.0		SU	SM4500H+B	12/11/2017 20:00	JWC
BOD 5	66	24	mg/l	SM5210B 21ed	12/18/2017 18:14	MA
COD	110	10	mg/l	SM5220D 18-21ed	12/15/2017 9:30	SNI
Surfactants (MBAS)	230	100	ug/l	SM5540C 18-21ed	12/11/2017 18:30	JWC
TOC	28	1.0	mg/l	SM5310C 21 ed.	12/15/2017 16:18	DEL
GC/FID						
Propylene Glycol	41	10	mg/l	GC-FID	12/12/2017 13:58	RBR
Dissolved Metals						
Potassium	4920	1000	ug/l	EPA 200.7	12/13/2017 13:54	AJD
Sodium	1090000	3000	ug/l	EPA 200.7	12/14/2017 15:56	AJD
Total Metals						
Aluminum	111	100	ug/l	EPA 200.7	12/18/2017 13:29	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 13:29	AJD
Iron	1380	100	ug/l	EPA 200.7	12/18/2017 13:29	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/18/2017 13:29	AJD
Total Metals						
Chromium	3.1	2.0	ug/l	EPA 200.8	12/18/2017 15:54	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/18/2017 15:54	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 11:20	AGJ
ICP Digestion				EPA 200.7	12/16/2017 11:53	DDP
ICPMS Digestion				EPA 200.8	12/18/2017 13:52	DDP

Initial BOD analysis on 12/11/2017 at 9:36 yielded a result >12 mg/L. Result is reported from re-analysis outside of hold time, consistent with reported COD.

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.



## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 024  
**Sample Description:** OUTFALL 010A-09  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 21:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.8		SU	SM4500H+B	12/11/2017 20:00	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/11/2017 9:50	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/15/2017 9:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/11/2017 18:30	JWC
TOC	1.4	0.5	mg/l	SM5310C 21 ed.	12/14/2017 18:02	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/12/2017 14:29	RBR
Dissolved Metals						
Potassium	17000	1000	ug/l	EPA 200.7	12/13/2017 13:56	AJD
Sodium	5400	3000	ug/l	EPA 200.7	12/13/2017 13:56	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/18/2017 13:31	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 13:31	AJD
Iron	401	100	ug/l	EPA 200.7	12/18/2017 13:31	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/18/2017 13:31	AJD
Total Metals						
Chromium	<2.0	2.0	ug/l	EPA 200.8	12/18/2017 15:57	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/18/2017 15:57	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 11:20	AGJ
ICP Digestion				EPA 200.7	12/16/2017 11:53	DDP
ICPMS Digestion				EPA 200.8	12/18/2017 13:52	DDP

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

**Project Name:** T.F. GREEN RIPDES MONITORING

**Sample Number:** 025  
**Sample Description:** OUTFALL 002A-10  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 21:36

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	7.0		SU	SM4500H+B	12/11/2017 20:00	JWC
BOD 5	<6.0	6.0	mg/l	SM5210B 21ed	12/11/2017 9:12	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/18/2017 8:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/11/2017 18:30	JWC
TOC	1.8	0.5	mg/l	SM5310C 21 ed.	12/14/2017 18:02	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/12/2017 15:00	RBR
Dissolved Metals						
Potassium	2920	1000	ug/l	EPA 200.7	12/13/2017 13:58	AJD
Sodium	5710	3000	ug/l	EPA 200.7	12/13/2017 13:58	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/18/2017 13:32	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 13:32	AJD
Iron	5510	100	ug/l	EPA 200.7	12/18/2017 13:32	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/18/2017 13:32	AJD
Total Metals						
Chromium	<2.0	2.0	ug/l	EPA 200.8	12/18/2017 16:00	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/18/2017 16:00	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 11:20	AGJ
ICP Digestion				EPA 200.7	12/16/2017 11:53	DDP
ICPMS Digestion				EPA 200.8	12/18/2017 13:52	DDP

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 026  
**Sample Description:** OUTFALL 003A-10  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 21:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	7.2		SU	SM4500H+B	12/11/2017 20:00	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/11/2017 9:18	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/15/2017 9:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/11/2017 18:30	JWC
TOC	1.0	0.5	mg/l	SM5310C 21 ed.	12/14/2017 18:02	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/12/2017 15:32	RBR
Dissolved Metals						
Potassium	4760	1000	ug/l	EPA 200.7	12/13/2017 14:49	AJD
Sodium	9350	3000	ug/l	EPA 200.7	12/13/2017 14:49	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/18/2017 13:34	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 13:34	AJD
Iron	523	100	ug/l	EPA 200.7	12/18/2017 13:34	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/18/2017 13:34	AJD
Total Metals						
Chromium	<2.0	2.0	ug/l	EPA 200.8	12/18/2017 16:04	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/18/2017 16:04	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 12:00	AJD
ICP Digestion				EPA 200.7	12/16/2017 11:53	DDP
ICPMS Digestion				EPA 200.8	12/18/2017 13:52	DDP

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 027  
**Sample Description:** OUTFALL 008A-10  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 21:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.5		SU	SM4500H+B	12/11/2017 20:00	JWC
BOD 5	80	60	mg/l	SM5210B 21ed	12/18/2017 18:18	MA
COD	140	10	mg/l	SM5220D 18-21ed	12/15/2017 9:30	SNI
Surfactants (MBAS)	350	100	ug/l	SM5540C 18-21ed	12/11/2017 18:30	JWC
TOC	34	1.0	mg/l	SM5310C 21 ed.	12/15/2017 16:18	DEL
GC/FID						
Propylene Glycol	40	10	mg/l	GC-FID	12/12/2017 16:03	RBR
Dissolved Metals						
Potassium	5570	1000	ug/l	EPA 200.7	12/13/2017 14:50	AJD
Sodium	2120000	3000	ug/l	EPA 200.7	12/13/2017 15:59	AJD
Total Metals						
Aluminum	197	100	ug/l	EPA 200.7	12/18/2017 13:36	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 13:36	AJD
Iron	1540	100	ug/l	EPA 200.7	12/18/2017 13:36	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/18/2017 13:36	AJD
Total Metals						
Chromium	3.4	2.0	ug/l	EPA 200.8	12/18/2017 16:07	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/18/2017 16:07	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 12:00	AJD
ICP Digestion				EPA 200.7	12/16/2017 11:53	DDP
ICPMS Digestion				EPA 200.8	12/18/2017 13:52	DDP

Initial BOD analysis on 12/11/2017 at 9:20 yielded a result >12 mg/L. Result is reported from re-analysis outside of hold time, consistent with reported COD.

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 028  
**Sample Description:** OUTFALL 010A-10  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 22:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	7.0		SU	SM4500H+B	12/11/2017 20:00	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/11/2017 9:22	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/18/2017 8:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/11/2017 18:30	JWC
TOC	1.4	0.5	mg/l	SM5310C 21 ed.	12/14/2017 18:02	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/12/2017 16:34	RBR
Dissolved Metals						
Potassium	12600	1000	ug/l	EPA 200.7	12/13/2017 14:52	AJD
Sodium	14700	3000	ug/l	EPA 200.7	12/13/2017 14:52	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/18/2017 13:37	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 13:37	AJD
Iron	419	100	ug/l	EPA 200.7	12/18/2017 13:37	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/18/2017 13:37	AJD
Total Metals						
Chromium	<2.0	2.0	ug/l	EPA 200.8	12/18/2017 16:10	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/18/2017 16:10	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 12:00	AJD
ICP Digestion				EPA 200.7	12/16/2017 11:53	DDP
ICPMS Digestion				EPA 200.8	12/18/2017 13:52	DDP

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

**Project Name:** T.F. GREEN RIPDES MONITORING

**Sample Number:** 029  
**Sample Description:** OUTFALL 002A-11  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 22:39

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.9		SU	SM4500H+B	12/11/2017 20:00	JWC
BOD 5	<6.0	6.0	mg/l	SM5210B 21ed	12/11/2017 9:14	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/18/2017 8:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/11/2017 18:30	JWC
TOC	1.8	0.5	mg/l	SM5310C 21 ed.	12/14/2017 18:02	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/12/2017 17:06	RBR
Dissolved Metals						
Potassium	2930	1000	ug/l	EPA 200.7	12/13/2017 14:54	AJD
Sodium	5560	3000	ug/l	EPA 200.7	12/13/2017 14:54	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/18/2017 13:51	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 13:51	AJD
Iron	5450	100	ug/l	EPA 200.7	12/18/2017 13:51	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/18/2017 13:51	AJD
Total Metals						
Chromium	<2.0	2.0	ug/l	EPA 200.8	12/18/2017 16:13	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/18/2017 16:13	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 12:00	AJD
ICP Digestion				EPA 200.7	12/15/2017 19:36	DDP
ICPMS Digestion				EPA 200.8	12/18/2017 13:52	DDP

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 030  
**Sample Description:** OUTFALL 003A-11  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 22:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	7.1		SU	SM4500H+B	12/11/2017 20:00	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/11/2017 9:24	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/18/2017 8:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/11/2017 19:50	JWC
TOC	1.9	0.5	mg/l	SM5310C 21 ed.	12/14/2017 18:02	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/12/2017 17:37	RBR
Dissolved Metals						
Potassium	5120	1000	ug/l	EPA 200.7	12/13/2017 14:55	AJD
Sodium	12800	3000	ug/l	EPA 200.7	12/13/2017 14:55	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/18/2017 13:55	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 13:55	AJD
Iron	509	100	ug/l	EPA 200.7	12/18/2017 13:55	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/18/2017 13:55	AJD
Total Metals						
Chromium	<2.0	2.0	ug/l	EPA 200.8	12/18/2017 16:17	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/18/2017 16:17	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 12:00	AJD
ICP Digestion				EPA 200.7	12/15/2017 19:36	DDP
ICPMS Digestion				EPA 200.8	12/18/2017 13:52	DDP

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

**Project Name:** T.F. GREEN RIPDES MONITORING

**Sample Number:** 031  
**Sample Description:** OUTFALL 008A-11  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 22:30

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	7.0		SU	SM4500H+B	12/11/2017 20:30	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/11/2017 9:26	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/18/2017 8:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/11/2017 19:50	JWC
TOC	1.4	0.5	mg/l	SM5310C 21 ed.	12/14/2017 18:02	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/12/2017 20:44	RBR
Dissolved Metals						
Potassium	16900	1000	ug/l	EPA 200.7	12/13/2017 15:00	AJD
Sodium	33600	3000	ug/l	EPA 200.7	12/13/2017 15:00	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/18/2017 14:00	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 14:00	AJD
Iron	397	100	ug/l	EPA 200.7	12/18/2017 14:00	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/18/2017 14:00	AJD
Total Metals						
Chromium	<2.0	2.0	ug/l	EPA 200.8	12/18/2017 16:20	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/18/2017 16:20	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 12:00	AJD
ICP Digestion				EPA 200.7	12/15/2017 19:36	DDP
ICPMS Digestion				EPA 200.8	12/18/2017 13:52	DDP

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.



## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

**Project Name:** T.F. GREEN RIPDES MONITORING

**Sample Number:** 032  
**Sample Description:** OUTFALL 010A-11  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 23:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.4		SU	SM4500H+B	12/11/2017 20:30	JWC
BOD 5	72	24	mg/l	SM5210B 21ed	12/18/2017 18:24	MA
COD	270	150	mg/l	SM5220D 18-21ed	12/18/2017 8:30	SNI
Surfactants (MBAS)	440	100	ug/l	SM5540C 18-21ed	12/11/2017 21:00	JWC
TOC	29	1.0	mg/l	SM5310C 21 ed.	12/15/2017 16:18	DEL
GC/FID						
Propylene Glycol	32	10	mg/l	GC-FID	12/12/2017 21:15	RBR
Dissolved Metals						
Potassium	6200	1000	ug/l	EPA 200.7	12/13/2017 15:02	AJD
Sodium	3030000	3000	ug/l	EPA 200.7	12/13/2017 15:58	AJD
Total Metals						
Aluminum	261	100	ug/l	EPA 200.7	12/18/2017 14:06	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 14:06	AJD
Iron	1690	100	ug/l	EPA 200.7	12/18/2017 14:06	AJD
Zinc	109	100	ug/l	EPA 200.7	12/18/2017 14:06	AJD
Total Metals						
Chromium	3.6	2.0	ug/l	EPA 200.8	12/18/2017 16:33	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/18/2017 16:33	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 12:00	AJD
ICP Digestion				EPA 200.7	12/15/2017 19:36	DDP
ICPMS Digestion				EPA 200.8	12/18/2017 13:52	DDP

Initial BOD analysis on 12/11/2017 at 9:30 yielded a result >12 mg/L. Result is reported from re-analysis outside of hold time, consistent with reported COD.

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 033  
**Sample Description:** OUTFALL 002A-12  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 23:20

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	7.0		SU	SM4500H+B	12/11/2017 20:30	JWC
BOD 5	<6.0	6.0	mg/l	SM5210B 21ed	12/11/2017 9:06	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/18/2017 8:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/11/2017 21:00	JWC
TOC	1.5	0.5	mg/l	SM5310C 21 ed.	12/14/2017 18:02	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/12/2017 21:46	RBR
Dissolved Metals						
Potassium	2920	1000	ug/l	EPA 200.7	12/13/2017 15:03	AJD
Sodium	6140	3000	ug/l	EPA 200.7	12/13/2017 15:03	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/18/2017 14:08	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 14:08	AJD
Iron	6280	100	ug/l	EPA 200.7	12/18/2017 14:08	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/18/2017 14:08	AJD
Total Metals						
Chromium	<2.0	2.0	ug/l	EPA 200.8	12/18/2017 16:36	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/18/2017 16:36	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 12:00	AJD
ICP Digestion				EPA 200.7	12/15/2017 19:36	DDP
ICPMS Digestion				EPA 200.8	12/18/2017 13:52	DDP

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 034  
**Sample Description:** OUTFALL 003A-12  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 23:27

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	7.0		SU	SM4500H+B	12/11/2017 20:30	JWC
BOD 5	100	60	mg/l	SM5210B 21ed	12/18/2017 18:20	MA
COD	200	150	mg/l	SM5220D 18-21ed	12/18/2017 8:30	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/11/2017 21:00	JWC
TOC	52	2.5	mg/l	SM5310C 21 ed.	12/15/2017 16:18	DEL
GC/FID						
Propylene Glycol	62	10	mg/l	GC-FID	12/12/2017 22:18	RBR
Dissolved Metals						
Potassium	5120	1000	ug/l	EPA 200.7	12/13/2017 15:05	AJD
Sodium	20800	3000	ug/l	EPA 200.7	12/13/2017 15:05	AJD
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/18/2017 14:09	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 14:09	AJD
Iron	529	100	ug/l	EPA 200.7	12/18/2017 14:09	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/18/2017 14:09	AJD
Total Metals						
Chromium	<2.0	2.0	ug/l	EPA 200.8	12/18/2017 16:39	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/18/2017 16:39	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 12:00	AJD
ICP Digestion				EPA 200.7	12/15/2017 19:36	DDP
ICPMS Digestion				EPA 200.8	12/18/2017 13:52	DDP

Initial BOD analysis on 12/11/2017 at 9:34 yielded a result >12 mg/L. Result is reported from re-analysis outside of hold time, consistent with reported COD.

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 035  
**Sample Description:** OUTFALL 008A-12  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017 @ 23:00

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	6.5		SU	SM4500H+B	12/11/2017 20:30	JWC
BOD 5	61	24	mg/l	SM5210B 21ed	12/18/2017 18:06	MA
COD	300	150	mg/l	SM5220D 18-21ed	12/18/2017 8:30	SNI
Surfactants (MBAS)	532	100	ug/l	SM5540C 18-21ed	12/11/2017 21:00	JWC
TOC	22	0.5	mg/l	SM5310C 21 ed.	12/14/2017 18:02	DEL
GC/FID						
Propylene Glycol	30	10	mg/l	GC-FID	12/12/2017 22:49	RBR
Dissolved Metals						
Potassium	6420	1000	ug/l	EPA 200.7	12/13/2017 15:07	AJD
Sodium	3290000	3000	ug/l	EPA 200.7	12/13/2017 16:01	AJD
Total Metals						
Aluminum	279	100	ug/l	EPA 200.7	12/18/2017 14:11	AJD
Copper	<20	20	ug/l	EPA 200.7	12/18/2017 14:11	AJD
Iron	1760	100	ug/l	EPA 200.7	12/18/2017 14:11	AJD
Zinc	107	100	ug/l	EPA 200.7	12/18/2017 14:11	AJD
Total Metals						
Chromium	3.2	2.0	ug/l	EPA 200.8	12/18/2017 16:42	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/18/2017 16:42	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/13/2017 12:00	AJD
ICP Digestion				EPA 200.7	12/15/2017 19:36	DDP
ICPMS Digestion				EPA 200.8	12/18/2017 13:52	DDP

Initial BOD analysis on 12/11/2017 at 9:48 yielded a result >12 mg/L. Result is reported from re-analysis outside of hold time, consistent with reported COD.

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

## R.I. Analytical Laboratories, Inc.

## Laboratory Report

Rhode Island Airport Corp.

Work Order #: 1712-26698

Project Name: T.F. GREEN RIPDES MONITORING

**Sample Number:** 036  
**Sample Description:** OUTFALL 010A-12  
**Sample Type :** GRAB  
**Sample Date / Time :** 12/09/2017

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE/TIME ANALYZED	ANALYST
pH	7.0		SU	SM4500H+B	12/11/2017 20:30	JWC
BOD 5	<3.0	3.0	mg/l	SM5210B 21ed	12/11/2017 9:46	EEM
COD	<10	10	mg/l	SM5220D 18-21ed	12/13/2017 10:00	SNI
Surfactants (MBAS)	<100	100	ug/l	SM5540C 18-21ed	12/11/2017 21:00	JWC
TOC	1.3	0.5	mg/l	SM5310C 21 ed.	12/12/2017 9:12	DEL
GC/FID						
Propylene Glycol	<10	10	mg/l	GC-FID	12/12/2017 23:20	RBR
Dissolved Metals						
Potassium	18000	1000	ug/l	EPA 200.7	12/20/2017 15:22	AGJ
Sodium	14900	3000	ug/l	EPA 200.7	12/20/2017 15:22	AGJ
Total Metals						
Aluminum	<100	100	ug/l	EPA 200.7	12/15/2017 14:28	AJD
Copper	<20	20	ug/l	EPA 200.7	12/15/2017 14:28	AJD
Iron	512	100	ug/l	EPA 200.7	12/15/2017 14:28	AJD
Zinc	<100	100	ug/l	EPA 200.7	12/15/2017 14:28	AJD
Total Metals						
Chromium	<2.0	2.0	ug/l	EPA 200.8	12/18/2017 16:45	JRW
Lead	<1.0	1.0	ug/l	EPA 200.8	12/18/2017 16:45	JRW
ICP Digestion (Dissolved)				EPA 200.7	12/19/2017 10:49	JRW
ICP Digestion				EPA 200.7	12/15/2017 10:13	DDP
ICPMS Digestion				EPA 200.8	12/18/2017 13:52	DDP

The pH analysis ideally should be performed in the field. The pH analysis was performed by the laboratory as soon as possible after receipt.

Surfactants (MBAS) - Calculated as LAS, mol wt. 342.

# CHAIN OF CUSTODY RECORD

R.I. Analytical Laboratories, Inc.

41 Illinois Avenue  
Warwick, RI 02888  
Tel: 800-937-2580  
Fax: 401-738-1970

131 Coolidge St, Bldg. 2  
Hudson, MA 01749  
Tel: 888-228-3334  
Fax: 978-568-0078

Date Collected	Time Collected	Field Sample Identification	Grab or Composite	# of Containers & Type <sup>T</sup>	Preservation Code <sup>P</sup>	Matrix Code <sup>M</sup>	BOD, Surfactants, pH	COD, TOC	Propylene Glycol	Metals**	Dissolved K & Na						
12/9/17	1548	Outfall 002A-04	G	*	*	O											
"	1535	Outfall 003A-04	G	*	*	O											
"	1530	Outfall 008A-04	G	*	*	O											
"	1600	Outfall 010A-04	G	*	*	O											
"	1642	Outfall 002A-05	G	*	*	O											
"	1630	Outfall 003A-05	G	*	*	O											
"	1630	Outfall 008A-05	G	*	*	O											
"	1655	Outfall 010A-05	G	*	*	O											
"	1737	Outfall 002A-06	G	*	*	O											
"	1730	Outfall 003A-06	G	*	*	O											
"	1730	Outfall 008A-06	G	*	*	O											
"	1800	Outfall 010A-06	G	*	*	O											
"	1842	Outfall 002A-07	G	*	*	O											
"	1830	Outfall 003A-07	G	*	*	O											
"	1830	Outfall 008A-07	G	*	*	O											
12/9/17	1900	Outfall 010A-07	G	*	*	O											

*BOD, Surfactants, pH - 1 1000mL Non Preserved COD, TOC - 1 250mL Sulfuric Acid Preserved Propylene Glycol - 2 40mL Non-Preserved VOA Vial Metals - 250mL Nitric Preserved Dissolved Metals - 250ml Non Preserved	Total Metals: Aluminum - 200.7 Chromium - 200.8 Copper - 200.7 Iron - 200.7 Lead - 200.7 Zinc - 200.7
---	---

Client Information		Project Information	
Company	Rhode Island Airport Corp	ProjectName:	T.F. Green RIPDES Monitoring
Address:	2000 Post Rd	P.O. Number:	27529
City / State /	Warwick, RI 02886	Project Number:	
Telephone:	691-2490	Sampled by:	RIAC
Fax:	691-2560	Email :address:	jbrolin@pvdairport.com
Contact Person:	Jay Brolin	Email :address:	

Relinquished By	Date	Time	Received By
<i>[Signature]</i>	12/10/17	0100	<i>[Signature]</i>

Turn Around Time	
<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> EMAIL Report
5 Business days. Possible	
Rush _____ (business)	

Matrix Codes: GW=Groundwater, SW=Surface Water, WW=Wastewater, DW=Drinking Water, S=Soil, SI=Sludge, A=Air, B=Bulk/Solid, O= Storm Water

Lab Use Only	
	Sample Pick Up Only
	RIAL sampled; attach field hours
<input checked="" type="checkbox"/>	Shipped on ice 24
	Workorder No: 1712-26698

# CHAIN OF CUSTODY RECORD

## R.I. Analytical Laboratories, Inc.

41 Illinois Avenue  
Warwick, RI 02888  
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131 Coolidge St, Bldg. 2  
Hudson, MA 01749  
Tel: 888-228-3334  
Fax: 978-568-0078

Date Collected	Time Collected	Field Sample Identification	Grab or Composite	# of Containers & Type <sup>T</sup>	Preservation Code <sup>P</sup>	Matrix Code <sup>M</sup>	BOD, Surfactants, pH	COD, TOC	Propylene Glycol	Metals**	Dissolved K & Na						
12/9/17	1942	Outfall 002A-08	G	*	*	O	1	1	1	1	1						
"	1936	Outfall 003A-08	G	*	*	O	1	1	1	1	1						
"	1930	Outfall 008A-08	G	*	*	O	1	1	1	1	1						
"	2000	Outfall 010A-08	G	*	*	O	1	1	1	1	1						
"	2037	Outfall 002A-09	G	*	*	O	1	1	1	1	1						
"	2030	Outfall 003A-09	G	*	*	O	1	1	1	1	1						
"	2030	Outfall 008A-09	G	*	*	O	1	1	1	1	1						
"	2100	Outfall 010A-09	G	*	*	O	1	1	1	1	1						
"	2134	Outfall 002A-10	G	*	*	O	1	1	1	1	1						
"	2130	Outfall 003A-10	G	*	*	O	1	1	1	1	1						
"	2130	Outfall 008A-10	G	*	*	O	1	1	1	1	1						
12/9/17	2200	Outfall 010A-10	G	*	*	O	1	1	1	1	1						

\*BOD, Surfactants, pH - 1 1000mL Non Preserved  
COD, TOC - 1 250mL Sulfuric Acid Preserved  
Propylene Glycol - 2 40mL Non-Preserved VOA Vial  
Metals - 250mL Nitric Preserved  
Dissolved Metals - 250ml Non Preserved

Total Metals:  
Aluminum - 200.7  
Chromium - 200.8  
Copper - 200.7  
Iron - 200.7  
Lead - 200.7  
Zinc - 200.7

Client Information			Project Information		
Company	Rhode Island Airport Corp		ProjectName:	T.F. Green RIPDES Monitoring	
Address:	2000 Post Rd		P.O. Number:	27529	Project Number:
City / State /	Warwick, RI 02886		Sampled by:	RIAG	
Telephone:	691-2490	Fax:	691-2560	Email :address:	jbrolin@pvdairport.com
Contact Person:	Jay Brolin		Email :address:		

Relinquished By	Date	Time	Received By
	12/11/17	0100	

Turn Around Time	
<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> EMAIL Report
5 Business days. Possible	
<input type="checkbox"/> Rush	(business)

Matrix Codes: GW=Groundwater, SW=Surface Water, WW=Wastewater, DW=Drinking Water, S=Soil, SI=Sludge, A=Air, B=Bulk/Solid, O= \_\_ Storm Water \_\_

Lab Use Only	
	Sample Pick Up Only
	RIAL sampled; attach field hours
	Shipped on ice 24
	Workorder No: 1712-26698

# CHAIN OF CUSTODY RECORD

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131 Coolidge St, Bldg. 2  
Hudson, MA 01749  
Tel: 888-228-3334  
Fax: 978-568-0078

Date Collected	Time Collected	Field Sample Identification	Grab or Composite	# of Containers & Type <sup>T</sup>	Preservation Code <sup>P</sup>	Matrix Code <sup>M</sup>	BOD, Surfactants, pH	COD, TOC	Propylene Glycol	Metals**	Dissolved K & Na
12/9/17	2239*	Outfall 002A-11	G	*	*	O					
"	2230	Outfall 003A-11	G	*	*	O					
"	*2230	Outfall 008A-11	G	*	*	O					
"	(*)2300	Outfall 010A-11	G	*	*	O					
"	2320	Outfall 002A-12	G	*	*	O					
"	2327	Outfall 003A-12	G	*	*	O					
"	X 2300	Outfall 008A-12	G	*	*	O					
12/9/17	0000	Outfall 010A-12	G	*	*	O					

\*BOD, Surfactants, pH - 1 1000mL Non Preserved  
COD, TOC - 1 250mL Sulfuric Acid Preserved  
Propylene Glycol - 2 40mL Non-Preserved VOA Vial  
Metals - 250mL Nitric Preserved  
Dissolved Metals - 250ml Non Preserved

Total Metals:  
Aluminum - 200.7  
Chromium - 200.8  
Copper - 200.7  
Iron - 200.7  
Lead - 200.7  
Zinc - 200.7

Client Information		Project Information	
Company	Rhode Island Airport Corp	ProjectName:	T.F. Green RIPDES Monitoring
Address:	2000 Post Rd	P.O. Number:	27529 Project Number:
City / State /	Warwick, RI 02886	Sampled by:	RIAC
Telephone:	691-2490 Fax: 691-2560	Email :address:	jbrolin@pvdairport.com
Contact Person:	Jay Brolin	Email :address:	

Relinquished By	Date	Time	Received By
<i>[Signature]</i>	12/9/17	0100	<i>[Signature]</i>

Turn Around Time	
<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> EMAIL Report
5 Business days. Possible	
Rush _____ (business)	

**Matrix Codes:** GW=Groundwater, SW=Surface Water, WW=Wastewater, DW=Drinking Water, S=Soil, SI=Sludge, A=Air, B=Bulk/Solid, O=\_\_ Storm Water\_

\* Time on sample bottles were "20:39, 20:30, 20:30" lg  
 \*\* Time on samples bottles were "23:00" lg  
 (\*) Time on sample bottles were "2230" lg  
 Page 3 of 3  
 X Time on Sample bottles were "2330" lg

Lab Use Only	
Sample Pick Up Only	
RIAL sampled; attach field hours	
Shipped on ice	2.4
Workorder No:	1712-26698