NPDES PERMIT RENEWAL APPLICATION CITY OF PORTSMOUTH, NEW HAMPSHIRE

PEASE WASTEWATER TREATEMENT FACILITY 135 CORPORATE DRIVE PORTSMOUTH, NEW HAMPSHIRE

NPDES PERMIT NO. NH0090000

Underwood Engineers, Inc. Portsmouth, New Hampshire Project No. 2402



CITY OF PORTSMOUTH

City Hall, One Junkins Avenue Portsmouth, New Hampshire 03801 jpb@cityofportsmouth.com (603) 610-7201

John P. Bohenko City Manager

June 21, 2019

VIA MAIL AND EMAIL US EPA: Attn: Shelly Puleo Office of Ecosystem Protection 5 Post Office Square, Suite 100 Boston, MA 02109-3912

Re: NPDES Permit No. NH0090000 – Reapplication City of Portsmouth, Pease Wastewater Treatment Facility Portsmouth, New Hampshire

Dear Ms. Puleo:

The City of Portsmouth has prepared and is submitting the enclosed reapplication form for the Pease Wastewater Treatment Facility (WWTF) National Pollution Discharge Elimination System (NPDES) Permit No. NH0090000. We request that the permit be modified to allow for an increase in the permitted flow of the WWTF from 1.2 Million Gallons per Day (MGD) to 1.77 MGD. The increase in flow is necessary to allow for planned growth at the Pease International Tradeport.

The Pease WWTF current design capacity is rated at 1.2 MGD. The attached flow and load report identify critical timelines when the plant reaches capacity and exceeds capacity. Following regulatory approval to increase discharge flow, the City of Portsmouth (City) plans to upgrade the WWTF to provide treatment at the modified design flow, loads and effluent limitations.

This application includes the following components:

- EPA Form 2A
- EPA Form 2S
- Supporting information Attachments A through F
- A Coastal Zone Management consistency letter (NOT INCLUDED) will be provided upon request
- Flow and Load Memorandum (Attachment A)

Page 2 Ms. Puleo June 21, 2019

Please call my office at 603-766-7201 or Terry Desmarais, City Engineer at 603-766-1421 if you have any questions.

Very truly yours.

John P. Bohenko City Manager

encl.

cc: Tracy Wood, P.E., NHDES w/ encl. David Mullen, Pease Development Authority Director w/ encl. Terry Desmarais, P.E., City Engineer w/ encl. Steve Clifton, P.E., Underwood Engineers, Inc. w/ encl.

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Attachment D - Whole Effluent Toxicity Testing Results

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Attachment F - Sewage Sludge Test Results

FORM 2A

Pease Wastewater Treatment Facility, NH0090000

FORM 2A NPDES

NPDES FORM 2A APPLICATION OVERVIEW

APPLICATION OVERVIEW

Form 2A has been developed in a modular format and consists of a "Basic Application Information" packet and a "Supplemental Application Information" packet. The Basic Application Information packet is divided into two parts. All applicants must complete Parts A and C. Applicants with a design flow greater than or equal to 0.1 mgd must also complete Part B. Some applicants must also complete the Supplemental Application Information packet. The following items explain which parts of Form 2A you must complete.

BASIC APPLICATION INFORMATION:

- **A. Basic Application Information for all Applicants.** All applicants must complete questions A.1 through A.8. A treatment works that discharges effluent to surface waters of the United States must also answer questions A.9 through A.12.
- **B.** Additional Application Information for Applicants with a Design Flow > 0.1 mgd. All treatment works that have design flows greater than or equal to 0.1 million gallons per day must complete questions B.1 through B.6.
- C. Certification. All applicants must complete Part C (Certification).

SUPPLEMENTAL APPLICATION INFORMATION:

- D. Expanded Effluent Testing Data. A treatment works that discharges effluent to surface waters of the United States and meets one or more of the following criteria must complete Part D (Expanded Effluent Testing Data):
 - 1. Has a design flow rate greater than or equal to 1 mgd,
 - 2. Is required to have a pretreatment program (or has one in place), or
 - 3. Is otherwise required by the permitting authority to provide the information.
- E. Toxicity Testing Data. A treatment works that meets one or more of the following criteria must complete Part E (Toxicity Testing Data):
 - 1. Has a design flow rate greater than or equal to 1 mgd,
 - 2. Is required to have a pretreatment program (or has one in place), or
 - 3. Is otherwise required by the permitting authority to submit results of toxicity testing.
- F. Industrial User Discharges and RCRA/CERCLA Wastes. A treatment works that accepts process wastewater from any significant industrial users (SIUs) or receives RCRA or CERCLA wastes must complete Part F (Industrial User Discharges and RCRA/CERCLA Wastes). SIUs are defined as:
 - 1. All industrial users subject to Categorical Pretreatment Standards under 40 Code of Federal Regulations (CFR) 403.6 and 40 CFR Chapter I, Subchapter N (see instructions); and
 - 2. Any other industrial user that:
 - a. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions); or
 - b. Contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the treatment plant; or
 - c. Is designated as an SIU by the control authority.
- **G. Combined Sewer Systems.** A treatment works that has a combined sewer system must complete Part G (Combined Sewer Systems).

ALL APPLICANTS MUST COMPLETE PART C (CERTIFICATION)

Pease Wastewater Treatment Facility, NH0090000

BASIC APPLICATION INFORMATION

PART A. BASIC APPLICATION INFORMATION FOR ALL APPLICANTS:

All treatment works must complete questions A.1 through A.8 of this Basic Application Information packet.

A.1. Facility Information.

	Facility name Pease Wastewater Treatment Facility												
	Mailing Address	135 Corporate Portsmouth N	e Drive H										
	Contact person	Terry Desmarais, P.E.											
	Title	City Engineer	City Engineer Water and Sewer Division										
	Telephone number	<u>(603) 766-142</u>	1										
	Facility Address (not P.O. Box)	135 Corporate Portsmouth N	<u>e Drive</u> H										
A.2.	Applicant Informati	on. If the applica	ant is different from the abo	ve, provide the following:									
	Applicant name	City of Portsm	outh										
	Mailing Address	<u>680 Peverly H</u> Portsmouth, N	lill Road IH 03801										
	Contact person	Terry Desmara	ais, P.E.										
	Title	City Engineer	Water and Sewer Divisi	on									
	Telephone number	<u>(603) 766-142</u>	1										
	Is the applicant the	owner or opera	tor (or both) of the treatm	nent works?									
	Indicate whether con	respondence reg	arding this permit should be	e directed to the facility or the applic	cant.								
A.3.	facility A.2. (continued Existing Environme works (include state-	✓ 1) Permit app ental Permits. P issued permits).	applicant Dication was prepar rovide the permit number c	ed by Underwood Engined f any existing environmental permit	ers, Inc. for the City. s that have been issued to the treatment								
	NPDES <u>NH00900</u>	000		PSD									
				Other									
	RCRA			Other									
A.4.	Collection System I each entity and, if kn etc.).	nformation. Pro own, provide info	ovide information on munici rmation on the type of colle	palities and areas served by the fac ection system (combined vs. separa	cility. Provide the name and population of te) and its ownership (municipal, private,								
	Name		Population Served	Type of Collection System	Ownership								
	Pease Developme	nt Auth.	<u>9,000 (Approx.)</u>	Sanitary Sewer	City of Portsmouth								
	Total pop	oulation served	9.000 (Approx.)										

.5.	ا م ما		FACILITY NAME AND PERMIT NUMBER: Pease Wastewater Treatment Facility, NH0090000						
	ma	ian Country.							
	a.	Is the treatment works located in Indian Cou	untry?						
		Yes 🖌 No							
	b.	Does the treatment works discharge to a re through) Indian Country?	ceiving water that is either	in Indian Country c	r that is upstr	eam from (a	nd eventuall	y flows	
		Yes 🖌 No							
.6.	Flo ave per	w. Indicate the design flow rate of the treatr rage daily flow rate and maximum daily flow iod with the 12th month of "this year" occurri	nent plant (i.e., the wastev rate for each of the last th ng no more than three mo	vater flow rate that t ree years. Each ye nths prior to this ap	he plant was ear's data mu: plication subr	built to hanc st be based o nittal.	lle). Also pro on a 12-mon	vide the th time	
	a.	Design flow rate ngd							
			Two Years Ago	Last Year		This Year			
	b.	Annual average daily flow rate	0.51		0.59		0.65	mgd	
	C.	Maximum daily flow rate	0.89		1.32		1.22	mgd	
.7.	A. Col	6.a The City requests a flow incr lection System. Indicate the type(s) of coll tribution (by miles) of each.	rease to 1.77 MGD. ection system(s) used by t	See Attachme he treatment plant.	ent A for f Check all the	low and lat apply. Als	oad proje	ctions. The percent	
		Separate sanitary sewer				10	0	%	
		Combined storm and sanitary sewer						%	
8.	Dis	charges and Other Disposal Methods.							
	a.	Does the treatment works discharge effluen	t to waters of the U.S.?		v	Yes		No	
		If yes, list how many of each of the following	g types of discharge points	the treatment work	s uses:				
		i. Discharges of treated effluent				<u>1</u>			
		ii. Discharges of untreated or partially treated	ted effluent						
		iii. Combined sewer overflow points							
		iv. Constructed emergency overflows (prio	r to the headworks)						
		v. Other				_			
	b.	Does the treatment works discharge effluen impoundments that do not have outlets for o	t to basins, ponds, or othe lischarge to waters of the	r surface U.S.?		_ Yes	v	No	
		If yes, provide the following for each surface	e impoundment:						
		Location:							
		Annual average daily volume discharged to	surface impoundment(s)				mgd		
		Is discharge continuous or	intermittent?	•					
	C.	Does the treatment works land-apply treate	d wastewater?			Yes	 ✓ 	No	
		If yes, provide the following for each land at	oplication site:						
		Location:							
		Number of acres:							
		Annual average daily volume applied to site	:	M	gd				
		Is land application continuou	us or interm	hittent?					
	d.	Does the treatment works discharge or tran treatment works?	sport treated or untreated	wastewater to anot	her	Yes	~	No	

Pease

If yes, describe the mean(s) by which the wastewater from the treatment works is discharged or transported to the other treatment works (e.g., tank truck, pipe). If transport is by a party other than the applicant, provide: Transporter name: Mailing Address: Contact person: Title: Telephone number: Contact person:	eΝ	/astewater Treatment Facility, NH0090000		OMB Numbe	er 2040-0086
If transport is by a party other than the applicant, provide: Transporter name: Mailing Address: Contact person: Title: Telephone number: For each treatment works that receives this discharge, provide the following: Name: Mailing Address: Contact person: Telephone number: For each treatment works that receives this discharge, provide the following: Name: Mailing Address: Contact person: Title: Telephone number: If known, provide the NPDES permit number of the treatment works that receives this discharge. Provide the average daily flow rate from the treatment works into the receiving facility. mgd e. Does the treatment works discharge or dispose of its wastewater in a manner not included in A. a through A.8 d above (e.g., underground percolation, well injection)? If yes, provide the following for each disposal method;: Description of method (including location and size of site(s) if applicable): Annual daily volume disposed of by this method: is disposal through this method		If yes, describe the mean(s) by which the wastewater from the treatn works (e.g., tank truck, pipe).	nent works is discharged or transp	orted to the other tre	atment
Transporter name:		If transport is by a party other than the applicant, provide:			
Mailing Address:		Transporter name:			
Contact person:		Mailing Address:			
Title:		Contact person:			
Telephone number:		Title:			
Eor each treatment works that receives this discharge, provide the following: Name: Mailing Address: Contact person: Title: Telephone number: If known, provide the NPDES permit number of the treatment works that receives this discharge. Provide the average daily flow rate from the treatment works into the receiving facility. mgd e. Does the treatment works discharge or dispose of its wastewater in a manner not included in A.8.a abrough A.8.d above (e.g., underground percolation, well injection)? Yes No If yes, provide the following for each disposal method: Description of method (including location and size of site(s) if applicable): Annual daily volume disposed of by this method: Is disposal through this method		Telephone number:			
Name:		For each treatment works that receives this discharge, provide the for	llowing:		
Mailing Address:		Name:			
Contact person:		Mailing Address:			
Contact person. Title: Telephone number: If known, provide the NPDES permit number of the treatment works that receives this discharge. Provide the average daily flow rate from the treatment works into the receiving facility. mgd e. Does the treatment works discharge or dispose of its wastewater in a manner not included in A.8.a through A.8.d above (e.g., underground percolation, well injection)? Yes		Contact porcon:			
Telephone number: If known, provide the NPDES permit number of the treatment works that receives this discharge. Provide the average daily flow rate from the treatment works into the receiving facility. mgd e. Does the treatment works discharge or dispose of its wastewater in a manner not included in A.8.a through A.8.d above (e.g., underground percolation, well injection)? Yes No If yes, provide the following for each disposal method: Description of method (including location and size of site(s) if applicable): Annual daily volume disposed of by this method: Is disposal through this method					
If known, provide the NPDES permit number of the treatment works that receives this discharge. Provide the average daily flow rate from the treatment works into the receiving facility. e. Does the treatment works discharge or dispose of its wastewater in a manner not included in A.8.a through A.8.d above (e.g., underground percolation, well injection)? Yes If yes, provide the following for each disposal method: Description of method (including location and size of site(s) if applicable): Annual daily volume disposed of by this method: Is disposal through this method					
Provide the average daily flow rate from the treatment works into the receiving facility. mgd e. Does the treatment works discharge or dispose of its wastewater in a manner not included in A.8.a through A.8.d above (e.g., underground percolation, well injection)? Yes No If yes, provide the following for each disposal method: Description of method (including location and size of site(s) if applicable): No Annual daily volume disposed of by this method:		If known, provide the NPDES permit number of the treatment works t	that receives this discharge		
 e. Does the treatment works discharge or dispose of its wastewater in a manner not included in A.8.a through A.8.d above (e.g., underground percolation, well injection)? Yes No If yes, provide the following for each disposal method: Description of method (including location and size of site(s) if applicable): Annual daily volume disposed of by this method: continuous or intermittent? 		Provide the average daily flow rate from the treatment works into the	receiving facility.		mgd
If yes, provide the following for each disposal method: Description of method (including location and size of site(s) if applicable): Annual daily volume disposed of by this method: Is disposal through this method continuous or intermittent?	e.	Does the treatment works discharge or dispose of its wastewater in a A.8.a through A.8.d above (e.g., underground percolation, well inject	a manner not included in	Yes	No
Description of method (including location and size of site(s) if applicable): Annual daily volume disposed of by this method: Is disposal through this method continuous or intermittent?		If yes, provide the following for each disposal method:			
Annual daily volume disposed of by this method: Is disposal through this method continuous or intermittent?		Description of method (including location and size of site(s) if applica	ıble):		
Is disposal through this method continuous or intermittent?		Annual daily volume disposed of by this method:	_		
		Is disposal through this method continuous or	intermittent?		

Pease Wastewater Treatment Facility, NH0090000

WASTEWATER DISCHARGES:

If you answered "yes" to question A.8.a, complete questions A.9 through A.12 **once for each outfall** (including bypass points) through which effluent is discharged. Do not include information on combined sewer overflows in this section. **If you answered "no" to question A.8.a**, go to Part B, "Additional Application Information for Applicants with a Design Flow Greater than or Equal to 0.1 mgd."

A.9. Description of Outfall.

Α.

a.	Outfall number	<u>005</u>	
b.	Location	Portsmouth (City or town, if applicable) Rockingham (County) 43* 06' 10.8"	08301 (Zip Code) New Hampshire (State) 70* 47' 25 8"
		(Latitude)	(Longitude)
C.	Distance from shore	e (if applicable)	300.00 ft.
d.	Depth below surfac	e (if applicable)	Varies. 15' to 30' below mean water level
e.	Average daily flow r	ate	1.2 mgd
f.	Does this outfall ha periodic discharge?	ve either an intermittent or a	Yes V No (go to A.9.g.)
	If yes, provide the f	ollowing information:	
	Number of times pe	er year discharge occurs:	
	Average duration of	feach discharge:	
	Average flow per di	scharge:	mgd
	Months in which dis	charge occurs:	
g.	Is outfall equipped v	with a diffuser?	YesNo
. De	scription of Receivi	ng Waters.	
a.	Name of receiving v	water Piscataqua Riv	ver
b.	Name of watershed	(if known)	
	United States Soil (Conservation Service 14-digit w	atershed code (if known):
C.	Name of State Man	agement/River Basin (if known)): Piscataqua-Salmon Falls
	United States Geol	ogical Survey 8-digit hydrologic	cataloging unit code (if known): 01060003
d.	Critical low flow of r $\operatorname{ACute} \operatorname{NA}$	eceiving stream (if applicable): cfs	chronic cfs
e.	Total hardness of re	eceiving stream at critical low flo	ow (if applicable): mg/l of CaCO ₃
	A.10.d. (conti diffuser provi	inued) Not applicable b des greater than 100:1	because the receiving water is a tidal water body. The existing dilution at the diffuser design flow (ADF = 1.2 MGD).

ase wasiewaler mealment Facility, INFIOU30000													
1. Des	scription of Ti	eatment.											
a.	What levels o	f treatment a	are provic	ded? C	heck all th	at apply.							
	P	rimary			✓ Se	econdary							
	A	dvanced			01	ther. De	escribe:	<u>Sequencin</u>	g Batch F	Read	ctor		
b.	Indicate the fo	llowing rem	oval rate	s (as a	pplicable):								
	Design BOD ₅	removal <u>or</u> l	Design C	BOD	removal			<u>90.0</u>	00	9	6		
	Design SS re	moval						<u>90.0</u>	00		9	6	
	Design P rem	oval									9	6	
	Design N rem	oval									9	6	
	Other										9	6	
C	What type of	disinfection i	is used fo	- or the e	offluent from	n this out	fall? If disi	infection varies	s hy seaso	n n	ease descr	ihe	
0.	Chlorination		rite)						5 67 50050	511, p		100.	
			ntion is i	dochlo	rination us	od for this	s outfall?		~	Vo			No
	I disinfection	is by chiorin	ation, is (aechio	rination us	ea for this	s outiall?			- Ye	<u>.</u>		
d.	Does the trea	tment plant	have pos	st aerat	ion?					S	~	No	
2. Effi par <u>dise</u> coll of 4 At a	iluent Testing rameters. Prov scharged. Do llected throug 40 CFR Part 1: a minimum, e tfall number:	Information vide the ind not include h analysis o 36 and othe ffluent testi 005	n. All Ap licated ef informa conducte er approp ng data i	plican ffluent tion or ed usir oriate (must t	ts that dis testing re n combine ng 40 CFR QA/QC rec be based c	charge to equired b ed sewer Part 136 quiremen on at leas	o waters by the perform overflow o methods of stas for stas of three sa	of the US mu mitting autho s in this secti s. In addition ndard metho amples and m	st provide prity <u>for ea</u> ion. All in i, this data ds for ana nust be no	e effl ach c form a mu alyte o mo	uent testin outfall throu lation repo st comply s not addre re than fou	g data u <u>gh wi</u> rted m with Q essed ır and	a for the followin <u>hich effluent is</u> nust be based or A/QC requireme by 40 CFR Part one-half years
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BASIC APPLICATION INFORMATION

PART B. ADDITIONAL APPLICATION INFORMATION FOR APPLICANTS WITH A DESIGN FLOW GREATER THAN OR EQUAL TO 0.1 MGD (100,000 gallons per day).

All applicants with a design flow rate \geq 0.1 mgd must answer questions B.1 through B.6. All others go to Part C (Certification).

B.1. Inflow and Infiltration. Estimate the average number of gallons per day that flow into the treatment works from inflow and/or infiltration. 50,000.00 gpd

Briefly explain any steps underway or planned to minimize inflow and infiltration.

The City intends to study the infiltration and inflow in the sewer collection system as funding becomes available.

B.2. Topographic Map. Attach to this application a topographic map of the area extending at least one mile beyond facility property boundaries. This map must show the outline of the facility and the following information. (You may submit more than one map if one map does not show the entire area.)

a. The area surrounding the treatment plant, including all unit processes.

- b. The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable.
- c. Each well where wastewater from the treatment plant is injected underground.
- d. Wells, springs, other surface water bodies, and drinking water wells that are: 1) within 1/4 mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant.
- e. Any areas where the sewage sludge produced by the treatment works is stored, treated, or disposed.
- f. If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act (RCRA) by truck, rail, or special pipe, show on the map where that hazardous waste enters the treatment works and where it is treated, stored, and/or disposed.
- B.2. Maps and process flow schematics are provided in Attachment B.

B.3. Process Flow Diagram or Schematic. Provide a diagram showing the processes of the treatment plant, including all bypass piping and all backup power sources or redundancy in the system. Also provide a water balance showing all treatment units, including disinfection (e.g, chlorination and dechlorination). The water balance must show daily average flow rates at influent and discharge points and approximate daily flow rates between treatment units. Include a brief narrative description of the diagram.

B.2. Maps and process flow schematics are provided in Attachment B.

B.4. Operation/Maintenance Performed by Contractor(s).

Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of a contractor? ____Yes ___No

If yes, list the name, address, telephone number, and status of each contractor and describe the contractor's responsibilities (attach additional pages if necessary).

	Nar	me:	
	Mai	iling Address:	
	Tele	ephone Number:	
	Res	sponsibilities of Contractor:	
B.5.	Sch unc trea B.5	neduled Improvements and Schedules of Implementation. Provide information on any uncompleted implementation schedule of completed plans for improvements that will affect the wastewater treatment, effluent quality, or design capacity of the treatment works atment works has several different implementation schedules or is planning several improvements, submit separate responses to que for each. (If none, go to question B.6.)	. If the estion
	a.	List the outfall number (assigned in question A.9) for each outfall that is covered by this implementation schedule.	
	h	005	
	Ν.	✓ YesNo	

FACILITY Pease Wa	NAME AND PERM	MIT NUMBER: ent Facility, Ni	10090000		Form Approved 1/14/99 OMB Number 2040-0086							
C	If the answer to B.5 City is constru	5.b is "Yes," brief ucting a new	ly describe, inclute headworks	uding new maxim and is plann	um daily inflow r ing for upgr	ate (if applicates and the second sec	eet the proposed					
	increase in flow and load for the 2045 projection.											
d. F a a	Provide dates impo applicable. For imp applicable. Indicat	osed by any com provements plan e dates as accur	pliance schedule ned independen ately as possible	e or any actual da tly of local, State e.	tes of completio , or Federal age	n for the imple ncies, indicate	mentation steps listed planned or actual col	d below, as mpletion dates, as				
			Schedule	tual Completion								
I	mplementation Sta	age *	<u> MM / DD /</u>	YYYY M	<u>M / DD / YYYY</u>	/ DD / YYYY * TO BE DETERMINED						
-	 Begin construction 	n	// _		_//							
-	 End construction 		// _		_//							
-	- Begin discharge		// _		_//							
-	 Attain operationa 	llevel	// _		_//							
e. I	Have appropriate p	ermits/clearance	es concerning ot	her Federal/State	e requirements b	een obtained?	Yes	No				
I	Describe briefly:		. <u>.</u>									
	-											
B.6. EFFL	UENT TESTING D	ATA (GREATE	R THAN O.1 MG	D ONLY).								
stan pollu Outf	dard methods for a itant scans and mu all Number: <u>005</u> LLUTANT	MAXIML	in DAILY	R Part 136. At a -half years old. AVERAC	minimum, efflue GE DAILY DISCH	nt testing data	must be based on at	least three				
		Conc.	Units	Conc.	Units	Number of Samples	ANALYTICAL METHOD	ML / MDL				
CONVENT	IONAL AND NON	CONVENTIONA		3 .								
AMMONIA	(as N)	8.20	mg/L	3.70	mg/L	112.00	SM 4500-NH3	0.1/0.1				
CHLORINE RESIDUAL	E (TOTAL , TRC)	1.47	mg/L	0.01	mg/L	1,065.00	SM 4500-CL D	0.02				
DISSOLVE	D OXYGEN	5.07	mg/L	3.82	mg/L	4.00	SM 4500-O	0.1				
TOTAL KJE NITROGEN	ELDAHL J (TKN)	26.00	mg/L	8.60	mg/L	112.00	SM 4500-NH3 G	0.1/0.1				
NITRATE F	PLUS NITRITE	12.00	mg/L	3.60	mg/L	111.00	SM 4500-NO3 F	0.05/0.008				
OIL and GF	REASE	ND	mg/L	ND	mg/L	4.00	EPA 1664 A	10				
PHOSPHO	RUS (Total)	52.00	mg/L	41.00	mg/L	4.00	SM 4500-P E	0.02/0.008				
TOTAL DIS SOLIDS (T	SOLVED DS)	2,100.00	mg/L	1,850.00	mg/L	4.00	SM 2540 C	10/0.4				
OTHER												
REFER	R TO THE A	PPLICATIO	ON OVERV 2A YO	END OF PA VIEW TO DE	ART B. Etermine Complet		OTHER PART	S OF FORM				

Pease Wastewater Treatment Facility, NH0090000

BASIC APPLICATION INFORMATION

PART C. CERTIFICATION

All applicants must complete the Certification Section. Refer to instructions to determine who is an officer for the purposes of this certification. All applicants must complete all applicable sections of Form 2A, as explained in the Application Overview. Indicate below which parts of Form 2A you have completed and are submitting. By signing this certification statement, applicants confirm that they have reviewed Form 2A and have completed all sections that apply to the facility for which this application is submitted.

Indicate which parts of Form 2A you have completed and are submitting:

indicate which parts	of Form 2A you have comple	ted and are submitting:
Basic App	lication Information packet	Supplemental Application Information packet:
		Part D (Expanded Effluent Testing Data)
		Part E (Toxicity Testing: Biomonitoring Data)
		Part F (Industrial User Discharges and RCRA/CERCLA Wastes)
		Part G (Combined Sewer Systems)
ALL APPLICANTS M	JST COMPLETE THE FOLLO	WING CERTIFICATION.
I certify under penalty designed to assure tha who manage the syste bellef, true, accurate, a and Imprisonment for b	of law that this document and a t qualified personnel properly of m or those persons directly res and complete. I am aware that nowing violations.	Il attachments were prepared under my direction or supervision in accordance with a system gather and evaluate the information submitted. Based on my inquiry of the person or persons sponsible for gathering the information, the information is, to the best of my knowledge and there are significant penalties for submitting false information, including the possibility of fine
Name and official title	John P. Bohenko, C	ity Manager
Signature	Meh P.B	
Telephone number	603-610	7201
Date signed	6-21-19	

Upon request of the permitting authority, you must submit any other information necessary to assess wastewater treatment practices at the treatment works or identify appropriate permitting requirements.

SEND COMPLETED FORMS TO:

Pease Wastewater Treatment Facility, NH0090000

SUPPLEMENTAL APPLICATION INFORMATION

PART D. EXPANDED EFFLUENT TESTING DATA

Refer to the directions on the cover page to determine whether this section applies to the treatment works.

Effluent Testing: 1.0 mgd and Pretreatment Treatment Works. If the treatment works has a design flow greater than or equal to 1.0 mgd or it has (or is required to have) a pretreatment program, or is otherwise required by the permitting authority to provide the data, then provide effluent testing data for the following pollutants. Provide the indicated effluent testing information and any other information required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analyses conducted using 40 CFR Part 136 methods. In addition, these data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. Indicate in the blank rows provided below any data you may have on pollutants not specifically listed in this form. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall number: 005

See Attachment C _ (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	N	/IAXIMU DISCH	IM DAIL` IARGE	Y	A۱	/ERAGE	E DAILY	DISCH	ARGE			
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples	ANALYTICAL METHOD	ML/ MDL	
METALS (TOTAL RECOVERABLE),	CYANIDE,	PHENO	LS, AND I	HARDNE	SS.					-	-	
ANTIMONY	0.31	5 ug/L	0.0016	b/c	0.23	ug/L	0.0014	lb/d	4	EPA 200.8	0.2/0.009	
ARSENIC	4.63	Bug/L	0.0367	2lb/c	4.63	ug/L	0.0256	lb/d	4	EPA 200.8	0.3/0.1	
BERYLLIUM	0.004	4 ug/L	0.0000	Blb/c	0.004	ug/L	0.00003	lb/d	4	EPA 200.8	0.06/0.004	
CADMIUM	0.118	B ug/L	0.0009	₄lb/c	0.07	ug/L	0.00047	lb/d	4	EPA 200.8	0.02/0.008	
CHROMIUM	0.730	ug/L	0.004	/b/c	0.57	ug/L	0.0036	lb/d	4	EPA 200.8	0.1/0.02	
COPPER	19.8	3 ug/L	0.139	b/d	14.47	ug/L	0.0927	lb/d	4	EPA 200.8	0.1/0.02	
LEAD	1.03	3 ug/L	0.0040	b/d	0.44	ug/L	0.00247	lb/d	4	EPA 200.8	0.04/0.005	
MERCURY	6.49	g ug/L	0.0514	Ib/c	4.24	ug/L	0.0295	lb/d	4	EPA 1631 E	0.5/0.08	
NICKEL	8.31	l ug/L	0.037	2lb/c	5.04	ug/L	0.0298	lb/d	4	EPA 200.8	0.1/0.04	
SELENIUM	2.23	3 ug/L	0.017	/b/c	1.62	ug/L	0.0107	lb/d	4	EPA 200.8	0.6/0.44	
SILVER	0.030	0 ug/L	0.0002	Ib/c	0.020	ug/L	0.00015	lb/d	4	EPA 200.8	0.02/0.002	
THALLIUM	ND) ug/L	0.0000	5lb/c	IND	ug/L	0.00004	lb/d	4	EPA 200.8	0.02/0.006	
ZINC	117	ng/L	0.0009	3lb/c	92.43	ng/L	0.0006	lb/d	4	EPA 200.8	0.5/0.16	
CYANIDE	0.012	2 mg/L	. 0.056	b/d	0.0083	mg/L	0.051	lb/d	4	SM 4500-CN E	0.02/0.007	
TOTAL PHENOLIC COMPOUNDS	ND) Mg/L	ND	LB/C	ND	Mg/L	ND	LB/D	4	EPA 420.1	0.05	
HARDNESS (AS CaCO ₃)												
Use this space (or a separate sheet) to	provide in	formatio	n on other	metals re	equested b	by the per	mit writer			I	·	

Pease Wastewater Treatment Facility, NH0090000

Outfall number:	mber: (Complete once for each outfall discharging effluent to waters of the United States.)										
POLLUTANT	N	ЛАХІМL	IM DAIL	(A۱	/ERAGE	DAILY	DISCH	ARGE		
	Conc.	DISCH Units	IARGE Mass	Units	Conc.	Units	Mass	Units	Number of Samples	ANALYTICAL METHOD	ML/ MDL
VOLATILE ORGANIC COMPOUNDS.										1	
ACROLEIN	<10	ug/L	<0.0793	lb/d	<10	ug/L	<0.0642	lb/d	4	DW 846 6270/EPA 680 modified	10
ACRYLONITRILE	<10	ug/L	<0.0793	lb/d	<10	ug/L	<0.0642	lb/d	4	DW 545 5270/EPA 580 modified	10
BENZENE	<2	ug/L	<0.0159	lb/d	<2	ug/L	<0.0129	lb/d	4	SW 846 8370/EPA 680 motified	2
BROMOFORM	2.2	ug/L	0.0108	lb/d	2.05	ug/L	0.0103	lb/d	4	DN 646 8270/EPA 680 mothed	2
CARBON TETRACHLORIDE	<2	ug/L	<0.0108	lb/d	<2	ug/L	<0.0129	lb/d	4	SW 846 8270/EPA 680 mothed	2
CLOROBENZENE	<2	ug/L	<0.0108	lb/d	<2	ug/L	<0.0129	lb/d	4	DW 646 8270/EPA 680 modfled	2
CHLORODIBROMO-METHANE	24	ug/L	0.107	lb/d	14.65	ug/L	0.102	lb/d	4	SW 545 8370/EPA 580 moothed	2
CHLOROETHANE	<2	ug/L	<0.0107	lb/d	<2	ug/L	<0.0129	lb/d	4	SW 546 8270/EPA 680 modified	2
2-CHLORO-ETHYLVINYL ETHER	<4	ug/L	<0.0317	lb/d	<4	ug/L	<0.0257	lb/d	4	SW 845 8270/EPA 680 modfled	4
CHLOROFORM	92	ug/L	0.495	lb/d	64.3	ug/L	0.395	lb/d	4	SW 845 8270/EPA 680 motified	2
DICHLOROBROMO-METHANE	24	ug/L	0.107	lb/d	14.7	ug/L	0.102	lb/d	4	SW 545 8270/ERA 680 modfled	2
1,1-DICHLOROETHANE	<2	ug/L	<0.0158	lb/d	<2	ug/L	<0.0129	lb/d	4	DW 545 5270/EPA 680 modRed	2
1,2-DICHLOROETHANE	<2	ug/L	<0.0158	lb/d	<2	ug/L	<0.0129	lb/d	4	SW 846 8270/EPA 680 mosfied	2
TRANS-1,2-DICHLORO-ETHYLENE	<2	ug/L	<0.0159	lb/d	<2	ug/L	<0.0129	lb/d	4	SW 545-8270/EPA 680 modified	2
1,1-DICHLOROETHYLENE		ug/L		lb/d		ug/L		lb/d		Not analyzed	
1,2-DICHLOROPROPANE	<2	ug/L	<0.0159	lb/d	<2	ug/L	<0.0129	lb/d	4	DW B45 8270/EPA 680 mosfled	2
1,3-DICHLORO-PROPYLENE		ug/L		lb/d		ug/L		lb/d		Not analyzed	
ETHYLBENZENE	<2	ug/L	<0.0159	lb/d	<2	ug/L	<0.0129	lb/d	4	DW 545 8270/EPA 680 modfled	2
METHYL BROMIDE		ug/L		lb/d		ug/L		lb/d		Not analyzed	
METHYL CHLORIDE		ug/L		lb/d		ug/L		lb/d		Not analyzed	
METHYLENE CHLORIDE	<2	ug/L	<0.0159	lb/d	<2	ug/L	<0.0129	lb/d	4	D/V 646 8270/EPA 660 mostled	2
1,1,2,2-TETRACHLORO-ETHANE	<2	ug/L	<0.0159	lb/d	<2	ug/L	<0.0129	lb/d	4	DW 545 8370/EPA 680 modfled	2
TETRACHLORO-ETHYLENE		ug/L		lb/d		ug/L		lb/d		Not analyzed	
TOLUENE	<2	ug/L	<0.0159	lb/d	<2	ug/L	<0.0129	lb/d	4	SW 546 8270/EPA 660 modified	2

Pease Wastewater Treatment Facility, NH0090000

Outfall number: (Complete once for each outfall discharging effluent to waters of the United States.) POLLUTANT MAXIMUM DAILY AVERAGE DAILY DISCHARGE DISCHARGE Conc. Units Mass Conc. Units Mass Units Number Units ANALYTICAL ML/ MDL of METHOD Samples <2 ug/L <0.0159 lb/d <2 ug/L <0.0129 lb/d 2 4 1,1,1-TRICHLOROETHANE SW 845 8270/EPA 680 modi ug/L<0.0159 lb/d <2 1,1,2-TRICHLOROETHANE < 2ug/L<0.0129 b/d 4 2 SW 846 8270/EPA 680 modified TRICHLORETHYLENE lb/d ug/L ug/L lb/d Not Analyzed 2 VINYL CHLORIDE < 2ug/L<0.0159 b/d <2 4 ug/L <0.0129 b/d SW BAE 8270/FPA 580 modified Use this space (or a separate sheet) to provide information on other volatile organic compounds requested by the permit writer. ACID-EXTRACTABLE COMPOUNDS P-CHLORO-M-CRESOL ug/L lb/d ug/L lb/d Not Analyzed 2-CHLOROPHENOL ug/L <0.0238 b/d <3 <33 ug/L <0.0198 b/d 4 SW 846 8270/EPA 660 modified 2.4-DICHLOROPHENOL <3ug/L<0.0238 b/d <3 3 ug/L <0.0198 lb/d 4 SW 846 8270/EPA 680 modified 2,4-DIMETHYLPHENOL ug/L <0.0198 lb/d ug/L<0.0238 lb/d <3 <34 SW 846 8270/EPA 680 modified 3 4,6-DINITRO-O-CRESOL lb/d ug/L lb/d ug/L Not Analyzed 5 < 5ug/L <0.0397 lb/d <5 ug/L <0.0321 lb/d 2,4-DINITROPHENOL 4 SW 846 8270/EPA 680 modified 2-NITROPHENOL <33 ug/L<0.0238 b/d <3 ug/L <0.0198 lb/d 4 SW 846 8270/EPA 680 modified **4-NITROPHENOL** <34 3 ug/L<0.0238 b/d <3 ug/L<0.0198 b/d SW 846 8270/EPA 680 modified PENTACHLOROPHENOL < 3ug/L<0.0238 b/d <3 4 3 ug/L <0.0198 lb/d SW 846 8270/EPA 880 modified <33 PHENOL ug/L<0.0238 b/d <3 4 ug/L<0.0198 lb/d SW 846 8270/EPA 680 modified 3 4 2,4,6-TRICHLOROPHENOL <3ug/L<0.0238 b/d <3 ug/L <0.0198 lb/d SW 845 E270/EPA 680 modifier Use this space (or a separate sheet) to provide information on other acid-extractable compounds requested by the permit writer BASE-NEUTRAL COMPOUNDS. ACENAPHTHENE ug/L<0.0238 b/d <3 <3ug/L <0.0198 lb/d 4 W 846 8270/EPA 660 modifies 3 <3 4 3 ACENAPHTHYLENE ug/L<0.0238 b/d <3 ug/L<0.0198 lb/d W 845 8270/EPA 680 modified ug/L<0.0238 b/d <3 ug/L <0.0198 lb/d <3 3 ANTHRACENE 4 N 546 8270/EPA 680 modified <3ug/L<0.0238 b/d <3 ug/L <0.0198 b/d 4 3 BENZIDINE W 846 8270/EPA 660 modified ug/L<0.0238 lb/d <3 <3ug/L <0 0198 lb/d 3 4 W 845 8270/EPA 680 modifier **BENZO(A)ANTHRACENE** ug/L<0.0238 b/d <3 4 3 <3ug/L <0.0198 lb/d W 846 E270/EPA 680 modified **BENZO(A)PYRENE**

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Pease Wastewater Treatment Facility, NH0090000

Outfall number:	(Complete once for each outfall discharging effluent to waters of the United States.)										
POLLUTANT	Ν	MAXIMUM DAILY AVERAGE DAILY DISCHARGE									
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples	ANALYTICAL METHOD	ML/ MDL
3,4 BENZO-FLUORANTHENE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	SW 545 5270/EPA 550 modfled	3
BENZO(GHI)PERYLENE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	5W 846 8270/EPA 880 modified	3
BENZO(K)FLUORANTHENE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	DW 846 8270/EPA 680 mosfiled	3
BIS (2-CHLOROETHOXY) METHANE	<3	ug/L	<0.0238	lb/d	<3	ug/L	< 0.0198	lb/d	4	SW 846 8270/EPA 650 modified	3
BIS (2-CHLOROETHYL)-ETHER	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	SW 846 8270/EPA 680 modified	3
BIS (2-CHLOROISO-PROPYL) ETHER	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	GW 846 8270/EPA 680 modfled	3
BIS (2-ETHYLHEXYL) PHTHALATE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	SW 846 8270/EPA 680 modRed	3
4-BROMOPHENYL PHENYL ETHER	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	SW 646 8270/EPA 660 modified	3
BUTYL BENZYL PHTHALATE	<3	ug/L	< 0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	SW 846 6270/EPA 680 modified	3
2-CHLORONAPHTHALENE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	SW 546 8270/EPA 660 moatled	3
4-CHLORPHENYL PHENYL ETHER	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	SW 846 8270/EPA 650 modified	3
CHRYSENE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	SW 846 8270/EPA 680 modified	3
DI-N-BUTYL PHTHALATE	21	ug/L	0.166	lb/d	14.7	ug/L	0.113	lb/d	4	SW 846 8270/EPA 660 modfled	3
DI-N-OCTYL PHTHALATE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	SW 546 8270/EPA 880 modfled	3
DIBENZO(A,H) ANTHRACENE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	5w 846 8270/EPA 680 modified	3
1,2-DICHLOROBENZENE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	SW 545 5270/EPA 655 modified	3
1,3-DICHLOROBENZENE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	SW 846 6270/EPA 680 modfled	3
1,4-DICHLOROBENZENE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	SW 545 8270/EPA 580 modfled	3
3,3-DICHLOROBENZIDINE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	SW 545 8270/EPA 650 modified	3
DIETHYL PHTHALATE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	SW 546 8270/EPA 680 modified	3
DIMETHYL PHTHALATE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	GW 5+6 8270/EPA 680 modfled	3
2,4-DINITROTOLUENE	<3	ug/L	< 0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	SW 846 8270/EPA 680 modified	3
2,6-DINITROTOLUENE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	5W 846 8270/EPA 680 modiled	3
1,2-DIPHENYLHYDRAZINE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	SW 846 6270/EPA 680 modified	3

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ML/ MDL

3

3

3

3

3

3

3

3

3

3

3

3

3

3

3

3

4

4

SW 846 8270/EPA 680 modile

SW 846 8270/EPA 650 modifie

FACILITY NAME AND PERMIT Pease Wastewater Treatment	NUMBER t Facility,	:: NH009	0000							Form Appro OMB Numb
Outfall number:	(Comp	lete onc	e for eac	h outfall	discharg	ing efflu	ent to w	aters of	the United S	States.)
POLLUTANT	N	AXIMU DISCH	IM DAIL` IARGE	Y	A۱	/ERAGE	E DAILY	DISCH	ARGE	
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples	ANALYTICAL METHOD
FLUORANTHENE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	SW 846 8270/EPA 680 modified
FLUORENE	<3	ug/L	<0.0238	lb/d	<3	ug/L	< 0.0198	lb/d	4	5W 846 8270/EPA 680 modified
HEXACHLOROBENZENE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	SW 545 5275/EPA 650 moothed
HEXACHLOROBUTADIENE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	SW 846 8270/EPA 680 modfled
HEXACHLOROCYCLO- PENTADIENE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	EW 846 6270/EPA 680 modifies
HEXACHLOROETHANE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	5W 846 8275/EPA 680 modfled
INDENO(1,2,3-CD)PYRENE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	SW 846 6270/EPA 660 modified
ISOPHORONE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	SW 846 5270/EPA 650 modified
NAPHTHALENE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	EW 846 8370/EPA 680 mostles
NITROBENZENE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	
N-NITROSODI-N-PROPYLAMINE	4.4	ug/L	<0.0238	lb/d	3.35	ug/L	0.0208	lb/d	4	DW 846 8275/EPA 680 modfled
N-NITROSODI- METHYLAMINE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	5W 846 8270/EPA 660 modified
N-NITROSODI-PHENYLAMINE	<3	ug/L	<0.0238	lb/d	<3	ug/L	<0.0198	lb/d	4	SW 846 8275/EPA 680 modeled
PHENANTHRENE	<3	ug/L	<0.0238	lb/d	<3	ug/L	< 0.0198	lb/d	4	SW 846 8270/EPA 680 modified

END OF PART D. **REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE**

<3 ug/L <0.0238 lb/d <3 ug/L <0.0198 lb/d

Use this space (or a separate sheet) to provide information on other base-neutral compounds requested by the permit writer.

Use this space (or a separate sheet) to provide information on other pollutants (e.g., pesticides) requested by the permit writer.

ug/L<0.0238 lb/d <3 ug/L<0.0198 lb/d

<3

PYRENE

1,2,4-TRICHLOROBENZENE

Pease Wastewater Treatment Facility, NH0090000

SUPPLEMENTAL APPLICATION INFORMATION

PART E. TOXICITY TESTING DATA

POTWs meeting one or more of the following criteria must provide the results of whole effluent toxicity tests for acute or chronic toxicity for each of the facility's discharge points: 1) POTWs with a design flow rate greater than or equal to 1.0 mgd; 2) POTWs with a pretreatment program (or those that are required to have one under 40 CFR Part 403); or 3) POTWs required by the permitting authority to submit data for these parameters.

- At a minimum, these results must include quarterly testing for a 12-month period within the past 1 year using multiple species (minimum of two species), or the results from four tests performed at least annually in the four and one-half years prior to the application, provided the results show no appreciable toxicity, and testing for acute and/or chronic toxicity, depending on the range of receiving water dilution. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136.
- In addition, submit the results of any other whole effluent toxicity tests from the past four and one-half years. If a whole effluent toxicity
 test conducted during the past four and one-half years revealed toxicity, provide any information on the cause of the toxicity or any results
 of a toxicity reduction evaluation, if one was conducted.
- If you have already submitted any of the information requested in Part E, you need not submit it again. Rather, provide the information requested in question E.4 for previously submitted information. If EPA methods were not used, report the reasons for using alternate methods. If test summaries are available that contain all of the information requested below, they may be submitted in place of Part E.

If no biomonitoring data is required, do not complete Part E. Refer to the Application Overview for directions on which other sections of the form to complete.

E.1. Required Tests.

Indicate the number of whole effluent toxicity tests conducted in the past four and one-half years.

chronic

<u>10</u>_{acute} E.1. (continued) See Attachment D for test summaries

E.2. Individual Test Data. Complete the following chart <u>for each whole effluent toxicity test conducted in the last four and one-half years.</u> Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number:	Test number:	Test number:
a. Test information.			
Test species & test method number			
Age at initiation of test			
Outfall number			
Dates sample collected			
Date test started			
Duration			
b. Give toxicity test methods followe	ed.		
Manual title			
Edition number and year of publication			
Page number(s)			
c. Give the sample collection metho	od(s) used. For multiple grab sample	s, indicate the number of grab sample	s used.
24-Hour composite			
Grab			
d. Indicate where the sample was ta	aken in relation to disinfection. (Chec	k all that apply for each)	
Before disinfection			
After disinfection			
After dechlorination			

Pease Wastewater Treatment Facility, NH0090000

	Test number:	Test number:	Test number:
e. Describe the point in the treatment	nt process at which the sample was	collected.	
Sample was collected:			
f. For each test, include whether the	e test was intended to assess chronic	c toxicity, acute toxicity, or both.	
Chronic toxicity			
Acute toxicity			
g. Provide the type of test performed	d.		
Static			
Static-renewal			
Flow-through			
h. Source of dilution water. If labora	atory water, specify type; if receiving	water, specify source.	
Laboratory water			
Receiving water			
i. Type of dilution water. It salt wate	er, specify "natural" or type of artificia	I sea salts or brine used.	
Fresh water			
Salt water			
j. Give the percentage effluent used	for all concentrations in the test ser	ies.	
k. Parameters measured during the	test. (State whether parameter mee	ts test method specifications)	
рН			
Salinity			
Temperature			
Ammonia			
Dissolved oxygen			
I. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC ₅₀			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			

Pease Wastewater Treatment Facility, NH0090000

Chronic:								
NOEC	%	%	%					
IC ₂₅	%	%	%					
Control percent survival	%	%	%					
Other (describe)								
m. Quality Control/Quality Assuran	ce.							
Is reference toxicant data available?								
Was reference toxicant test within acceptable bounds?								
What date was reference toxicant test run (MM/DD/YYYY)?								
Other (describe)	Other (describe)							
Other (describe) E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation? YesNo If yes, describe:								
END OF PART E. REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE								

FACILITY NAME	AND PERMIT	NUMBER:
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Pease Wastewater Treatment Facility, NH0090000

SUPPLEMENTAL APPLICATION INFORMATION

PART F. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete Part F.

GENERAL INFORMATION:

F.1.	Pretreatment Program.	Does the treatment	t works have, o	or is it subject to, a	in approved pretreatn	nent program?
------	-----------------------	--------------------	-----------------	------------------------	-----------------------	---------------

_Yes 🖌 No

While the City does not have an EPA required program, the City implements a formal permitting program for all industrial users.
 F.2. Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works.

a. Number of non-categorical SIUs. 6.00

b. Number of CIUs. 0.00

SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3. Significant Industrial User Information. Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

See Attachment E for Significant Industrial User Information

Mailing Address:

Name:

F.4. Industrial Processes. Describe all of the industrial processes that affect or contribute to the SIU's discharge.

F.5.	Principal Product(s) and Raw Material(s). discharge.	Describe all of the principal processes and raw materials that affect or contribute to the SIU's
	Principal product(s):	

Raw material(s):

F.6. Flow Rate.

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

____ gpd (____continuous or _____intermittent)

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

_____ gpd (____continuous or _____intermittent)

F.7. Pretreatment Standards. Indicate whether the SIU is subject to the following:

- a. Local limits _____Yes ____No
- b. Categorical pretreatment standards _____Yes ____No

If subject to categorical pretreatment standards, which category and subcategory?

FAC			Form Approved 1/14/99 OMB Number 2040-0086		
Pease	e vv	Astewater Treatment Facility, NH0090000			
F.8.	Pro up:	oblems at the Treatment Works Attributed to Waste Discharged by tasts, interference) at the treatment works in the past three years?	the SIU. Has the SIU caused or contributed to any problems (e.g.,		
		YesNo If yes, describe each episode.			
RCR	2 Δ F	HAZARDOUS WASTE RECEIVED BY TRUCK RAIL OR DED			
EO		PA Waste Dess the treatment works receive or has it in the past three	waare received BCDA bezerdeue weete by truck rail, or dedicated		
г.э.	pip	be?Yes <u>✓</u> No (go to F.12.)	years received RCRA hazardous waste by fruck, rail, of dedicated		
F.10.	. w	aste Transport. Method by which RCRA waste is received (check all th	at apply):		
		TruckRailDedicated Pipe			
F.11.	. Wa	aste Description. Give EPA hazardous waste number and amount (vo	ume or mass, specify units).		
	<u>E</u> P	PA Hazardous Waste Number Amount	<u>Units</u>		
CER		A (SUPERFUND) WASTEWATER, RCRA REMEDIATION/CO	RRECTIVE		
ACT		WASTEWATER, AND OTHER REMEDIAL ACTIVITY WAST			
F.12.	. Re	emediation Waste. Does the treatment works currently (or has it been i	notified that it will) receive waste from remedial activities?		
		Yes (complete F.13 through F.15.)No			
	Pr	rovide a list of sites and the requested information (F.13 - F.15.) for each	current and future site.		
E 42	14/	Nexts Origin Describe the site and type of facility at which the CEDCLA	/DCDA/or other remedial waste originates (or is eveneded to originate		
F.13.	in f	the next five years).	RCRAID Uner remedial waste originales (or is expected to originale		
F.14.	. Po	bllutants. List the hazardous constituents that are received (or are expe	cted to be received). Include data on volume and concentration, if		
	KN	own. (Attach additional sheets if necessary).			
E 16	14/	anto Transmont			
F.13.			A supplier 2		
	a.	Is this waste treated (or will it be treated) prior to entering the treatmen	t works?		
		YesNo			
		If yes, describe the treatment (provide information about the removal e	fficiency):		
	b.	Is the discharge (or will the discharge be) continuous or intermittent?			
		ContinuousIntermittent If intermittent,	describe discharge schedule.		
			RT F		
RF	FF		FRMINE WHICH OTHER PARTS OF FORM		
		2A 100 W031 C			

EPA Form 3510-2A (Rev. 1-99). Replaces EPA forms 7550-6 & 7550-22.

Pease Wastewater Treatment Facility, NH0090000

SUPPLEMENTAL APPLICATION INFORMATION

PART G. COMBINED SEWER SYSTEMS

If the treatment works has a combined sewer system, complete Part G.

- G.1. System Map. Provide a map indicating the following: (may be included with Basic Application Information)
 - a. All CSO discharge points.
 - b. Sensitive use areas potentially affected by CSOs (e.g., beaches, drinking water supplies, shellfish beds, sensitive aquatic ecosystems, and outstanding natural resource waters).
 - c. Waters that support threatened and endangered species potentially affected by CSOs.
- **G.2.** System Diagram. Provide a diagram, either in the map provided in G.1. or on a separate drawing, of the combined sewer collection system that includes the following information:
 - a. Locations of major sewer trunk lines, both combined and separate sanitary.
 - b. Locations of points where separate sanitary sewers feed into the combined sewer system.
 - c. Locations of in-line and off-line storage structures.
 - d. Locations of flow-regulating devices.
 - e. Locations of pump stations.

CSO OUTFALLS:

Complete questions G.3 through G.6 once for each CSO discharge pe	oint.
---	-------

G.3. Description of Outfall.

	а.	Outrall number		
	h	Location		
	υ.	Location	(City or town, if applicable)	(Zip Code)
			(County)	(State)
			(Latitude)	(Longitude)
	C.	Distance from shore (if a	applicable)	ft.
	d.	Depth below surface (if	applicable)	ft.
	e.	Which of the following w	vere monitored during the last year for this C	SO?
		Deinfell		
			CSO pollutant concentrations	CSO frequency
		CSO flow volume	Receiving water quality	
	f.	How many storm events	were monitored during the last year?	
		, , , , , , , , , ,		
G.4.	csc) Events.		
	a.	Give the number of CSC	Devents in the last year.	
		events (actual or approx.)	
	h	Give the average duration	on per CSO event	
	Ν.	bours /	actual or approx)	
		nours (_ actual of approx.)	

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c. Give the average volume per CSO event.	I	
million gallons (actua	l or approx.)	
d. Give the minimum rainfall that caused a C	SO event in the last year.	
inches of rainfall		
G.5. Description of Receiving Waters.		
a. Name of receiving water:		
b. Name of watershed/river/stream system:		
United States Soil Conservation Service	14-digit watershed code (if knov	/n):
c. Name of State Management/River Basin:		
United States Geological Survey 8-digit h	ydrologic cataloging unit code (if known):
G.6. CSO Operations.		
Describe any known water quality impacts on permanent or intermittent shell fish bed closin quality standard).	the receiving water caused by gs, fish kills, fish advisories, oth	this CSO (e.g., permanent or intermittent beach closings, her recreational loss, or violation of any applicable State water
	END OF PAR	Г G.
REFER TO THE APPLICATION C	OVERVIEW TO DETE	ERMINE WHICH OTHER PARTS OF FOR MPLETE.

Additional information, if provided, will appear on the following pages.

FORM 2S

Pease WWTF NH0090000

FORM 2S NPDES

NPDES FORM 2S APPLICATION OVERVIEW

PRELIMINARY INFORMATION

This page is designed to indicate whether the applicant is to complete Part 1 or Part 2. Review each category, and then complete Part 1 or Part 2, as indicated. For purposes of this form, the term "you" refers to the applicant. "This facility" and "your facility" refer to the facility for which application information is submitted.

FACILITIES INCLUDED IN ANY OF THE FOLLOWING CATEGORIES MUST COMPLETE PART 2 (PERMIT APPLICATION INFORMATION).

- 1. Facilities with a currently effective NPDES permit.
- 2. Facilities which have been directed by the permitting authority to submit a full permit application at this time.

ALL OTHER FACILITIES MUST COMPLETE PART 1 (LIMITED BACKGROUND INFORMATION).

PART 1: LIMITED BACKGROUND INFORMATION

This part should be completed only by "sludge-only" facilities - that is, facilities that do not currently have, and are not applying for, an NPDES permit for a direct discharge to a surface body of water.

For purposes of this form, the term "you" refers to the applicant. "This facility" and "your facility" refer to the facility for which application information is submitted.

1.	Faci	lity Information.				
	a.	Facility name				
	b.	Mailing Address				
	C.	Contact person				
		Title				
		Telephone number				
	d.	Facility Address (not P.O. B ox)				
	e.	Indicate the type of facility				
		Publicly owned treatment we	orks (POTW)		Privately owned treatment work	S
		Federally owned treatment	works		Blending or treatment operation	1
		Surface disposal site			Sewage sludge incinerator	
		Other (describe)				
2.	Арр	licant Information.				
	а.	Applicant name				
	b.	Mailing Address				
	C.	Contact person				
		Title			***	
		Telephone number				
	d.	Is the applicant the owner or operator (c	or both) of this fac	cility?		
		owner operator				
	e.	Should correspondence regarding this p	permit be directed	d to the fac	lity or the applicant?	
		facility applicant				

FACILITY NAME AND PERMIT NUMBER:
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3.	Sev	vage Sludge Amount. Provide the total dry metric tons per latest 365 day period of	sewage sludge handled under the following practices
	a.	Amount generated at the facility	dry metric tons
	b.	Amount received from off site	dry metric tons
	C.	Amount treated or blended on site	dry metric tons
	d.	Amount sold or given away in a bag or other container for application to the land	dry metric tons
	e.	Amount of bulk sewage sludge shipped off site for treatment or blending	dry metric tons
	f.	Amount applied to the land in bulk form	dry metric tons
	g.	Amount placed on a surface disposal site	dry metric tons
	h.	Amount fired in a sewage sludge incinerator	dry metric tons
	i.	Amount sent to a municipal solid waste landfill	dry metric tons
	j.	Amount used or disposed by another practice	dry metric tons
		Describe	

4. Pollutant Concentrations. Using the table below or a separate attachment, provide existing sewage sludge monitoring data for the pollutants for which limits in sewage sludge have been established in 40 CFR part 503 for this facility's expected use or disposal practices. If available, base data on three or more samples taken at least one month apart and no more than four and one-half years old.

POLLUTANT	CONCENTRATION (mg/kg dry weight)	ANALYTICAL METHOD	DETECTION LEVEL FOR ANALYSIS
ARSENIC			
CADMIUM			
CHROMIUM			
COPPER			
LEAD			
MERCURY			
MOLYBDENUM			
NICKEL			
SELENIUM			
ZINC			

5. Treatment Provided At Your Facility.

a. Which class of pathogen reduction does the sewage sludge meet at your facility?

_____ Class A _____ Class B _____ Neither or unknown

b. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce pathogens in sewage sludge:

FACILITY NAME AND PERMIT NUMBER:
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c. Which vector attraction reduction option is met for the sewage sludge at your facility?

Option 1 (Minimum 38 percent reduction in volatile solids)

_____ Option 2 (Anaerobic process, with bench-scale demonstration)

_____ Option 3 (Aerobic process, with bench-scale demonstration)

_____ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)

_____ Option 5 (Aerobic processes plus raised temperature)

_____ Option 6 (Raise pH to 12 and retain at 11.5)

_____ Option 7 (75 percent solids with no unstabilized solids)

_____ Option 8 (90 percent solids with unstabilized solids)

_____ Option 9 (Injection below land surface)

- _____ Option 10 (Incorporation into soil within 6 hours)
- _____ Option 11 (Covering active sewage sludge unit daily)

_____ None or unknown

d. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce vector attraction properties of sewage sludge:

6.	Sewage Sludge Sent to Other Facilities. Does the sewage sludge from your facility meet the Table 1 ceiling concentrations, the Table 3
	pollutant concentrations, Class A pathogen requirements, and one of the vector attraction options 1-8?
	YesNo

If yes, go to question 8 (Certification).

If no, is sewage sludge from your facility provided to another facility for treatment, distribution, use, or disposal? _____ Yes _____ No

If no, go to question 7 (Use and Disposal Sites).

If yes, provide the following information for the facility receiving the sewage sludge:

a.	Facility name
----	---------------

b. Mailing address

c. Contact person

Title

Teleph	one number	

d. Which activities does the receiving facility provide? (Check all that apply)

_____ Treatment or blending

Land application

_____ Sale or give-away in bag or other container _____ Surface disposal

Incineration

_____ Other (describe):

FA Pea	CILIT se W	Y NAME AND PERMIT NUM /WTF NH0090000	MBER:	Form A OMB N	Approved 1/14/99 Number 2040-0086
7.	Use	e and Disposal Sites. Provi	ide the following information for each site o	n which sewage sludge from this facility is used o	or disposed:
	a.	Site name or number			-
	b.	Contact person			_
		Title			_
		Telephone			_
	C.	Site location (Complete 1	or 2)		_
		1. Street or Route #	,		
		County			-
		City or Town	State	Zin	-
				Zip	-
	-1	2. Latitude	Longitude		
	a.	Site type (Check all that ap	рру) 		
		Agricultural	Lawn or home garden	Forest	
		Reclamation	Municipal Solid Waste Landfill	Other (describe):	
8.	Cer I ce sys or p kno pos Nar Sig Tel Dat	rtification. Sign the certifica ertify under penalty of law that tem designed to assure that bersons who manage the sys owledge and belief, true, accu- ssibility of fine and imprisonme me and official title	tion statement below. (Refer to instruction t this document and all attachments were p qualified personnel properly gather and ev stem or those persons directly responsible urate, and complete. I am aware that there ent for knowing violations.	s to determine who is an officer for purposes of the prepared under my direction or supervision in acculate the information submitted. Based on my inforgathering the information, the information is, to are significant penalties for submitting false information	nis certification.) cordance with the nquiry of the person o the best of my rmation, including the

SEND COMPLETED FORMS TO:

Pease WWTF NH0090000

PART 2: PERMIT APPLICATION INFORMATION

Complete this part if you have an effective NPDES permit or have been directed by the permitting authority to submit a full permit application at this time. In other words, complete this part if your facility has, or is applying for, an NPDES permit.

For purposes of this form, the term "you" refers to the applicant. "This facility" and "your facility" refer to the facility for which application information is submitted.

APPLICATION OVERVIEW — SEWAGE SLUDGE USE OR DISPOSAL INFORMATION

Part 2 is divided into five sections (A-E). Section A pertains to all applicants. The applicability of Sections B, C, D, and E depends on your facility's sewage sludge use or disposal practices. The information provided on this page indicates which sections of Part 2 to fill out.

1. SECTION A: GENERAL INFORMATION.

Section A must be completed by all applicants

2. SECTION B: GENERATION OF SEWAGE SLUDGE OR PREPARATION OF A MATERIAL DERIVED FROM SEWAGE SLUDGE.

Section B must be completed by applicants who either:

- 1) Generate sewage sludge, or
- 2) Derive a material from sewage sludge.

3. SECTION C: LAND APPLICATION OF BULK SEWAGE SLUDGE.

Section C must be completed by applicants who either:

- 1) Apply sewage to the land, or
- 2) Generate sewage sludge which is applied to the land by others.
- NOTE: Applicants who meet either or both of the two above criteria are exempted from this requirement if <u>all</u> sewage sludge from their facility falls into one of the following three categories:
- 1) The sewage sludge from this facility meets the ceiling and pollutant concentrations, Class A pathogen reduction requirements, and one of vector attraction reduction options 1-8, as identified in the instructions, or
- 2) The sewage sludge from this facility is placed in a bag or other container for sale or give-away for application to the land, or
- 3) The sewage sludge from this facility is sent to another facility for treatment or blending.

4. SECTION D: SURFACE DISPOSAL

Section D must be completed by applicants who own or operate a surface disposal site.

5. SECTION E: INCINERATION

Section E must be completed by applicants who own or operate a sewage sludge incinerator.

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	Α.	GENERAL	INFORMATION
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All ap	All applicants must complete this section.					
A.1. I	Faci	lity Information.				
á	a.	Facility name	Pease Wastewater Treatment Facility			
ł	э.	Mailing Address	135 Corporate Drive Porsmouth, NH			
C	с.	Contact person	Terry Desmarais, P.E.			
		Title	City Engineer Water and Sewer Division			
		Telephone number	(603) 766-1421			
(d.	Facility Address (not P.O. Box)	135 Corporate Drive Portsmouth, NH			
e	ə.	Is this facility a Class I sludge man	nagement facility? Yes No			
f	F.	Facility design flow rate:1.20	mgd			
Q	g.	Total population served:9,0	00.00			
ł	า.	Indicate the type of facility:				
		Publicly owned treatment Federally owned treatmen Surface disposal site Other (describe)	works (POTW) Privately owned treatment works it works Blending or treatment operation Sewage sludge incinerator			
A.2.	Арр	licant Information. If the applicar	nt is different from the above, provide the following:			
á	a.	Applicant name	City of Portsmouth			
ł	Э.	Mailing Address	680 Peverly Hill Road Portsmouth, NH 03801			
C	C.	Contact person	Terry Desmarais, P.E.			
		Title	City Engineer Water and Sewer Division			
	2. <i>A</i>	Telephone number A. (continued) The app Is the applicant the owner or open	(603) 766-1421 Dication was prepared by Underwood Engineers for the City. ator (or both) of this facility?			
		owner opera	ator			
6	ə.	Should correspondence regarding	this permit should be directed to the facility or the applicant.			
		facility applie	cant			

Pease V	IY NAME AND PERMIT NUMBER: WWTF NH0090000		Form Approved 1/14/99 OMB Number 2040-0086
A.3. Pe a. b.	rmit Information. Facility's NPDES permit number (if appl List, on this form or an attachment, all o this facility's sewage sludge manageme Permit Number Typ	licable): NH0090000 other Federal, State, and local per ent practices: be of Permit	mits or construction approvals received or applied for that regulate
A.4. Ind Co	Jian Country. Does any generation, treat ountry? YesNo If yes, de	tment, storage, application to land	I, or disposal of sewage sludge from this facility occur in Indian
A.5. To foll	pographic Map. Provide a topographic n lowing information. Map(s) should include	nap or maps (or other appropriate the area one mile beyond all pro	map(s) if a topographic map is unavailable) that show the perty boundaries of the facility:
b. W/	Location of all wells, springs, and other the facility property boundaries.	surface water bodies, listed in pu	where sewage sharper is stored, it called, or disposed. iblic records or otherwise known to the applicant within $1/4$ mile of in Attachment B
A.6. Lin ter	The Drawing. Provide a line drawing and/o m of the permit, including all processes us lids leaving each unit, and all methods use	or a narrative description that iden sed for collecting, dewatering, sto ed for pathogen reduction and ver	In Attachment D . tifies all sewage sludge processes that will be employed during the ring, or treating sewage sludge, the destination(s) of all liquids and ctor attraction reduction.
W A.7. Co	WTF Maps and Process Flow ntractor Information.	Schematics are provided	in Attachment B.
Are	e any operational or maintenance aspects ntractor?Yes^	of this facility related to sewage গ থ	sludge generation, treatment, use or disposal the responsibility of a
lf y	res, provide the following for each contract	tor (attach additional pages if nec	essary):
a. h	Name	<u></u>	
υ.			
C.	Telephone Number		
FACILITY NAME AND PERMIT NUMBER:

Pease WWTF NH0090000

A.8. Pollution Concentrations: Using the table below or a separate attachment, provide sewage sludge monitoring data for the pollutants for which limits in sewage sludge have been established in 40 CFR Part 503 for this facility's expected use or disposal practices. All data must be based on three or more samples taken at least one month apart and must be no more than four and one-half years old.

POLLUTANT	CONCENTRATION (mg/kg dry weight)	ANALYTICAL METHOD	DETECTION LEVEL FOR ANALYSIS
ARSENIC	ND	6020	0.5
CADMIUM	ND	6020	0.1
CHROMIUM	ND	6020	0.1
COPPER	Not Analyzed		
LEAD	ND	6020	0.5
MERCURY	ND	6020	0.01
MOLYBDENUM	Not Analyzed		
NICKEL	Not Analyzed		
SELENIUM	ND	6020	0.1
ZINC	Not Analyzed		

A.9. Certification. Read and submit the following certification statement with this application. Refer to the instructions to determine who is an officer for purposes of this certification. Indicate which parts of Form 2S you have completed and are submitting:

Part 1 Limited Background	Information packet
---------------------------	--------------------

Part 2 Permit Application Information packet:

Section A (General Information)

 Section B (Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge)

Section C (Land Application of Bulk Sewage Sludge)

_____ Section D (Surface Disposal)

_ Section E (Incineration)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with the system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and official title	John P. Bohenko, City Manager			
Signature	Mut P.B	_ Date signed	6-21-19	
Telephone number	603-610-7201		· · · · · · · · · · · · · · · · · · ·	

Upon request of the permitting authority, you must submit any other information necessary to assess sewage sludge use or disposal practices at your facility or identify appropriate permitting requirements.

SEND COMPLETED FORMS TO:

FACILITY NAME AND PERMIT NUMBER: Pease WWTF NH0090000			Form Approved 1/14/99 OMB Number 2040-0086		
В.	B. GENERATION OF SEWAGE SLUDGE OR PREPARATION OF A MATERIAL DERIVED FROM SEWAGE SLUDGE				
Con	nplete	e this section if your facility generates sewage sludge or derives a	material from sewage sludge.		
B.1. B.2.	 3.1. Amount Generated On Site. Total dry metric tons per 365-day period generated at your facility:172.00 dry metric tons B.1. (continued) From 2015 sludge hauling records B.2. Amount Received from Off Site. If your facility receives sewage sludge from another facility for treatment, use, or disposal, provide the following information for each facility from which sewage sludge is received. If you receive sewage sludge from more than one facility, attach additional pages as necessary. 				
	a.	Facility name			
	b.	Mailing Address			
	C.	Contact person			
	d.	Facility Address (not P.O. Box)			
	e. f.	Total dry metric tons per 365-day period received from this facility: Describe, on this form or on another sheet of paper, any treatment prod activities and treatment to reduce pathogens or vector attraction charac	dry metric tons cesses known to occur at the off-site facility, including blending cteristics.		
В.3.	Trea a. b.	tment Provided At Your Facility. Which class of pathogen reduction is achieved for the sewage sludge a Class A Class B Neither or Describe, on this form or another sheet of paper, any treatment proces	at your facility? • unknown • used at your facility to reduce pathogens in sewage sludge:		
	C.	Which vector attraction reduction option is met for the sewage sludge a Option 1 (Minimum 38 percent reduction in volatile solids) Option 2 (Anaerobic process, with bench-scale demonstration Option 3 (Aerobic process, with bench-scale demonstration) Option 4 (Specific oxygen uptake rate for aerobically digested Option 5 (Aerobic processes plus raised temperature) Option 6 (Raise pH to 12 and retain at 11.5) Option 7 (75 percent solids with no unstabilized solids) Option 8 (90 percent solids with unstabilized solids) None or unknown	at your facility? n) d sludge)		

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B.3. Treatment Provided At Your Facility. (con't)					
	d.	Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce vector attraction properties of sewage sludge:			
	e.	Describe, on this form or another sheet of paper, any other sewage sludge treatment or blending activities not identified in (a) - (d) above			
Con con requ crite	nplet centi Jirem eria.	e Section B.4 if sewage sludge from your facility meets the ceiling concentrations in Table 1 of 40 CFR 503.13, the pollutant ations in Table 3 of §503.13, the Class A pathogen reduction requirements in §503.32(a), <u>and</u> one of the vector attraction reduction rents in § 503.33(b)(1)-(8) and is land applied. Skip this section if sewage sludge from your facility does <u>not</u> meet all of these	n		
B.4.	Pre	paration of Sewage Sludge Meeting Ceiling and Pollutant Concentrations, Class A Pathogen Requirements, and One of Vector			
	Attr a.	action Reduction Options 1-8. Total dry metric tons per 365-day period of sewage sludge subject to this section that is applied to the land: dry metric ton	\$		
	b.	Is sewage sludge subject to this section placed in bags or other containers for sale or give-away for application to the land?			
		YesNo			
the	ipiet sewa	e Section B.5. If you place sewage sludge in a bag or other container for sale or give-away for land application. Skip this section ge sludge is covered in Section B.4.	Т		
B.5.	Sale a.	Sale or Give-Away in a Bag or Other Container for Application to the Land. a. Total dry metric tons per 365-day period of sewage sludge placed in a bag or other container at your facility for sale or give-away for application to the land:			
	b.	Attach, with this application, a copy of all labels or notices that accompany the sewage sludge being sold or given away in a bag or other container for application to the land.			
Complete Section B.6 if sewage sludge from your facility is provided to another facility that provides treatment or blending. This section does not apply to sewage sludge sent directly to a land application or surface disposal site. Skip this section if the sewage sludge is covered in Sections B.4 or B.5. If you provide sewage sludge to more than one facility, attach additional pages as necessary.					
B.6.	Ship	oment Off Site for Treatment or Blending.			
	a.	Receiving facility name			
	b.	Mailing address			
	C.	Contact person			
		Title			
		Telephone number			
	Ь	Total dry metric tons per 365-day period of sewage sludge provided to receiving facility:			
	u.				

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B.6.	B.6. Shipment Off Site for Treatment or Blending. (con't)				
	e.	Does the receiving facility provide additional treatment to reduce pathogens in sewage sludge from your facility? Yes No			
		Which class of pathogen reduction is achieved for the sewage sludge at the receiving facility?			
		Class AClass BNeither or unknown			
		Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce pathogens in sewage sludge:			
	f.	Does the receiving facility provide additional treatment to reduce vector attraction characteristics of the sewage sludge?			
		Which vector attraction reduction option is met for the sewage sludge at the receiving facility?			
		Option 1 (Minimum 38 percent reduction in volatile solids) Option 2 (Anaerobic process, with bench-scale demonstration) Option 3 (Aerobic process, with bench-scale demonstration)			
		Option 4 (Specific oxygen uptake rate for aerobically digested sludge) Option 5 (Aerobic processes plus raised temperature)			
		Option 6 (Raise pH to 12 and retain at 11.5) Option 7 (75 percent solids with no unstabilized solids)			
		Option 8 (90 percent solids with unstabilized solids) None			
		Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce vector attraction properties of sewage sludge.			
	g.	Does the receiving facility provide any additional treatment or blending activities not identified in (c) or (d) above? Yes No If yes, describe, on this form or another sheet of paper, the treatment or blending activities not identified in (c) or (d) above:			
	h.	If you answered yes to (e), (f), or (g), attach a copy of any information you provide the receiving facility to comply with the "notice and necessary information" requirement of 40 CFR 503.12(g).			
	i.	Does the receiving facility place sewage sludge from your facility in a bag or other container for sale or give-away for application to the land? Yes No			
		If yes, provide a copy of all labels or notices that accompany the product being sold or given away.			
Con	• • •	e Section B.7 if sewage sludge from your facility is applied to the land, <u>unless</u> the sewage sludge is covered in: Section B.4 (it meets Table 1 ceiling concentrations, Table 3 pollutant concentrations, Class A pathogen requirements, and one of vector attraction reduction options 1-8); <u>or</u> Section B.5 (you place it in a bag or other container for sale or give-away for application to the land); <u>or</u> Section B.6 (you send it to another facility for treatment or blending).			
B.7.	Lan	d Application of Bulk Sewage Sludge.			
	a.	Total dry metric tons per 365-day period of sewage sludge applied to all land application sites: dry metric tons			

FACILI ^T ease V	TY NAME AND PERMIT NUMBER: Form Approved 1/14/9: VWTF NH0090000 OMB Number 2040-00	9 086
B.7. La	nd Application of Bulk Sewage Sludge. (con't)	
b.	Do you identify all land application sites in Section C of this application? Yes No	
	If no, submit a copy of the land application plan with application (see instructions).	
C.	Are any land application sites located in States other than the State where you generate sewage sludge or derive a material from se sludge?YesNo	wage
	If yes, describe, on this form or another sheet of paper, how you notify the permitting authority for the States where the land applicati sites are located. Provide a copy of the notification.	ion
Comple	ete Section B.8 if sewage sludge from your facility is placed on a surface disposal site.	
B.8. Su	rface Disposal.	
a.	Total dry metric tons of sewage sludge from your facility placed on all surface disposal sites per 365-day period: dry metric	ic tons
b.	Do you own or operate all surface disposal sites to which you send sewage sludge for disposal?	
	YesNo	
	If no, answer B.8.c through B.8.f for each surface disposal site that you do not own or operate. If you send sewage sludge to more the one such surface disposal site, attach additional pages as necessary.	han
C.	Site name or number	
d.	Contact person	
	Title	
	Telephone number	
	Contact isSite ownerSite operator	
e.	Mailing address	
f.	Total dry metric tons of sewage sludge from your facility placed on this surface disposal site per 365-day period: dry metri	ic tons
Comple	ete Section B.9 if sewage sludge from your facility is fired in a sewage sludge Incinerator.	
B.9. Inc	cineration.	
a.	Total dry metric tons of sewage sludge from your facility fired in all sewage sludge incinerators per 365-day period: dry metri	ic tons
h	Do you own or operate all sewage sludge incinerators in which sewage sludge from your facility is fired?	lo
5.	If no, complete B.9.c through B.9.f for each sewage sludge incinerator that you do not own or operate. If you send sewage sludge to than one such sewage sludge incinerator, attach additional pages as necessary.	o more
C.	Incinerator name or number:	
d.	Contact person:	
	Title:	
	Telephone number:	

FACILIT Pease W	y na /WTF	ME AND PERMIT NUME NH0090000	For OM	m Approved 1/14/99 IB Number 2040-0086	
B.9. Inci	inera	tion. (con't)			
	Mai	ling address.			
0.	iviai				
f.	Tota	al dry metric tons of sewa	age sludge from your facility fired in this sew	age sludge incinerator per 365-day period:	dry metric tons
Complet	te Se	ction B.10 if sewage slu	idge from this facility is placed on a mun	icipal solid waste landfill.	
B.10.	Dis slud nec	posal in a Municipal So Ige from your facility is pl essary.	lid Waste Landfill. Provide the following in aced. If sewage sludge is placed on more the sewage sludge is placed on more the sevent sevent sevents and sevents are sevents.	formation for each municipal solid waste la han one municipal solid waste landfill, attac	ndfill on which sewage ch additional pages as
	a.	Name of landfill	Turnkey Landfill		
	b.	Contact person	Robert Mangusson, P.E.		
		Title	Sr. District Manager		
		Telephone number	(603) 330-2164		
		Contact is	Landfill owner	Landfill operator	
	C.	Mailing address	<u>90 Rochester Neck Road</u> Rochester, NH 03839		
	d.	Location of municipal se	olid waste landfill:		
		Street or Route #	90 Rochester Neck Rd.		
		County	Strafford County	Ground Water Release Protection: GWP-19870	06010-R-002
		City or Town	Rochester Sta	NPDES Storm Water General Permit: NHR05A2 te <u>NH</u> site Specific: WPR-4193839	43
	0	Total dry metric tons of	sewage sludge from your facility placed in t	Solid Waste Management Facility Standard Perr	nit: DES-SW-SP-95001 -95001
	с.	Total dry metric tons of		Solid Waste Management Permit: DES-SW-SP-	-95001
			dry metric tons	Wetlands Board Permit: 93–750	
	f. List, on this form or an attachment, the numbers of all other Federal, State, and local permits that regulate the opera municipal solid waste landfill.		operation of this		
		Demoit Marshar		Permit Number	Type of Permit
		WPR-4179	Site Specific	GWP-198706010-4-002	Ground Water
		DES-SW-SP-95001	Solid Waste Management	- General	Storm water
		93-750	Wetlands Board Permit	-	
	g.	Submit, with this applicates sewage sludge in a mu	ation, information to determine whether the s nicipal solid waste landfill (e.g., results of pa	sewage sludge meets applicable requireme int filter liquids test and TCLP test)	ents for disposal of
	h.	Does the municipal soli	d waste landfill comply with applicable criter	ia set forth in 40 CFR Part 258?	
		Yes	_ INO		

FACILITY NAME AND PERMIT NUMBER: Form Approve Pease WWTF NH0090000 OMB Number						
C. LAND APPLICATION OF BULK SEWAGE SLUDGE						
 C. LAND APPLICATION OF BULK SEWAGE SLUDGE Complete Section C for sewage sludge that is applied to the land, unless any of the following conditions apply: The sewage sludge meets the Table 1 ceiling concentrations, the Table 3 pollutant concentrations, Class A pathogen requirements, and one of vector attraction reduction options 1-8 (fill out B.4 Instead); or The sewage sludge is sold or given away in a bag or other container for application to the land (fill out B.5 Instead); or You provide the sewage sludge to another facility for treatment or blending (fill out B.6 instead). Complete Section C for every site on which the sewage sludge that you reported in Section B.7 is applied. 						
C.1. Identification of Land Application Site. a. Site name or number						
 b. Site location (Complete 1 and 2). 1. Street or Route #						
County S						
2. Latitude Longitude Method of latitude/longitude determination						
USGS map Field survey	Other					
c. Topographic map. Provide a topographic map (or other appropriate n	nap if a topographic map is unavailable) that shows the site location.					
C.2. Owner Information. a. Are you the owner of this land application site? Yes	No					
b. If no, provide the following information about the owner:						
Name						
Telephone number						
Mailing Address						
C.3. Applier Information. a. Are you the person who applies, or who is responsible for application Yes No b. If no, provide the following information for the person who applies:	of, sewage sludge to this land application site?					
Name						
Telephone number						
Mailing Address						
C.4. Site Type: Identify the type of land application site from among the following Agricultural land Forest Public con Reclamation site Other. Describe:	ng. ntact site					

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Pease WWTF NH0090000

C.5.	Cro	o or Other Vegetation Grown on Site.
	a.	What type of crop or other vegetation is grown on this site?
	b.	What is the nitrogen requirement for this crop or vegetation?
C.6.	Vec	or Attraction Reduction.
	Are	any vector attraction reduction requirements met when sewage sludge is applied to the land application site? YesNo
	lf ye	s, answer C.6.a and C.6.b;
		a. Indicate which vector attraction reduction option is met:
		Option 9 (Injection below land surface)
		Option 10 (Incorporation into soil within 6 hours)
		 Describe, on this form or another sheet of paper, any treatment processes used at the land application site to reduce vector attraction properties of sewage sludge:
Con rate	nplet s (CF	e Question C.7 only if the sewage sludge applied to this site since July 20, 1993, is subject to the cumulative pollutant loading PLRs) in 40 CFR 503.13(b)(2).
0.7	• (••	
C.7.	Cun	hulative Loadings and Remaining Allotments.
	a.	whether bulk sewage sludge subject to CPLRs has been applied to this site on or since July 20, 1993? Yes No
		If no, sewage sludge subject to CPLRs may not be applied to this site.
		If <u>ves</u> , provide the following information:
		Permitting authority
		Contact Person
		Telephone number
	b.	Based upon this inquiry, has bulk sewage sludge subject to CPLRs been applied to this site since July 20, 1993?YesNo
		If no, skip C.7.c.

FACILI [®] Pease \	TY NAME AND PERMIT NUMBE WWTF NH0090000	ER:	Form Ap, OMB Nu	proved 1/14/99 mber 2040-0086
C.	Provide the following information since July 20, 1993. If more the	on for every facility other than yours that is an one such facility sends sewage sludge	s sending, or has sent, bulk sewage sludge to C to this site, attach additional pages as necessar	PLRs to this site y.
	Facility name			
	Mailing Address			
	Contact person			
	Title			
	Telephone number			

FACILIT Pease W	Y NAME AND PERMIT NUMBER: WTF NH0090000		Form Approved 1/14/99 OMB Number 2040-0086
D. SUF	RFACE DISPOSAL		
Complet	e this section if you own or operate a surface disposal site.		
Complet	e Sections D.1 - D.5 for each active sewage sludge unit.		
D.1. Info	rmation on Active Sewage Sludge Units.		
a.	Unit name or number:		
b.	Unit location (Complete 1 and 2).		
	1. Street or Route #		
	County		
	City or Town State	Zip	
	2. Latitude Longitude		
	Method of latitude/longitude determination:USGS n	nap Field survey	Other
C.	Topographic map. Provide a topographic map (or other appropriate map	if a topographic map is unavailable) th	at shows the site location.
d.	Total dry metric tons of sewage sludge placed on the active sewage slud	ge unit per 365-day period:	dry metric tons
e.	Total dry metric tons of sewage sludge placed on the active sewage sluce	ge unit over the life of the unit:	dry metric tons
f.	Does the active sewage sludge unit have a liner with a maximum hydrau	lic conductivity of 1×10^{-7} cm/sec?	Yes No
	If yes, describe the liner (or attach a description):		
g.	Does the active sewage sludge unit have a leachate collection system?	YesNo	
	If yes, describe the leachate collection system (or attach a description). A the numbers of any Federal State or local permit(s) for leachate dispose	Also describe the method used for leac	hate disposal and provide
h.	If you answered no to either D.1.f. or D.1.g., answer the following question	on:	
	Is the boundary of the active sewage sludge unit less than 150 meters fr	om the property line of the surface disp	osal site?
	YesNo		
	If yes, provide the actual distance in meters:		
	Provide the following information:		
	Remaining capacity of active sewage sludge unit, in dry metric tons:	dry metric	tons
	Anticipated closure date for active sewage sludge unit, if known:	(MM/DD/YYYY)
	Provide, with this application, a copy of any closure plan that has been d	eveloped for this active sewage sludge	unit.

FAC Peas	se W	Y NAME AND PERMIT N WTF NH0090000	NUMBER:	Form Approved 1/14/99 OMB Number 2040-0086
D.2.	Sew	vage Sludge from Other	Facilities. Is sewage sent to this active sewage No	sludge unit from any facilities other than your facility?
	lf ye sucł	es, provide the following i n facility, attach additiona	nformation for each such facility. If sewage sludg Il pages as necessary.	e is sent to this active sewage sludge unit from more than one
	a.	Facility name		
	b.	Mailing Address		
	C.	Contact person		
		Title		
		Telephone number		
	d.	Which class of pathoge	n reduction is achieved before sewage sludge lea	aves the other facility?
		Class A	Class B None or unkr	nown
	e.	Describe, on this form o	or another sheet of paper, any treatment process	es used at the other facility to reduce pathogens in sewage sludge:
	f.	Which vector attraction Option 1 (Minin Option 2 (Anae Option 3 (Aerol Option 4 (Spec Option 5 (Aerol Option 6 (Raise Option 7 (75 pe Option 8 (90 pe None or unknow	reduction option is met for the sewage sludge at num 38 percent reduction in volatile solids) robic process, with bench-scale demonstration) bic process, with bench-scale demonstration) ific oxygen uptake rate for aerobically digested sl bic processes plus raised temperature) e pH to 12 and retain at 11.5) ercent solids with no unstabilized solids) ercent solids with unstabilized solids) wn	the receiving facility? udge)
	g.	properties of sewage sl	udge	
	h.	Describe, on this form c identified in (d) - (g) abc	or another sheet of paper, any other sewage slud ove:	ge treatment activities performed by the other facility that are not
D.3.	Vec	tor Attraction Reductio	n	
	a.	Which vector attraction	option, if any, is met when sewage sludge is plac	ed on this active sewage sludge unit?
		Option 9 (Inied	ction below and surface)	
		Option 10 (Inco	rporation into soil within 6 hours)	
		Option 11 (Cov	ering active sewage sludge unit daily)	

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FACILITY NAME AND PERMIT NUMBER:

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D.3.	Vect	tor Attraction Reduction. (con't)
	b.	Describe, on this form or another sheet of paper, any treatment processes used at the active sewage sludge unit to reduce vector attraction properties of sewage sludge:
D.4.	Gro	und-Water Monitoring.
	a.	Is ground-water monitoring currently conducted at this active sewage sludge unit, or are ground-water monitoring data otherwise available for this active sewage sludge unit? YesNo
		If yes, provide a copy of available ground-water monitoring data. Also, provide a written description of the well locations, the approximate depth to ground-water, and the ground-water monitoring procedures used to obtain these data.
	b.	Has a ground-water monitoring program been prepared for this active sewage sludge unit? Yes No
	lf ye	s, submit a copy of the ground-water monitoring program with this permit application.
	C.	Have you obtained a certification from a qualified ground-water scientist that the aquifer below the active sewage sludge unit has not been contaminated? Yes No
		If yes, submit a copy of the certification with this permit application.
D.5.	Site	-Specific Limits. Are you seeking site-specific pollutant limits for the sewage sludge placed on the active sewage sludge unit?YesNo
		If yes, submit information to support the request for site-specific pollutant limits with this application.

FACILITY NAME A	ND PERMIT NUMBER:
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Pease WWTF NH0090000

E. I	NCI	NERATION					
Con	nplet	e this section if you fire sew	age sludge in a sewag	e sludge incinerator.			
Con	nplet	e this section once for each	incinerator in which y	ou fire sewage sludge. If you	u fire sewage sludge in mo	re than one sewage	
sluc	lge i	ncinerator, attach additional	copies of this section	s necessary.			
E.1.	Inci	nerator Information.					
	a.	Incinerator name or number:					
	h	In singuration (Complete	(and ()				
	D.	1 Street or Bouto #	e 1 and 2).				
		1. Street of Route #					
		County					
		City or Town		State	Zip		
		2. Latitude	Lonaitu	ıde			
		Method of latitude/longitude of	etermination:	USGS map	Field survey	Other	
E.2.	Am	ount Fired. Dry metric tons pe	r 365-day period of sew	age sludge fired in the sewage	e sludge incinerator:	dry metric tons	
E.3.	Ber	yllium NESHAP.	41. ' '				
	a.	is the sewage sludge fired in	this incinerator "beryillur	m-containing waste," as define	ed in 40 CFR Part 61.31? _	YesNo	
		Submit, with this application, incinerated is beryllium-conta	information, test data, a ining waste, and will cor	nd description of measures tal ntinue to remain as such.	ken that demonstrate whethe	er the sewage sludge	
	b.	If the answer to (a) is yes, su of ongoing incinerator operati met.	bmit with this applicat	ion a complete report of the la g that the NESHAP emission i	atest beryllium emission rate rate limit for beryllium has be	testing and documentation en and will continue to be	
E.4.	Mer						
	a.	How is compliance with the m	ercurv NESHAP being	demonstrated?			
		Stack testing (if checked, complete E.4.b)					
		Sewage sludge sampling (if checked, complete E.4.c)					
	b.	b. If stack testing is conducted, submit the following information with this application:					
		A complete report of stack tes and will continue to meet, the	sting and documentation mercury NESHAP emis	n of ongoing incinerator operat ssion rate limit.	ting parameters indicating th	at the incinerator has met,	
		Copies of mercury emission r	ate tests for the two mor	st recent years in which testing	g was conducted.		
	C.	If sewage sludge sampling is ongoing incinerator operating rate limit.	used to demonstrate co parameters indicating t	ompliance, submit a complete hat the incinerator has met, ar	report of sewage sludge san nd will continue to meet the r	npling and documentation of nercury NESHAP emission	
E.5.	Dis	persion Factor.					
	a.	Dispersion factor, in microgra	ms/cubic meter per grar	m/second:			
	b.	Name and type of dispersion	model:				
	C.	Submit a copy of the modelin	g results and supporting	documentation with this appli	ication.		

FAC Peas	SE W	Y NAME AND PERMIT NUMBER: /WTF NH0090000		Form Approved 1/14/99 OMB Number 2040-0086
E.6.	Co r a.	ntrol Efficiency. Control efficiency, in hundredths, for the following pollutants:		
		Arsenic: Chromium: Nickel:		
		Cadmium: Lead:		
	b.	Submit a copy of the results or performance testing and supporting docur	nentation (including testing dates) with	h this application.
E.7.	Ris	k Specific Concentration for Chromium.		
	a.	Risk specific concentration (RSC) used for chromium, in micrograms per	cubic meter:	
	b.	Which basis was used to determine the RSC?		
		Table 2 in 40 CFR 503.43		
		Equation 6 in 40 CFR 503,43 (site-specific determination)		
	C.	If Table 2 was used, identify the type of incinerator used as the basis:		
		Fluidized bed with wet scrubber		
		Fluidized bed with wet scrubber and wet electrostatic precipitator		
	Other types with wet scrubber			
		Other types with wet scrubber and wet electrostatic precipitator		
	d.	If Equation 6 was used, provide the following:		
		Decimal fraction of hexavalent chromium concentration to total chromium	concentration in stack exit gas:	
		Submit results of incinerator stack tests for hexavalent and total chromiun	n concentrations, including date(s) of f	test, with this application.
E.8.	Inci	inerator Parameters		
	a.	Do you monitor Total Hydrocarbons (THC) in the sewage sludge incinera	tor's exit gas? Yes	No
		Do you monitor Carbon Monoxide (CO) in the sewage sludge incinerator	s exit gas? Yes	No
	b.	Incinerator type:		
	C.	Incinerator stack height, in meters:		
		Indicate whether value submitted is: Actual stack height	Creditable stack height	
E.9.	Per	formance Test Operating Parameters		
	a.	Maximum Performance Test Combustion Temperature:		
	b.	Performance test sewage sludge feed rate, in dry metric tons/day:		
		indicate whether value submitted is:		
		Average use Maximum design		
		Submit, with this application, supporting documents describing how the fe	ed rate was calculated.	
	C.	Submit, with this application, information documenting the performance to for this sewage sludge incinerator.	est operating parameters for the air po	Ilution control device(s) used

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E.10.	Monitoring Equipment. List the equipment in place to monitor the follo a. Total hydrocarbons or carbon monoxide:	wing parameters:
	b. Percent oxygen:	
	c. Moisture content:	
	d. Combustion temperature:	
	e. Other:	
E.11.	Air Pollution Control Equipment. Submit, with this application, a list c incinerator.	f all air pollution control equipment used with this sewage sludge

Additional Information, if provided, will appear on the following pages.

ATTACHMENT A

FLOW AND LOAD TECHNICAL MEMORANDUM



25 Vaughan Mall Portsmouth, NH, 03801-4012 Tel: 603-436-6192 Fax: 603-431-4733

Technical Memorandum - Final

To:	Terry Desmarais, P.E., City of Portsmouth
From:	W. Steven Clifton, P.E., Thaddeus Webb, E.I.T., Underwood Engineers, Inc.
Date:	June 7, 2019
Subject:	Pease International Tradeport Wastewater Flow Projection
cc:	Maria Stowell, P.E., Engineering Manager, Pease Development Authority

Introduction

The purpose of this Technical Memorandum is to develop the buildout sewer flow projections for the City of Portsmouth's Pease International Tradeport (Tradeport). The Tradeport has approximately 3,000-acres of land area that can be developed. Land use and development within the Tradeport is controlled by the Pease Development Authority (PDA).

The Tradeport land use generally consists of commercial office space, businesses, schools, restaurants, industries, an airport, a golf course, and military facilities. According to the Pease Development Authority Zoning Ordinance, land use within the Tradeport is zoned as follows:

- Airport Zone: 792 acres
- Airport Industrial Zone: 448 acres
- Industrial Zone: 333 acres
- Airport Business and Commercial Zone: 503.5 acres
- Natural Resource Protection Zone: 781 acres

The wastewater flow from the Tradeport is discharged to the City of Portsmouth sewer collection system and is conveyed to the Pease Wastewater Treatment Facility (WWTF) for treatment and disposal.

The City's WWTF is licensed to discharge wastewater in accordance with their National Pollutant Discharge Elimination System (NPDES) permit NH 0090000. Planning for future growth will require the NPDES permit to be modified to allow an increase in flow to the WWTF.

The increase in flow is needed, in part, because Lonza Biologics (Lonza), a large industrial user, has proposed an increase in wastewater flow which would increase the total flow to the WWTF above the original design capacity. Lonza currently discharges approximately 45% of the total flow to the treatment plant. The increase in flow from Lonza is projected to occur over a 26-year period (2045)



Methodology

The Pease Development Authority keeps track of the existing building square footage at the Tradeport and estimates the future buildout of building square footage based on buildable area within each zoning district. Real estate professionals estimate the total square footage that can be built on each lot based on zoning and buildable area. This is considered more accurate for estimating buildout than the traditional methodology which applies a gallon per day rate per acre of developable land. This estimate was provided to Underwood Engineers by the PDA in order to project existing and future water consumption and sewer discharges to the sewer system.

Existing building square footage and water meter readings were used to estimate the existing gallons per day per square foot. Three years of billing data from 2015 to 2017 were collected, and this database was used in the analysis. The average annual metered usage was calculated by zoning district and use of the current tenant which is tracked by the PDA. This existing usage metric was then applied to unoccupied building area and future building area. One hundred percent (100%) of the water usage was assumed to be the wastewater flow.

The two largest industrial dischargers meter their wastewater discharge to the sewer system. Three years of wastewater records were used to establish their existing wastewater flows. Future wastewater flows from Craft Brew Alliance (Redhook Brewery) were assumed to be based on their current permit of 160,000 gallons per day. Future flows from Lonza were based on estimated criteria provided by Lonza through the City of Portsmouth.

Existing Water Demand and Sewer Flows

Lonza Biologics

Sewer discharge by Lonza is regulated by an Industrial User Permit (IUP). The City is not required to administer a POTW Pretreatment Program, but it regulates the discharge of certain industries with IUPs. Industrial User Permits are subject to review and approval by the New Hampshire Department of Environmental Services.

The available flow records for Lonza include process wastewater discharges to the sewer reported under the IUP monthly operating reports and water billing records (**Table 1**). The total water demand for the facility is greater than the process wastewater flow. The difference between billed water consumption and measured wastewater Average Daily Flow (ADF) is assumed to be sanitary wastewater flow from employees. Sanitary wastewater flow may be lower if there are losses in the process water that were not accounted for. Lonza does not track information on water consumed in the production process.

Table 1 - Luiza Water and Sewer Use (2013-2	<i>i</i> 01 <i>/ j</i>
Parameter	Value, GPD
Water Demand, GPD	278,860
101B Process Wastewater ADF, GPD	237,488
Difference (sanitary wastewater), GPD	41,372

 Table 1 - Lonza Water and Sewer Use (2015-2017)

Note: The 101C process stream was not in production during the evaluation period but is included in the future flows from Lonza.



Craft Brew Alliance (Redhook Brewery)

Craft Brew Alliance is also regulated by an Industrial User Permit. This industry is served by two water meters and one wastewater meter. One water meter provides water to the restaurant and the other water meter provides flow to the industrial section of the business. The water meter to the restaurant is also billed as sewer.

Water and sewer use are summarized in **Table 2** below. Billed water consumption is approximately 12,296 GPD more than billed sewer use. This difference is assumed to be the water incorporated into the products shipped offsite and minor consumption from employees and customers. Craft Brew Alliance has confirmed this assumption.

	Table 2 – Craft Brew	Alliance Water and	Sewer Use	(2015 - 2017)
--	----------------------	--------------------	-----------	---------------

Parameter	Value, GPD
Water Demand to Brewery	69,278
Account 7100270000-0, GPD	
Water Demand to Restaurant	6,267
Account 7100280000-0, GPD	
Total Water Demand	75,545
Industrial Wastewater Meter	56,982
Account 7100290000-0, GPD	
Water Demand from the Restaurant	6,267
Account 100280000-0, GPD	
Total Wastewater Average Daily Flow	63,249
(Restaurant plus Industrial Wastewater), GPD	
Difference, GPD	12,296

The industrial wastewater flow from Craft Brew Alliance is also reported to the City under the IUP pretreatment program in the form of monthly operating reports (MORs). These values should match the industrial wastewater meter from account 7100290000-0.

The comparison of these summaries is shown in **Table 3**.

Table 3 – Craft Brew Alliance Process Wastewater Flow (2015-2017)

Parameter	Value, GPD
Industrial Wastewater Meter	56,982
Account 7100290000-0, GPD	
MOR Process Wastewater ADF, GPD	55,211
Difference, GPD	1,771



Commercial Water and Sewer Estimates

For all the other businesses at the Tradeport, the water billing records from 2015 to 2017 were reviewed to estimate water demand. It was assumed that 100% of the water demand was discharged to the sewer.

For this evaluation, UE compiled a database of existing billing records with existing and future building square footage, zoning district, type of use, and type of use (Attachment "A"). Irrigation meters were excluded from the database. The list includes all the commercial and light industrial buildings, Lonza, Craft Brew Alliance (Redhook), New Hampshire Air National Guard (NHANG), and municipal users. The flow for the largest industrial users, Lonza and Craft Brew Alliance, are separated into process flow and domestic wastewater for the purpose of the flow evaluation. All water consumption was assumed to go to the sewer as sanitary wastewater.

The existing sanitary flow for the Pease International Tradeport is summarized in **Table 4** based on the compiled databases. Two scenarios are provided, existing sanitary flow and existing sanitary flow plus allocated industrial use. The difference between these scenarios is that the existing flow is based on the recent historical record of measured flows, whereas the existing and allocated industrial flow also includes flow capacity reserved for industrial users which is based on the permitted values specified in each users IUP. This estimate does not include sewer **infiltration and inflow**.

Zoning Designation or Use	Existing Flow,	Existing and Allocated
	GPD	Industrial Flow, GPD
Commercial/Light Industrial		
Commercial/Light Industrial	115,708	115,708
Lonza Domestic (calculated)	41,372	41,372
Craft Brew Alliance Domestic (billed)	6,267	6,267
Air National Guard	8,765	8,765
Municipal	4,923	4,923
Sub-total	177,036	177,036
Industrial Flows		
Lonza Biologics Process	237,488	350,000
Craft Brew Alliance Process	55,211	160,000
Total:	469,735*	687,036*

Table 4 - Existing Average Annual Sewer Flow (2015-2017) from Water Meter Data

* Does not include infiltration and inflow

The historical flow and load to the facility for the study period (2015-2017) was established in the recent *SBR Capacity Evaluation* (12/21/2018) by UE. **Table 5** is an excerpt from the capacity evaluation report which identifies existing flow and load received at the WWTF.



Table 5 – Historical WWTF Flow and Load on a Percentile Basis¹ (2015 to 2017)

WWTF Parameter	Influent Flow, MGD	Influent BOD5, lb/d	Influent TSS, lb/d	Influent TKN, lb/d
Average (50 th Percentile)	0.527	1,887	2,640	283
Max Month (92 nd Percentile)	0.708	2,750	4,406	
Max Week (98 th Percentile)	0.892	3,696	6,943	
Max Day (99.7 Percentile)	1.48	5,870	9,945	

Notes:

1. The flows and loads for 2015-2017 are summarized in the table above. Maximum month, maximum week, and maximum day values were determined statistically by finding the 92nd, 98th percentiles, and 99.7th percentiles of daily flows or loads, respectively.

Flows and loads from Lonza and Craft Brew Alliance were also established in the SBR capacity evaluation (UE 2018). Table 6 is also an excerpt from that report which identifies their flows and loads.

Table 6 – Historical Flow and Load from Lonza and Craft Brew Alliance (2015 to 2017)

Lonza	Flow, MGD	BOD ₅ , lb/d	TSS, lb/d	TKN, lb/d	COD, lb/d
Average	0.237	658	146	64	1,135
Max Month	0.312	1,406	260	133	2,360
Max Week	0.335	1,823	405	224	3,243
Max Day	0.336	2,825	557	393	3,818
Craft Brew Alliance	Flow, MGD	BOD ₅ , lb/d	TSS, lb/d	TKN, lb/d	COD, lb/d
Average	0.055	197	317	25	779
Max Month	0.082	367	523	47	1,358
Max Week	0.091	462	651	58	1,827
Max Day	0.108	602	997	66	2,407

[Notes:

1. The flows and loads for 2015-2017 are summarized in the table above. Maximum month, maximum week, and maximum day values were determined statistically by finding the 92nd, 98th percentiles, and 99.7th percentiles of daily flows or loads, respectively.

The existing sanitary flow is compared to the historical WWTF influent flow in Table 7. The WWTF influent flow is higher than the water demand by the amount of infiltration and inflow (I/I) and septage to the WWTF. The infiltration estimate is in the range of 400 to 500 gpd/idm (gallons per day per inch diameter-mile).

Table 7 - Comparison of Sanitary Flow and WWTF Influent Flow

Parameter	Average
WWTF Influent ADF, GPD	527,393
Existing Sanitary ADF, GPD	469,735
Difference (I/I and sentere)	57 658

Difference (I/I and septage) 57,658



Buildout Wastewater Flow

Existing and future building area statistics are maintained by the Pease Development Authority. UE developed an estimate of sanitary wastewater flow for each existing unoccupied building area and building area for each undeveloped lot in the Tradeport. Wastewater flow for potential development was estimated based on an average gallons per day per square foot of future building area. Real estate professionals review the undeveloped lots in order to estimate the building square footage based on zoning requirements and buildable land. All building area is a sum of the total square feet of each story of occupied space for each lot using the information provided by the PDA.

The water demand rate per square foot was established from the historical rate of the existing PDA tenants for 2015 to 2017. As shown in **Table 8**, the total domestic water demand was divided by occupied building area to obtain a water use rate of **0.042 GPD/SF**. Process flows from Lonza and Craft Brew Alliance are not included in the domestic water demand because the industrial flow buildout is calculated separately.



Table 8 - Water Demand Rate of Existing PDA Tenants (2015 to 2017)

				Average	Demand
7	T	Number of	Building	Demand,	Rate,
Zone	Use	Accounts	Area, SF	GPD	GPD/SF
Airport	Air Traffic Control Tower	1	1,500	119	0.079
	Office	1	1,200	46	0.039
	Terminal	1	52,000	977	0.019
Airport/	Hangar	5	124,680	340	0.003
Industrial	Manufacturing	1	6,000	10	0.002
	Office/Warehouse	1	45,000	206	0.005
	Office	1	17,000	87	0.005
	Off/Hangar	2	107,500	1,585	0.015
Business/	Biotech	1	656,000	41,372	0.063
Commercial	Brewery	1	129,124	6,273	0.047
	Daycare	2	34,898	2,786	0.080
	Education	1	5,730	530	0.093
	Education/Food	1	137,000	5,050	0.037
	Equipment (no occupancy)	1	5,111	1	0.000
	Food/Other	1	17,186	3,053	0.178
	Hotel	1	65,786	8,565	0.130
	Medical	3	77,066	7,722	0.100
	Manufacturing	1	51,000	1,180	0.023
	Office/Dental	1	24,354	1,807	0.074
	Office/Medical	1	36,881	363	0.010
	Office/Manufacturing	1	102,400	4,864	0.048
	Office	26	1,216,401	28,607	0.024
	Ret/Off/Med/Food	1	40,437	1,747	0.043
Industrial	Equipment	1	8,658	11	0.001
	Equipment (no occupancy)	1	1,642	54	0.033
	Hangar	1	65,212	746	0.011
	Manufacturing	1	81,710	3,613	0.044
	Office/Cafeteria	1	131,598	16	0.000
	Office/Garage	1	27,873	156	0.006
	Office/Manufacturing	4	383,418	14,091	0.037
	Office	6	395,411	12,457	0.032
	Unknown	2	116,904	4,001	0.034
	Maintenance Garage	1	30,502	8,102	0.266
Natural					
Resource					
Protection	Golf Club House	1	N/A	2,816	
NHANG		28	N/A	8,765	
Municipal		5	N/A	4,923	
	Total		4,197,182	177,036	0.042



The overall demand rate per square foot was calculated for each year for 2015 to 2017 (**Table 9**), and it varies by less than 5% percent on an annual basis.

Year	Building Area, SF ¹	Average Demand, GPD	Demand Rate, GPD/SF
2015	4,197,182	181,967	0.043
2016	4,197,182	169,994	0.041
2017	4,197,182	179,057	0.043
	4,197,182	177,036	0.042

Table 9 - Water Demand Rate of Existing PDA Tenants

Notes:

- 1. The Pease Development Authority does not keep historical records of building area. Building area was assumed to be constant at current levels during the study period (2015 to 2017).
- 2. Historical water use records for certain properties such as the PDA maintenance garage at 7 Lee Street and the Air National Guard properties were not available for the entire 2015 to 2017 period. Water demand for these properties was held at 2017 levels for each year for these properties for the calculation shown in Table 9.

We then estimated wastewater flow from potential tenants by applying the water demand rate to the square footage of proposed development. An allowance for New Hampshire Air National Guard (NHANG) was calculated separately assuming 3% growth per year because the PDA does not track building area for the NHANG. Future wastewater flow rates for Lonza are based on a projection of water and sewer requirements provided by Lonza through the City to UE (4/4/2018). **Table 10** summarizes building area and wastewater flow for existing and proposed development using the water demand rate.



Table 10 - Existing and Future Buildout Wastewater Scenarios

Scenario	Parameter	Commercial/ Light	Lonza Biologics	Craft Brew Alliance	Total Sanitary Wastewater
		Industrial ²	Process Flow	Process Flow	Flow ⁶
Existing	Building	4,197,182 SF	N/A ⁵	N/A	
Occupied	Area				
	Unit Rate	0.042 GPD/SF ³	N/A	N/A	
	Wastewater Flow	177,036 GPD	237,488 GPD	55,211 GPD	469,735 GPD
Existing Occupied	Building Area	4,197,182 SF	N/A	N/A	
and Existing	Unit Rate	0.042 GPD/SF	N/A	N/A	
IUPs	Wastewater Flow	177,036 GPD	350,000 GPD	160,000 GPD	687,036 GPD
2045 Buildout	Building Area	7,932,485 SF	N/A	N/A	
and Proposed	Unit Rate	0.042 GPD/SF	N/A	N/A	
Lonza Increase ¹	Wastewater Flow	340,230 GPD ⁴	1,169,300 GPD	160,000 GPD	1,669,530 GPD

- 1. Includes occupation of all proposed buildings and flow projections provided by Lonza Biologics (4/4/2018).
- 2. Includes New Hampshire Air National Guard (NHANG)
- 3. Wastewater unit flow rate calculated from water demand of 0.042 GPD/SF of building area.
- 4. Allowances for buildout growth include $Q_{C/LI} = 7,932,485$ SF x 0.042 GPD/SF = 333,164 GPD for commercial/light industrial flow and $Q_{NHANG} = [8,765 \text{ GPD x } (1.03)^{20}] 8,765 \text{ GPD} = 7,066 \text{ GPD for NHANG}.$
- 5. N/A not applicable
- 6. Does not include I/I and septage

Commercial light/industrial flow is assumed to increase by 8,150 GPD per year for 20-years, to achieve buildout commercial/light industrial flow of 340,000 GPD as developed in **Table 10**. After 20-years, the PDA is assumed to be fully developed.



The projected flow and load to the WWTF is presented in **Table 11** for existing conditions, existing conditions plus allocated industrial flow, and buildout conditions for 5-years, 10-years, 15-year, and 26-years (2045).

The loading assumptions presented in **Table 11** are consistent with the December 21, 2018 SBR Capacity Evaluation.

The Pease WWTF flow increases are shown by year graphically in **Figure 1**. Both the Pease WWTF Design Flow and the Outfall Diffuser design flow are shown for reference. The outfall diffuser (Eight 4" Tide Flex Valves) reaches its average daily flow design capacity by the Year 2028. The outfall diffuser receives treated effluent flow from the Pease WWTF and Newington WWTF prior to discharge into the Piscataqua River.

Table 11 Pease International Tradeport Wastewater Buildout Projections

	WWTF DESIGN WWTF RERATED DESIGN	Existing 2015-2017 Max Month Max Day Peak Hour Peaking Factors Peaking Factors Peaking Factors	Existing (2015-2017) Plus Existing Allocated Industial	Allocated Plus Lonza Proposed Increase 5-year Buildout (2023)	Allocated Plus Lonza Proposed Increase 10-year Buildout (2028)	Allocated Plus Lonza Proposed Increase 20-year Buildout (2038)
	ADF MDF ADF MDF	ADF MMF MDF PHF	ADF MMF MDF PHF	ADF MDF PHF	ADF MDF PHF	ADF MDF PHF
TOTAL INFLUENT FLOW, MGD Commercial/Light Industrial Heavy Industrial	1.2000 3.345 1.2000 3.378	0.5274 0.8590 1.5400 2.7635 1.63 2.92 5.24 0.1770 0.2279 0.6579 1.0649 1.29 3.72 6.02 0.977 0.3960 0.5277 0.6466 1.3 1.83 2.96	0.7447 0.9740 1.7503 3.5176 0.1770 0.2279 0.6579 1.0649 0.5100 0.5100 0.7400 1.1162	0.9580 1.9200 4.0457 0.2178 0.8093 1.3101 0.6333 0.7583 1.3991	1.2447 2.3684 4.8322 0.2585 0.9608 1.5552 0.8813 1.0553 1.9405	1.5512 2.9423 5.8219 0.3400 1.2636 2.0454 1.1063 1.3263 2.4400
RedHook (Large IUP)		0.0552 0.0800 0.1531 0.1170 1.45 2.77 2.12	0.1600 0.1600 0.1800 0.3392	0.1600 0.1800 0.3392	0.1600 0.1800 0.3392	0.1600 0.1800 0.3392
Other (Small IUPs)		0.23/5 0.3150 0.3766 0.5296 1.33 1.59 2.23 Included in Commercial Light Industrial 1.00 1.95 6.00	Included in Commercial Light Industrial	Included in Commercial Light Industrial	0.7213 0.8753 1.6013 Included in Commercial Light Industrial	0.9463 1.1463 2.1008 Included in Commercial Light Industrial
Septage Infiltration/Inflow		0.0049 0.0086 0.0365 0.0365 1.75 7.45 7.45 0.0528 0.2275 0.3159 1.0155 2.90 5.00 13.00	0.0049 0.0086 0.0365 0.0365 0.0528 0.2275 0.3159 1.3000	0.0049 0.0365 0.0365 0.1000 0.3159 1.3000	0.0049 0.0365 0.0365 0.1000 0.3159 1.3000	0.0049 0.0365 0.0365 0.1000 0.3159 1.3000
ORGANIC LOAD, BOD5 AVERAGE DAILY BOD5, mg/l	290 546 446 632	406 775 1,800	703 568 572	572 546	505 517	506 513
Commercial/Light Industrial		597 525 321	597 525 321	597 321 (23) 739	597 321	597 321 506 652
RealHook (Large IUP)		338 531 7/6 386 586 882	900 900 800	900 800	900 800	900 800
Lonza Biologics (Large IUP)		325 517 1,700	719 719 728	530 705	427 611	440 630
Other (Small IUPs) Septage		400 400 400 4,454 4,398 6,500	400 400 400 4,454 4,398 6,500	400 400 400 4,454 6,500	400 400 400 4,454 6,500	400 400 400 4,454 6,500
AVERAGE DAILY BOD5, lb/day	2,907 5467 4,460 6324	1,888 3,062 5,870	4,365 4,613 8,344	4,568 8,750	5,241 10,216	6,547 12,588
Commercial/Light Industrial Heavy Industrial		882 998 1,764	882 998 1,764 3 301 3 301 4,601	1,085 2,170 3,301 4,601	1,288 2,576 3,771 5,661	4,671 7,221
RedHook (Large IUP)		201 390 602	1,201 1,201 1,201	1,201 1,201	1,201 1,201	1,201 1,201
Lonza Biologics (Large IUP) Other (Swedt IUPr)		623 1,360 2,825	2,100 2,100 3,400	2,100 3,400	2,570 4,460	3,470 6,020
Septage		182 314 1,979	182 314 1,979	182 1,979	182 1,979	182 1,979
NITROGEN LOAD, TN	20 20		95 77 (2)	70 50		(1) 54
Commercial/Light Industrial	30 30	110 120 31	110 120 31	110 31	110 31	110 31
Heavy Industrial		35 52 103	77 77 79	62 77	50 68	48 68
RedHook (Large IUP)			<u>112</u> <u>112</u> <u>99</u> <u>62</u> <u>62</u> <u>73</u>	45 70	37 61	38 63
Other (Small IUPs)		40 40 40	40 40 30	40 30	40 30	40 30
Septage	264 820	832 832 832	832 832 832	832 832	832 832	832 832
Commercial/Light Industrial	304 829	162 228 170	162 228 170	199 209	237 249	311 327
Heavy Industrial		86 172 457	329 329 489	329 489	370 595	447 751
RedHook (Large IUP)			149 149 149 180 180 340	149 149	149 149	149 149
Other (Small IUPs)						
Septage		34 59 253	34 59 253	34 253	34 253	34 253
SOLIDS LOAD, TSS						
SOLIDS LOAD, TSS, mg/l	290 196	575 1,108 2,116	634 661 589	546 589	472 531	460 509
Heavy Industrial		1,245 1,559 974 190 245 352	398 398 303	319 296	245 236	218 216
RedHook (Large IUP)		621 822 1,270	900 900 800	900 800	900 800	900 800
Lonza Biologics (Large IUP) Other (Small IUPs)		225 225 225	<u>169</u> <u>169</u> <u>144</u> 225 225 225	<u>124</u> <u>139</u> 225 225	225 225	<u>103</u> 124 225 225
Septage		10,000 10,000 10,000	10,000 10,000 10,000	10,000 10,000	10,000 10,000	10,000 10,000
SOLIDS LOAD, TSS, lb/day	2,907 5467	2,632 4,484 9,945 1 838 2 963 5 347	3,939 5,369 8,591 1,838 2,963 3,676	4,362 9,438 2,261 4,522	4,895 10,493 2,684 5,368	5,952 12,493 3 530 7 061
Heavy Industrial		464 807 1,554	1,692 1,692 1,871	1,692 1,871	1,802 2,080	2,013 2,388
RedHook (Large IUP)		318 547 997	1,200 1,200 1,201	1,200 1,201	1,200 1,201	1,200 1,201
Other (Small IUPs)		200 337	492 492 670	492 070	879	815 1,187
Septage		330 714 3,044	409 714 3,044	409 3,044	409 3,044	409 3,044
Notes:	- 19	h Hanna da'a ƙasar adalar dha 2017 (kan da				

 Note:

 1. Pease WWTF and Lonza Peak Hour peaking factors calculated based on 18 month 1_2017 to 6_2018 flow data. Redhook Peak Hour peaking factors calculated based on 2016 flow data

 2. Commercial/light industrial flow assumes buildout of 148,000 GPD linear flow increase over 20-years

 3. Commercial/light industrial BOD'TSSTKIN buildings are higher than typical values (BOD = 300 ang/L, TSS = 225 mg/L). Refer to UE 9/2018 Technical Memorandum for additional information

 4. Lonza flow and BOD load projection based on information provided by Lonza to the City in draft form (4/4/2018)

 5. Lonza TN and TSS load projection based on costale capal to BOD load projection provided by Lonza information provided by Lonza information provided by Lonza.

 7. Infiltration/findow is assumed to have pollutat concentrations of 0 mg/L

 8. Other/Small IUP flow values are included in Commercial/Light industrial. Small IUP load estimates assume high strength commercial waste

 9. Septage pollutart concentration estimate based on COD sampling by the City (Summer 2018)

 10. Mark only loads do not balance because max day values taken from observed data for each process on different days

 11. Assumes water:sever ratio equals

Calc. by: TWW Reviewed by: WSC

1.7742 3.2103 6.3170 6 2.0454 0.3400 1.2636 2.0454 3 2.4400 1.3293 1.5943 2.9350 0 0.3392 0.1609 0.1800 0.3392 3 2.1008 1.1693 1.4143 2.5958 ht Industrial Included in Commercial Light Industrial 1.6049 0.0456 0.0455 9 1.3000 0.3159 1.3000 0.3159 1.3000			1001		
3 5.8219 1.7742 3.2103 6.3170 6 2.0454 0.3400 1.2636 2.04543 3 2.4400 1.3293 1.5943 2.9150 0 0.3392 0.1600 0.1800 0.3392 1 1.053 1.4143 2.5958 pt Inductrial 1.1693 1.4143 2.5958 5 0.0365 0.0049 0.0356 0.0045 9 1.3000 0.0149 0.0355 0.0049 0.3055					
6 2.0454 0.3400 1.2636 2.0454 3 2.4400 1.3293 1.5943 2.9350 0 0.3392 0.1606 0.1800 0.3392 3 2.1005 1.1693 1.4143 2.5958 40 Industrial Included in Commercial Light Industrial 2.5958 5 0.0365 0.0497 0.0365 0.0365 9 1.3000 0.1000 0.3159 1.3000	3	5.8219	1.7742	3.2103	6.3170
3 2.4400 1.3293 1.5943 2.9350 0 0.3392 0.1.600 0.1300 0.3393 3 2.1005 1.1693 1.4143 2.5958 bt Industrial Included in Commercial Light Industrial 5 0.0.656 0.0.0049 0.0.356 0.0.005 9 1.3000 0.1000 0.3159 1.3000	6	2.0454	0.3400	1.2636	2.0454
0 0.3392 0.1600 0.1300 0.3392 3 2.1005 1.1693 1.4143 2.5958 bt Industrial Included in Commercial Light Industrial Included in Commercial Light Industrial 5 0.0365 0.0049 0.0355 0.0365 9 1.3000 0.1000 0.3159 1.3000	3	2.4400	1.3293	1.5943	2.9350
3 2.1005 1.1693 1.4143 2.5958 tht Industrial Included in Commercial Light Industrial 5 0.0049 0.0365 0.0049 0.0365 0.0365 0.0365 1.3000 0.1000 0.3159 1.3000 1.3000 1.3000 1.3000 1.3000 0.0100 0.3159 1.3000 1.300	0	0.3392	0.1600	0.1800	0.3392
Industrial Included in Commercial Light Industrial 5 0.0365 0.0049 0.0365 0.0365 9 1.3000 0.3100 0.3159 1.3000	3	2.1008	1.1693	1.4143	2.5958
5 0.0365 0.0049 0.0365 0.0365 9 1.3000 0.1000 0.3159 1.3000	ţh	t Industrial	Included in Con	nmercial Light	Industrial
9 1.3000 0.1000 0.3159 1.3000	5	0.0365	0.0049	0.0365	0.0365
	9	1.3000	0.1000	0.3159	1.3000

528
321
660
800
642
400
6,500
14,138
3,388
8,771
1,201
7,570
0
1,979

50	59
3	110
6	47
9	112
6-	38
3	40
833	832
1,480	868
32	311
90	523
14	149
75	374
25	34

416 478	416
1,245 974	1,245
200 203	200
900 800	900
105 127	105
225 225	225
10,000 10,000	10,000
6,161 12,798	6,161
3,530 7,061	3,530
2,222 2,694	2,222
1,200 1,201	1,200
1,022 1,493	1,022
409 3,044	409

FLOW PROJECTIONS 3.00 Pease and Newington Outfall Diffuser Design Flow: 1.49 MGD ADF 2.50 (1.2 MGD Pease and 0.29 MGD Newington) Pease WWTF PLUS Newington WWTF average flow is projected to exceed outfall diffuser design flow in 2028 2.00 Average Daily Flow, MGD 1.50 1.00 Pease WWTF Design Flow 1.2 MGD ADF 0.50 0.00 2028 2043 2023 2033 2038 2045 EXISTING AND -----PDA ADF, MGD PEASE + NEWINGTON ADF, MGD ALLOCATED FLOW (2015-2017) - · - Outfall Limitation - - - PEASE WWTF OUTFALL LIMITATION

FIGURE 1 - PEASE WWTF FLOW PROJECTIONS



APPENDIX A

Existing Occupied Buildings with Water Billing Consumption and Building Square Footage

APPENDIX A Existing Occupied Building Square Feet with Bill Consumption

	Α	в	C	D	F	F	G	н		К		м	N O	Р	0	B
	X		<u> </u>				0			0 N						ĸ
1				Sum of GALL	ONS											
						2015 2017		Avg. Annual Total	Avg. GPD							
2 5	STREET ADRESS	Service #	2015	2016	2017	2015-2017 TOTAL	3 YR Total*	allons/vr	3 Yr average*	Address Address Street	City	Zone	Bldg Sg Ft Use	1 09600	GPD/SF	Notes
3 (Commercial/Light Industrial	Service	2010	2010	-017	101.12	0 110 100	gunon#31	average	Audiess Street	Chy	Zone	Diug 54 Ft Use	Leasee	912/01	
4	I INTERNATIONAL DR	241	3,303,916	3.287.460	2,795,276	9,386,652	9,386,652	3,128,884	8,565	1 International Drive	Portsmouth	Business/Commercial	65.786 Hotel	Resport LLC (Marriott)	0.130	See 3.6.2019 dataset
5	I INTERNATIONAL DR BY PASS MET	241	-,,	0	748	748	748	249	1			Business/Commercial	0 Hotel	Same as 1 International Dr.	*	Not calculated
6 1	MGMT CO	241			17,952	17,952	17,952	5,984	16	100 Arboretum Drive	Newington	Industrial	131,598 Off/Caf	Farley White Pease, LLC		Not calculated, Data for Dec. 2017 only
7	105 CORPORATE DR	241	2,254,472	2,013,616	1,801,184	6,069,272	6,069,272	2,023,091	5,538	105 Corporate Drive	Portsmouth	Business/Commercial	45,824 Medical	Pease Rehab, LLC	0.121	
8	108 CORPORATE DR	241	10,472	5,984	2,992	19,448	19,448	6,483	18	108 Corporate Drive	Portsmouth	Business/Commercial	17,385 Office	Pioneer NH, LLC	0.001	
9	11 MANCHESTER SQ	241			748	748	748	249	1	11 Manchester Square	Portsmouth	Business/Commercial	5,111 Equpmt (no occupancy)	75 New Hampshire LLC		Not calculated. Six of seven months have 0 flow
10	119 INTERNATIONAL DR	241	183,260	135,388	261,800	580,448	580,448	193,483	530	119 International Drive	Portsmouth	Business/Commercial	5,730 Educa	119 International Drive, LLC	0.092	
11	20 AVIATION AVE	241	28,424	38,148	28,424	94,996	94,996	31,665	87	120 Aviation Avenue	Portsmouth	Airport/Industrial	17,000 Office	120 Laurational Drive LLC	0.005	
12	130 INTERNATIONAL DR	241	4/3,484	110,088	289,470	8/9,048	8/9,048	295,210	803	120 Elightling Road	Portsmouth	Aimont/Industrial	45.000 Off/Mig	130 International Drive, LLC	0.016	
14	14 AIRI INE AVE	241	50,116	47 872	32 164	130 152	130 152	43 384	119	14 Airline Avenue	Newington	Airport	1 500 ATCT	Air Traffic Control Tower	0.003	
15	15 RYE ST	241	439.076	398 684	231 880	1 069 640	1 069 640	356 547	976	15 Ryc Street	Portsmouth	Business/Commercial	54 000 Office	119 International Drive LLC	0.012	
16	Same lot as 15 Rye St.	241	,			-,,	-,,		-	19 Ryc Street	Portsmouth	Business/Commercial	29.718 Office	119 International Drive, LLC		Included in above
17	16 PEASE BLVD	241	1,232,704	2,992	6,732	1,242,428	1,242,428	414,143	1,134	16 Pease Boulevard	Newington	Industrial	1,206 Office	Next Level Now		1,232,704 from December 2015 of 1,242,428 gallons total
18	161 CORPORATE DR	241	546,040	816,068	517,616	1,879,724	1,879,724	626,575	1,715	161 Corporate Drive	Portsmouth	Business/Commercial	18,942 Medical	Pemobscot Bay Medical Assoc	0.091	
19	162 CORPORATE DR	241	2,302,344	1,783,980	1,244,672	5,330,996	5,330,996	1,776,999	4,864	162 Corporate Drive	Portsmouth	Business/Commercial	102,400 Off/Mfg	162 Corporate Dr, LLC	0.048	
20	164 CORPORATE DR	241	1,877,480	1,355,376	1,021,768	4,254,624	4,254,624	1,418,208	3,882	164 Corporate Drive	Portsmouth	Business/Commercial	102,400 Office	166 Corperate Dr., LLC	0.019	
21	Same Lot as 164 Corporate Dr.?	241							-	166 Corporate Drive	Portsmouth	Business/Commercial	102,400 Office	166 Corperate Dr., LLC	-	Included in above
22	183 INTERNATIONAL DRIVE	241	785,400	754,732	453,288	1,993,420	1,993,420	664,473	1,819	183 International Drive	Portsmouth	Business/Commercial	35,400 Office	Tower Hill Development (Hi Liner)	0.020	
23	Same Lot as 183 International Dr?	241							-	185 International Drive	Portsmouth	Business/Commercial	57,720 Office	Tower Hill Development (Sprague)	-	Included in above
24	195 NEW HAMPSHIRE AVE	241	1,276,088	1,572,296	1,095,820	3,944,204	3,944,204	1,314,735	3,599	195 New Hampshire Avenue	Portsmouth	Industrial	82,741 Office	222 Internional, LP	0.043	
25	2 INTERNATIONAL DR	241	1 877 480	1 252 880	728 552	2,000,132	2,000,132	1 210 071	2 612	2 International Drive	Dostomouth	Industrial	85,219 Office	Wastinghause	0.021	
20 4	20 INTERNATIONAL DR	241	302 192	250 580	169.048	721 820	721 820	240 607	659	20 International Drive	Portsmouth	Business/Commercial	11 211 Office	20 International Drive LLC	0.059	
28	200 INTERNATIONAL DR	241	868.428	314.160	386.716	1.569.304	1.569.304	523,101	1.432	200 International Drive	Portsmouth	Industrial	81 851 Office	200 International LP	0.017	
29 2	222 INTERNATIONAL DR	241	1.103.300	552,772	973,148	2,629,220	2,629,220	876,407	2,399	222 International Drive	Portsmouth	Industrial	62.545 Office	22 International, LP	0.038	
30 2	23 HAMPTON ST	241	38,148	45,628	32,912	116,688	116,688	38,896	106	23 Hampton Street	Portsmouth	Airport/Industrial	28,400 Hangar	Thermo Fisher Scientific	0.004	
31	249 CORPORATE DR	241	94,248	797,368	467,500	1,359,116	1,359,116	453,039	1,240	249 Corporate Drive	Portsmouth	Business/Commercial	37,000 Office	249 Corporate Drive, LLC	0.034	High peak flows in summer
32	25 NEW HAMPSHIRE AVENUE	241	68,068	151,844	178,024	397,936	397,936	132,645	363	25 New Hampshire Avenue	Newington	Business/Commercial	36,881 Off/Med	25,29 Retail, LLC	0.010	
33	27 INTERNATIONAL DR	241	977,636	1,145,188	1,223,728	3,346,552	3,346,552	1,115,517	3,053	27 International Drive	Portsmouth	Business/Commercial	17,186 Food/Other	Barnport, LLC	0.178	
34	273 CORPORATE DR	241	2,078,692	1,917,872	1,317,976	5,314,540	5,314,540	1,771,513	4,849	273 Corporate Drive	Portsmouth	Business/Commercial	100,650 Office	273 Corporate Drive, LLC	0.048	
35	282 CORPORATE DR	241	233,376	412,896	296,208	942,480	942,480	314,160	860	282 Corporate Drive	Portsmouth	Business/Commercial	13,222 Office	Shanes & McEachern Co	0.065	
36	30 INTERNATIONAL DR	241	23,188	89,012	59,092	171,292	171,292	57,097	156	30 International Drive	Portsmouth	Business/Commercial	14,714 Office	30 International Drive, LLC	0.011	
37	10 MANCHESTER SQ	241	13,464	13,464	11,220	38,148	38,148	12,716	35			Business/Commercial	Office	SAME AS 30 INTERNATIONAL		
38 3	0 NEW HAMPSHIRE AVE	241	504,152	384,472	404,668	1,293,292	1,293,292	431,097	1,180	30 New Hampshire Avenue	Portsmouth	Business/Commercial	51,000 Mfg	Spyglass Development LLC	0.023	
39	AD DOCHESTED AVE	241	454,/84	510,136	362,780	1,327,700	1,327,700	442,567	1,211	30 Kye Street	Portsmouth	Business/Commercial	10,580 Daycare	Lis Dust of State National Desenant Contra	0.115	
40 3	SI KOCHESIEK AVE	241	/60,/16	566 084	1,139,952	2,792,284	2,792,284	930,761	2,548	31 Rochester Avenue	Portsmouth	Industrial	46,951	US Dept of State National Passport Center	0.054	
41		241	3/3,212	010 202	450,296	1,592,492	1,392,492	1 844 817	1,455	32 Rochester Avenue	Portsmouth	Business/Commercial	137.000 Educa/Ecod	CBCC	0.021	
42	325 CORPORATE DR	241	774.180	346.324	239.360	1.359.864	1.359.864	453.288	1.241	325 Corporate Drive	Portsmouth	Business/Commercial	100.000 Office	325 Corporate Dr. II. LLC	0.012	
44	359 CORPORATE DR	241	65.076	53.856	52,360	171,292	171.292	57.097	156	359 Corporate Drive	Portsmouth	Industrial	27.873 Off/Gar	Freedom Ring Communications, LLC	0.006	
45	36 Airline Avenue		18,700	17,204	14,960	50,864	50,864	16,955	46	36 Airline Avenue	Portsmouth	Airport	1,200 Office	PDA Airport Operations	0.039	NOT BILLED
46	37 RYE ST	241	873,664	884,884	757,724	2,516,272	2,516,272	838,757	2,296	110 Corporate Drive	Portsmouth	Business/Commercial	34,060 Office	Pioneer NH, LLC	0.067	
47	38 RYE ST (included above)	241							-	112 Corporate Drive	Portsmouth	Business/Commercial	19,277 Office	Pioneer NH, LLC	-	
48	39 RYE ST (included above)	241							-	114 Corporate Drive	Portsmouth	Business/Commercial	4,879 Office	Pioneer NH, LLC	-	
49 4	47 DURHAM ST	241	748	0	10,472	11,220	11,220	3,740	10	47 Durham Street	Portsmouth	Airport/Industrial	6,000 Mfg	KOALD Design, LLC	0.002	
50	5 AVIATION AVE	241	10,472	2,244	46,376	59,092	59,092	19,697	54	5 Aviation Avenue	Portsmouth	Industrial	1,642 Equpmt (no occupancy)	NE Tel (Consolidated Comm)	0.033	reported by City
51	51 INTERNATIONAL DR	241	50,864	56,848	56,848	164,560	164,560	54,853	150	51 International Drive	Portsmouth	Business/Commercial	14,234 Office	Granite State College	0.011	
52	Same Building as 51 international	241		22 188	17.052	41 140	41 140	12 712	- 28	55 International Drive	Portsmouth	Aimost/Industrial	28 680 Hanson	PDA	0.001	
53 -	52 DURHAM ST	241	36.652	23,188	56 848	41,140	41,140	15,/15	151	58 Durham Street	Portsmouth	Airport/Industrial	28,080 Hangar	PCA	0.001	
55 (58 NEW HAMPSHIRE AVE	241	50,116	60 588	49 368	160.072	160.072	53 357	146	68 New Hampshire Avenue	Portsmouth	Business/Commercial	22,000 Mangai	Cinthesys Real Estate	0.007	
Ħ	72 PEASE BLVD ARBORETUM DR PO #	2	20,110	00,000	1,200	- 00,072		00001		, a tree pointe recende					0.007	
56	135225	241	356,796	3,659,216	3,108,688	7,124,700	7,124,700	2,374,900	6,501	72 Pease Boulevard	Newington	Industrial	206,338 Off/Mfg	Sig Sauer Real Estate	0.032	
57	73 CORPORATE DR	241	0	181,016	333,608	514,624	514,624	171,541	470	73 Corporate Drive	Portsmouth	Business/Commercial	12,300 Medical	Wentworth Douglas Hospital	0.038	294,712 gal from Aug/Sep/Oct 2017 of 514,624 3-year total
58	77 AVIATION AVE	241	5,236	3,740	2,992	11,968	11,968	3,989	11	77 Aviation Avenue	Portsmouth	Industrial	8,658 Equpmt	First Light Fiber	0.001	
59 5	SHERBURNE RD(PEASE CLUB HOUSE)	241	1,289,552	1,269,356	527,340	3,086,248	3,086,248	1,028,749	2,816	200 Grafton Drive	Portsmouth	Natural Resource Prot	0 Golf Club House	Clubhouse to Pierce Island		Not calculated, no building SF
60	I NEW HAMPSHIRE AVE	321	1,273,844	1,084,600	970,156	3,328,600	3,328,600	1,109,533	3,037	1 New Hampshire Avenue	Newington	Business/Commercial	110,000 Office	One NH Avenue, LLC	0.028	
61	100 INTERNATIONAL DR	321	1,620,168	967,912	8/6,656	3,464,/36	3,464,/36	1,154,912	3,161	100 International Drive	Portsmouth	Industrial	110,853 Office	100 International, LLC	0.029	
62	104 Gration Drive	221	149,600	145,860	141,572	430,832	430,832	145,011	399	104 Granon Drive	Portsmouth	Airport/Industrial	2/,500 On/Hngr	PCA Carliala Carital	0.014	
64	11 NEW HAMPSHIDE AVE	321	4,400	1 812 152	1 572 296	1 825 820	1 825 820	1 611 940	4 412	111 New Harmshire Avenue	Portsmouth	Industrial	70,422 Off/Mfr	Sancoast Newspapers, Inc.	0.001	
65	14 MANCHESTER SO	321	951.456	468 248	495 176	1 914 880	1 914 880	638 293	1 747	14 Manchester Square	Portsmouth	Business/Commercial	40.437 Ret/Off/Med/Food	NH Ave Retail Ctr. LLC	0.003	
66	15 Flightline Road	521	442 068	469 744	388 960	1 300 772	1 300 772	433 591	1 187	115 Flightline Road	Portsmouth	Airport/Industrial	80.000 Off/Hngr	Planesense	0.015	
67	125 Aviation Avenue		277,508	376.244	163.812	817.564	817.564	272.521	746	125 Aviation Avenue	Portsmouth	Industrial	65.212 Hangar	Pioneer Aviation, LLC	0.011	
68	177 CORPORATE DR 710190	321	75,548	64,328	65,076	204,952	204,952	68,317	187	177 Corporate Drive	Portsmouth	Business/Commercial	11,456 Office	177 Pease, LLC	0.016	
69	180 INTERNATIONAL DR 710061	321	1,181,092	782,408	639,540	2,603,040	2,603,040	867,680	2,375	180 International Drive	Portsmouth	Industrial	56,658 Off/Mfg	200 International, LP	0.042	
70	207 INTERNATIONAL DR	321	1,372,580	1,505,724	1,526,668	4,404,972	4,404,972	1,468,324	4,019	207 International Drive	Portsmouth	Business/Commercial	100,000 Office	Pioneer Intl Development, LLC	0.040	
71	230 CORPORATE DR	321	635,052	355,300	338,844	1,329,196	1,329,196	443,065	1,213	230 Corporate Drive	Portsmouth	Business/Commercial	29,952 Office	230 Corporate Dr., LLC	0.040	
72	231 CORPORATE DRIVE LLC	321	815,320	691,900	473,484	1,980,704	1,980,704	660,235	1,807	231 Corporate Drive	Portsmouth	Business/Commercial	24,354 Off/Dent	231 Corporate Dr., LLC	0.074	
73 4	12 Airline Avenue		296,956	354,552	418,880	1,070,388	1,070,388	356,796	977	42 Airline Avenue	Portsmouth	Airport	52,000 Terminal	Airline Terminal	0.019	
74 4	14 DURHAM ST	321	8,228	12,716	17,952	38,896	38,896	12,965	35	44 Durham Street	Portsmouth	Airport/Industrial	28,400 Hangar	PCA	0.001	
75	/ Lee Street		20	18 10t.:	2,959,836	2,959,836	000 (0)	2,959,836	8,102	/ Lee Street	Portsmouth	Industrial	30,502 Mine Gar	PDA	0.266	NO1 BILLED, Calculated from 2018 data
76	2) Nochester Avenue 21 NEW HAMPSHIPE AVE 720140	221	255,068	249,832	297,704	802,604	802,604	267,535	732	75 Kochester Avenue	Portsmouth	Industrial Duoimees/Communic	56,215 Office	IAPP	0.013	
70	Same lot as \$1 New Hammehire Ave	321	0/3,948	43/,//0	595,912	1,723,030	1,723,030	575,212	1,374	75 New Hampshire Avenue	Portsmouth	Business/Commercial	24,518 Daycare 81.004 Office	75 New Hampshire LLC	0.012	Included in 81 New Hampshire Ave above
78	Same lot as 81 New Hampshire Ave	321								85 New Hampshire Avenue	Portsmouth	Business/Commercial	28.500 Office	75 New Hampshire LLC		Included in 81 New Hampshire Ave above
80		Total	41,359,912	39,862.416	39,673.172		1	fotal	115.708		1 OI WIRDUUI		3,412,058	TO ITON IMADONIC DEC		
81 82		-			/				,							

APPENDIX A Existing Occupied Building Square Feet with Bill Consumption

	А	В	С	D	E	F	G	Н	I	J K	L	М	N	0	
1				Sum of GALLO	ONS				tere CDD						
						2015-2017		Avg. Annual Total	Avg. GPD 3 Vr						
2 ST	FREET ADRESS	Service #	2015	2016	2017	TOTAL	3 YR Total*	gallons/yr	average*	Address Address Street	City	Zone	Bldg Sa Ft	Use	Leasee
83								0 1	0						
84															
85 A	IR NATIONAL GUARD														
86 ST	Г	241		6,732	65,076	71,808		71,808	197			ANG		ANG	ANG
87 25	51 NASHUA AVE	241		0	0	0		-	-			ANG		ANG	ANG
88 25	52 NASHUA AVE	241		0	0	0		-	-			ANG		ANG	ANG
89 25	54 NEWMARKET ST (ANG) BY-PASS	241	0	0	0	0		-	-			ANG		ANG	ANG
90 25	55 NEWINGTON RD (BLDG 255)	241		9,724	67,320	77,044		77,044	211			ANG		ANG	ANG
91 30	02 NEWMARKET STREET # 161	241			1,496	1,496		1,496	4			ANG		ANG	ANG
92 ST	r	241		1,496	15,708	17,204		17,204	47			ANG		ANG	ANG
93 D.	INING HALL #145 145 NEWMARKET ST	241		20,944	266,288	287,232		287,232	786			ANG		ANG	ANG
94 N	EWMARKEI SI	241		5 226	17,204	17,204		17,204	4/			ANG		ANG	ANG
95 K	AINTENANCE #252 252 NASHIJA AVE	241		4 488	62 832	67 320		67 320	172			ANG		ANG	ANG
90 M	AINTENANCE #254 B 254 NEWMARKET ST	241	343 332	443 564	384 472	1 171 368		1 171 368	3 206			ANG		ANG	ANG
98 ST	Г	241	515,552	2,992	54,604	57,596		57,596	158			ANG		ANG	ANG
99 M	IOTOR VEHICLE #157 157 NEWMARKET ST	241		5,236	74,800	80,036		80,036	219			ANG		ANG	ANG
100 PH	EASE ANG #245 245 NEWINGTON RD	241		0	4,488	4,488		4,488	12			ANG		ANG	ANG
101 PI	EASE ANG #249 249 NEWINGTON RD	241		5,984	33,660	39,644		39,644	109			ANG		ANG	ANG
102 PI	EASE ANG #251 251 NASHUA AVE	241		3,740	27,676	31,416		31,416	86			ANG		ANG	ANG
103 PI	EASE ANG #264 264 NEWMARKET ST	241	161,568	163,812	178,772	504,152		504,152	1,380			ANG		ANG	ANG
104 PI	EASE ANG 146 RANGE RD	241		0	4,488	4,488		4,488	12			ANG		ANG	ANG
105 SI	ECURITY #244 244 FRANKLIN ST	241		8,976	50,864	59,840		59,840	164			ANG		ANG	ANG
106 W	AREHOUSE/ANG #262 262 NASHUA AVE	241		5,236	45,628	50,864		50,864	139			ANG		ANG	ANG
107 15	56 NEWMARKET ST	321		1,496	34,408	35,904		35,904	98			ANG		ANG	ANG
108 30	J2 NEWMARKET ST	321		11,968	106,216	118,184		118,184	323			ANG		ANG	ANG
109 A	NG BLDG 100 NEWMARKET SI PROPETIJA DR CHARD (PLDC 164)	321	749	20.044	/48	26 180		748	72			ANG		ANG	ANG
111 B	LDG # 158	321	/48	20,944	14 212	36 652		20,180	100			ANG		ANG	ANG
112 FI	UEL STORAGE #165 165 ARBORETUM DR	321		22,440	74,800	74,800		74.800	205			ANG		ANG	ANG
	EWINGTON RD BLDG 243 FIRE STA	321		27.676	276.012	303,688		303,688	831			ANG		ANG	ANG
113 N						,		/							
113 N. 114				.,,			T	otal	8,765						
113 N 114 115 V	ACANT/OTHER	241	0.027	0.000	0.724	26.029	T	otal	8,765						
113 N 114 115 V 116 A	ACANT/OTHER REORETUM DR	241	8,976	8,228	9,724	26,928	Te 26,928	otal 8,976	8,765 25				ULCUNT.	T.	Seasonal Irrigation Meter
113 N 114 115 V/ 116 A 117 14 117 14	ACANT/OTHER REORETUM DR 4 AVIATION AVE	241 241	8,976	8,228 0	9,724 0	26,928 0	26,928 -	otal 8,976	8,765 25 -	14 Aviation Avenue	Portsmouth	Airport/Industrial	VACANT	Hangar	Seasonal Irrigation Meter Available
113 N 114 115 V/ 116 A 117 14 118 12 119 19	ACANT/OTHER RBORETUM DR 4 AVIATION AVE 2 Aviation Avenue D DURHAM ST	241 241 241	8,976	8,228 0	9,724 0 32,164	26,928 0 32 164	26,928 - 32,164	otal 8,976 -	8,765 25 - - 29	14 Aviation Avenue 12 Aviation Avenue 19 Durbary Street	Portsmouth Portsmouth	Airport/Industrial Airport Industrial	VACANT VACANT VACANT	Hangar Hangar VACANT	Seasonal Irrigation Meter Available Available
113 N 114 115 V 116 A 117 14 118 12 119 19 120 16	ACANT/OTHER RBORETUM DR 4 AVIATION AVE 2 Aviation Avenue 1 DURHAM ST 5 Achoretum Drive	241 241 241	8,976 0	8,228 0 0	9,724 0 32,164	26,928 0 32,164	26,928 - 32,164	otal 8,976 - 10,721	8,765 25 - 29	14 Aviation Avenue 12 Aviation Avenue 19 Durham Street 165 Arboretum Drive	Portsmouth Portsmouth Portsmouth Newineton	Airport/Industrial Airport Industrial Airport/Industrial	VACANT VACANT VACANT VACANT	Hangar Hangar VACANT VACANT	Seasonal Irrigation Meter Available Available Available
113 N 114 115 V/ 115 V/ 116 Al 117 14 118 12 119 19 120 16 120 16 121 36	ACANT/OTHER RBORETUM DR 4 AVIATION AVE 2 Aviation Avenue 2 DURHAM ST 55 Arboretum Drive 30 Corporate Drive	241 241 241	8,976 0	8,228 0 0	9,724 0 32,164	26,928 0 32,164	Tr 26,928 - 32,164	otal 8,976 - 10,721	8,765 25 - - 29 - 0	14 Aviation Avenue 12 Aviation Avenue 19 Durham Street 165 Arboretum Drive 360 Corporate Drive	Portsmouth Portsmouth Portsmouth Newington Portsmouth	Airport/Industrial Airport Industrial Airport/Industrial Business/Commercial	VACANT VACANT VACANT VACANT VACANT	Hangar Hangar VACANT VACANT VACANT	Seasonal Irrigation Meter Available Available Available Option (GBCC)
113 N 114 115 V/ 116 A 117 14 118 12 119 19 120 16 121 36 122 40	ACANTOTHER RBORETUM DR 4 AVIATION AVE 2 Aviation Avenue 9 DURHAM ST 55 Arboretum Drive 50 Corporate Drive 0 Oak Street	241 241 241	8,976 0	8,228 0 0	9,724 0 32,164	26,928 0 32,164	26,928 - 32,164	otal 8,976 - 10,721	8,765 25 - - 29 - 0 0	14 Aviation Avenue 12 Aviation Avenue 19 Durham Street 165 Arboretum Drive 360 Corporate Drive 40 Oak Street	Portsmouth Portsmouth Portsmouth Newington Portsmouth Portsmouth	Airport/Industrial Airport Industrial Airport/Industrial Business/Commercial Business/Commercial	VACANT VACANT VACANT VACANT VACANT VACANT	Hangar Hangar VACANT VACANT VACANT VACANT	Seasonal Irrigation Meter Available Available Available Option (GBCC) GSA
113 NJ 114 115 V/ 116 A 117 14 118 12 119 19 120 16 121 36 122 40 123 3	ACANT/OTHER RBORETUM DR 4 AVIATION AVE 2 Aviation Avenue 9 DURHAM ST 55 Arboretum Drive 90 Corporate Drive 10 Oak Street MANCHESTER SQ/50 INTERNATIONAL DR	241 241 241 241	8,976 0 148,852	8,228 0 0	9,724 0 32,164 145,112	26,928 0 32,164 439,824	Tr 26,928 - 32,164 439,824	otal 8,976 - 10,721 146,608	8,765 25 - 29 - 0 0 0 401	14 Aviation Avenue 12 Aviation Avenue 19 Durham Street 165 Arboretum Drive 360 Corporate Drive 40 Oak Street 50 International Drive	Portsmouth Portsmouth Portsmouth Newington Portsmouth Portsmouth Portsmouth	Airport/Industrial Airport Industrial Airport/Industrial Business/Commercial Business/Commercial	VACANT VACANT VACANT VACANT VACANT VACANT	Hangar Hangar VACANT VACANT VACANT VACANT PROPOSED/NOT YET APPROVED	Seasonal Irrigation Meter Available Available Available Option (GBCC) GSA 75 New Hampshire LLC
113 N 114 115 V/ 116 A 117 14 118 12 119 19 120 16 121 36 122 40 123 3 124 25	ACANT/OTHER RBORETUM DR 4 AVIATION AVE 2 Aviation Avenue 1 DURHAM ST 5 Arboretum Drive 50 Corporate Drive 1 Oak Street MANCHESTER SQ/50 INTERNATIONAL DR 54 Corporate Drive	241 241 241 241	8,976 0 148,852	8,228 0 0 145,860	9,724 0 32,164 145,112	26,928 0 32,164 439,824	Tr 26,928 - 32,164 439,824	otal 8,976 - 10,721 146,608	8,765 25 - 29 - 0 0 401	14 Aviation Avenue 12 Aviation Avenue 19 Durham Street 165 Arboretum Drive 360 Corporate Drive 40 Oak Street 50 International Drive 254 Corporate Drive	Portsmouth Portsmouth Portsmouth Newington Portsmouth Portsmouth Portsmouth	Airport/Industrial Airport Industrial Airport/Industrial Business/Commercial Business/Commercial Business/Commercial	VACANT VACANT VACANT VACANT VACANT VACANT	Hangar Hangar VACANT VACANT VACANT VACANT PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED	Seasonal Irrigation Meter Available Available Option (GBCC) GSA 75 New Hampshire LLC PROPOSED/NOT YET /
113 N 114 115 V/ 116 A 116 A 117 14 118 12 119 19 120 16 122 40 123 3 124 25 125 25	ACANT/OTHER RBORETUM DR 4 AVIATION AVE 2 Aviation Avenue 2 DURHAM ST 55 Arboretum Drive 50 Corporate Drive 0 Oak Street MANCHESTER SQ/50 INTERNATIONAL DR 44 Corporate Drive 55 Corporate Drive	241 241 241 241	8,976 0 148,852	8,228 0 0 145,860	9,724 0 32,164 145,112	26.928 0 32,164 439,824	T. 26,928 - 32,164 439,824	otal 8,976 - 10,721 146,608	8,765 - - 29 - 0 0 401	14 Aviation Avenue 12 Aviation Avenue 19 Durham Street 165 Arboretum Drive 360 Corporate Drive 40 Oak Street 50 International Drive 254 Corporate Drive 255 Corporate Drive	Portsmouth Portsmouth Newington Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth	Airport/Industrial Airport Industrial Airport/Industrial Business/Commercial Business/Commercial Business/Commercial Business/Commercial	VACANT VACANT VACANT VACANT VACANT VACANT	Hangar Hangar VACANT VACANT VACANT VACANT VACANT PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED	Seasonal Irrigation Meter Available Available Option (GBCC) GSA 75 New Hampshire LLC PROPOSED/NOT YET / PROPOSED/NOT YET /
113 N 114 115 V/ 116 A 117 14 117 I 117 14 118 12 119 19 120 16 121 36 122 40 123 3 124 25 125 25 126 16 16 16	ACANT/OTHER ACANT/OTHER RBORETUM DR 4 AVIATION AVE 2 Aviation Avenue 9 DURHAM ST 55 Arboretum Drive 90 Corporate Drive 9 Oak Street MANCHESTER SQ/50 INTERNATIONAL DR 54 Corporate Drive 55 Corporate Drive 53 International Drive	241 241 241 241	8,976 0 148,852	8,228 0 0 145,860	9,724 0 32,164 145,112	26,928 0 32,164 439,824	T. 26,928 - 32,164 439,824	otal 8,976 - 10,721 146,608	8,765 - - - - 0 0 401	14 Aviation Avenue 12 Aviation Avenue 19 Durham Street 165 Arboretum Drive 360 Corporate Drive 40 Oak Street 50 International Drive 254 Corporate Drive 255 Corporate Drive 163 International Drive	Portsmouth Portsmouth Newington Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth	Airport/Industrial Airport Industrial Business/Commercial Business/Commercial Business/Commercial Business/Commercial Business/Commercial Business/Commercial	VACANT VACANT VACANT VACANT VACANT VACANT	Hangar Hangar VACANT VACANT VACANT VACANT PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED 0 Cell Twr	Seasonal Irrigation Meter Available Available Available Option (GBCC) GSA 75 New Hampshire LLC PROPOSED/NOT YET / PROPOSED/NOT YET / GMR Holdings of NH
113 N 114 115 V/ 116 A 117 14 117 14 118 12 119 19 120 16 121 36 122 40 123 3 124 25 126 16 127 20 126 16 127 20	ACANT/OTHER ACANT/OTHER RBORETUM DR 4 AVIATION AVE 2 Aviation Avenue 9 DURHAM ST 55 Arboretum Drive 90 Corporate Drive 90 Caporate Drive 90 Caporate Drive 55 Corporate Drive 55 Corporate Drive 53 International Drive 90 Flightline Road 90 Flightline Road 91 Flightline Road 92 Flightline Road 93 Flightline Road 94 Corporate Drive 95 Structure	241 241 241 241	8,976 0 148,852	8,228 0 0 145,860	9,724 0 32,164 145,112	26,928 0 32,164 439,824	T. 26,928 - 32,164 439,824	otal 8,976 - 10,721 146,608	8,765 25 - 29 - 0 0 0 401	14 Aviation Avenue 12 Aviation Avenue 19 Durham Street 165 Arboretum Drive 360 Corporate Drive 40 Oak Street 50 International Drive 254 Corporate Drive 163 International Drive 2163 International Drive 200 Flightline Road	Portsmouth Portsmouth Portsmouth Newington Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth	Airport/Industrial Airport Industrial Airport/Industrial Business/Commercial Business/Commercial Business/Commercial Business/Commercial Business/Commercial Airport/Industrial	VACANT VACANT VACANT VACANT VACANT VACANT	Hangar Hangar VACANT VACANT VACANT VACANT PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED O Cell Tvr Hangar	Seasonal Irrigation Meter Available Available Option (GBCC) GSA 75 New Hampshire LLC PROPOSED/NOT YET / PROPOSED/NOT YET / GMR Holdings of NH
113 N 114 115 V/ 116 A 115 116 A 115 V/ 116 A 117 14 117 14 118 12 119 19 120 16 121 36 122 40 123 3 124 25 126 16 127 20 128 20 128 20	ACANT/OTHER ACANT/OTHER RBORETUM DR 4 AVIATION AVE 2 Aviation Avenue 1 DURHAM ST 5 Arboretum Drive 50 Corporate Drive 10 Carporate Drive 50 Corporate Drive 54 Corporate Drive 55 Corporate Drive 53 International Drive 10 Flightline Road 11 Flightline Road 11 Flightline Road	241 241 241 241 241	8,976 0 148,852	8,228 0 0 145,860	9,724 0 32,164 145,112	26,928 0 32,164 439,824	T. 26,928 - 32,164 439,824	otal 8,976 - 10,721 146,608	8,765 25 - - 0 0 0 401	14 Aviation Avenue 12 Aviation Avenue 19 Durham Street 165 Arboretum Drive 360 Corporate Drive 40 Oak Street 50 International Drive 254 Corporate Drive 255 Corporate Drive 163 International Drive 164 International Drive 165 Corporate Drive 163 International Drive 200 Flightline Road 201 Flightline Road	Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth	Airport/Industrial Airport Industrial Airport/Industrial Business/Commercial Business/Commercial Business/Commercial Business/Commercial Airport/Industrial	VACANT VACANT VACANT VACANT VACANT VACANT S3,86	Hangar Hangar VACANT VACANT VACANT PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED 0 Cell Twr Hangar 4 Hangar	Seasonal Irrigation Meter Available Available Option (GBCC) GSA 75 New Hampshire LLC PROPOSED/NOT YET / PROPOSED/NOT YET / GMR Holdings of NH No water/sewer
113 N 114 115 V/ 116 Al 117 116 Al 117 117 14 118 117 14 118 119 19 120 120 16 121 122 40 123 124 25 125 126 16 127 126 16 127 126 16 127 126 16 127 127 20 128 128 20 129 129 20 130	ACANT/OTHER ACANT/OTHER RBORETUM DR 4 AVIATION AVE 2 Aviation Avenue 1 DURHAM ST 55 Arboretum Drive 50 Corporate Drive 10 Oak Street MANCHESTER SQ/50 INTERNATIONAL DR 44 Corporate Drive 55 Corporate Drive 55 Corporate Drive 55 Corporate Drive 56 International Drive 10 Flightine Road 11 Flightline Road 13 Flightline Road 13 Flightline Road	241 241 241 241 241	8,976 0 148,852	8,228 0 0 145,860	9,724 0 32,164 145,112	26,928 0 32,164 439,824	T. 26,928 - 32,164 439,824	otal 8,976 - 10,721 146,608	8,765 25 - 29 - 0 0 0 401	14 Aviation Avenue 12 Aviation Avenue 19 Durham Street 165 Arboretum Drive 360 Corporate Drive 40 Oak Street 50 International Drive 255 Corporate Drive 163 International Drive 255 Corporate Drive 163 International Drive 200 Flightline Road 201 Flightline Road 203 Flightline Road	Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth	Airport/Industrial Airport Industrial Airport/Industrial Business/Commercial Business/Commercial Business/Commercial Business/Commercial Airport/Industrial Airport/Industrial Airport/Industrial	VACANT VACANT VACANT VACANT VACANT VACANT 53,86	Hangar Hangar VACANT VACANT VACANT VACANT PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED 0 Cell Twr Hangar 4 Hangar Hangar	Seasonal Irrigation Meter Available Available Option (GBCC) GSA 75 New Hampshire LLC PROPOSED/NOT YET / PROPOSED/NOT YET / GMR Holdings of NH No water/sewer No water/sewer
113 N. 114 115 V/ 115 V/ 116 A 117 14 117 V/ 118 12 16 120 16 120 16 121 36 122 40 123 3 1 124 25 125 126 16 127 20 128 20 129 20 130 200 130 130 131 131 131	ACANT/OTHER ACANT/OTHER RBORETUM DR 4 AVIATION AVE 2 Aviation Avenue 2 Aviation Avenue 2 DURHAM ST 55 Arboretum Drive 50 Corporate Drive 50 Corporate Drive 55 Corporate Drive 55 Corporate Drive 55 Corporate Drive 55 Corporate Drive 56 International Drive 10 Flightline Road 10 Flightline Road 10 Flightline Road 10 Flightline Road	241 241 241 241 241	8,976 0 148,852	8,228 0 0 145,860	9,724 0 32,164 145,112	26,928 0 32,164 439,824	T. 26,928 - 32,164 439,824	otal 8,976 - 10,721 146,608	8,765 25 - 29 - 0 0 0 401	14 Aviation Avenue 12 Aviation Avenue 19 Durham Street 165 Arboretum Drive 360 Corporate Drive 40 Oak Street 50 International Drive 255 Corporate Drive 263 International Drive 264 Corporate Drive 265 Corporate Drive 266 International Drive 200 Flightline Road 201 Flightline Road 203 Flightline Road 205 Flightline Road	Portsmouth Portsmouth Newington Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth	Airport/Industrial Airport Industrial Airport/Industrial Business/Commercial Business/Commercial Business/Commercial Business/Commercial Airport/Industrial Airport/Industrial Airport/Industrial	VACANT VACANT VACANT VACANT VACANT S3,86	Hangar Hangar VACANT VACANT VACANT VACANT PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED 0 Cell Twr Hangar Hangar Hangar Hangar Hangar	Seasonal Irrigation Meter Available Available Option (GBCC) GSA 75 New Hampshire LLC PROPOSED/NOT YET / PROPOSED/NOT YET / GMR Holdings of NH No water/sewer No water/sewer No water/sewer
113 N. 114 115 V/ 115 V/ 116 A 117 14 117 V/ 116 A 117 14 118 12 16 120 16 120 16 122 40 123 3 124 25 126 16 127 20 128 20 129 20 130 200 133 132 132 132 132	ACANT/OTHER RBORETUM DR 4 AVIATION AVE 2 Aviation Avenue 9 DURHAM ST 55 Arboretum Drive 90 Oak Street MANCHESTER SQ/50 INTERNATIONAL DR 46 Corporate Drive 55 Corporate Drive 53 International Drive 10 Flightline Road 11 Flightline Road 13 Flightline Road 15 Flightline Road 25 Flightline Road 25 Flightline Road 25 Flightline Road	241 241 241 241	8,976 0 148,852	8,228 0 0 145,860	9,724 0 32,164 145,112	26,928 0 32,164 439,824	T. 26,928 - 32,164 439,824	6000 8,976 - - 10,721 146,608	8,765 25 - - - 0 0 401	14 Aviation Avenue 12 Aviation Avenue 19 Durham Street 165 Arboretum Drive 360 Corporate Drive 40 Oak Street 50 International Drive 254 Corporate Drive 163 International Drive 2163 International Drive 200 Flightline Road 201 Flightline Road 202 Flightline Road 203 Flightline Road 204 Flightline Road	Portsmouth Portsmouth Newington Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth Portsmouth	Airport/Industrial Airport Industrial Airport/Industrial Business/Commercial Business/Commercial Business/Commercial Business/Commercial Business/Commercial Airport/Industrial Airport/Industrial Airport/Industrial	VACANT VACANT VACANT VACANT VACANT VACANT S3,86	Hangar Hangar VACANT VACANT VACANT VACANT PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED O Cell Tvr Hangar Hangar Hangar Hangar 4	Seasonal Irrigation Meter Available Available Option (GBCC) GSA 75 New Hampshire LLC PROPOSED/NOT YET / PROPOSED/NOT YET / GMR Holdings of NH No water/sewer No water/sewer No water/sewer
113 N 114 114 115 V/ 116 A 117 14 117 14 117 14 117 14 117 14 117 14 118 12 119 19 120 16 122 3 124 25 126 16 127 20 128 20 129 20 130 20 131 132 133 10	ACANT/OTHER ACANT/OTHER RBORETUM DR 4 AVIATION AVE 2 Aviation Avenue 2 Aviation Avenue 2 Aviation Avenue 2 Aviation Avenue 2 OURHAM ST 55 Arboretum Drive 30 Carporate Drive 30 Carporate Drive 30 Carporate Drive 35 Corporate Drive 35 Corporate Drive 30 Flightline Road 35 Flightline Road 36 Flightline Road 37 Flightline Road 36 Flightline Road 37 Flightline Road 37 Flightline Road 37 Flightline Road 36 Flightline Road 37 Flightline Road 37 Flightline Road 37 Flightline Road 38 Flightline Road 39 Flightline Road 30 Flightline Road 30 Flightline Road 30 Flightline Road 31 Flightline Road 32 Flightline Road 33 Flightline Road 34 Flightline Road 35 Flightli	241 241 241 241 241 241	8,976 0 148,852	8,228 0 0 145,860 2,864,092	9,724 0 32,164 145,112 37,717,152	26,928 0 32,164 439,824 439,824	T. 26,928 - 32,164 439,824 439,824 40,581,244	otal 8,976 - 10,721 146,608 146,608	8,765 25 - - 0 0 401 401	14 Aviation Avenue 12 Aviation Avenue 19 Durham Street 165 Arboretum Drive 360 Corporate Drive 40 Oak Street 50 International Drive 254 Corporate Drive 163 International Drive 200 Flightline Road 201 Flightline Road 202 Flightline Road 203 Flightline Road 205 Flightline Road	Portsmouth	Airport/Industrial Airport/Industrial Airport/Industrial Business/Commercial Business/Commercial Business/Commercial Business/Commercial Business/Commercial Airport/Industrial Airport/Industrial Airport/Industrial Business/Commercial	VACANT VACANT VACANT VACANT VACANT VACANT S3,86 53,86 656,000	Hangar Hangar VACANT VACANT VACANT VACANT PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED O Cell Twr Hangar Hangar Hangar Hangar 4 Mangar 4	Seasonal Irrigation Meter Available Available Option (GBCC) GSA 75 New Hampshire LLC PROPOSED/NOT YET / PROPOSED/NOT YET / GMR Holdings of NH No water/sewer No water/sewer No water/sewer No water/sewer
113 N. 114 V. 115 V. 116 All 117 I41 118 I21 119 I91 120 Ie 121 3 122 40 123 3 124 25 125 2126 126 127 128 20 129 20 120 120 122 22 123 124 125 25 126 127 122 22 124 22 142 22 142 22 120 120 130 100 131 113 133 11	ACANT/OTHER ACANT/OTHER RBORETUM DR 4 AVIATION AVE 2 Aviation Avenue 1 DURHAM ST 5 Arboretum Drive 50 Corporate Drive 50 Corporate Drive 51 Corporate Drive 52 Corporate Drive 53 International Drive 54 Corporate Drive 53 International Drive 54 Flightline Road 55 Flightline Road 5	241 241 241 241 241 241 241 241 321	8,976 0 148,852 90,378,596	8,228 0 0 145,860 2,864,092 98,321,608	9,724 0 32,164 145,112 37,717,152 76,340,132	26,928 0 32,164 439,824 439,824 40,581,244 265,040,336	T. 26,928 - 32,164 439,824 439,824 40,581,244 265,040,336	8,976 - 10,721 146,608 13,527,081 88,346,779	8,765 25 - - 0 0 0 401 37,027 241,827	14 Aviation Avenue 12 Aviation Avenue 19 Durham Street 165 Arboretum Drive 360 Corporate Drive 40 Oak Street 50 International Drive 254 Corporate Drive 263 International Drive 2163 International Drive 200 Flightline Road 201 Flightline Road 205 Flightline Road 206 Flightline Road	Portsmouth	Airport/Industrial Airport Industrial Airport/Industrial Business/Commercial Business/Commercial Business/Commercial Business/Commercial Airport/Industrial Airport/Industrial Airport/Industrial Airport/Industrial Business/Commercial Business/Commercial Business/Commercial Business/Commercial	VACANT VACANT VACANT VACANT VACANT VACANT 53,86 53,86 656,000	Hangar Hangar VACANT VACANT VACANT VACANT PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED O Cell Twr Hangar Hangar Hangar 4 0 Biotech	Seasonal Irrigation Meter Available Available Option (GBCC) GSA 75 New Hampshire LLC PROPOSED/NOT YET / PROPOSED/NOT YET / GMR Holdings of NH No water/sewer No water/sewer No water/sewer No water/sewer Lonza Biologies, Inc. Lonza Biologies, Inc.
113 N. 114 V. 115 V. 116 A. 117 14 118 I. 117 14 118 I. 117 14 118 I. 119 I. 120 16 121 32 122 4. 122 4. 122 4. 122 1. 122 1. 122 1. 122 1. 122 1. 122 1. 122 1. 122 1. 142 1. 128 1. 130 1. 133 1. 133 1. 135 1.	ACANT/OTHER ACANT/OTHER RBORETUM DR 4 AVIATION AVE 2 Aviation Avenue 2 Aviation Avenue 2 DURHAM ST 55 Arboretum Drive 30 Corporate Drive 30 Octoprate Drive 30 Aksreet MANCHESTER SQ/50 INTERNATIONAL DR 44 Corporate Drive 35 Corporate Drive 36 International Drive 30 Flightline Road 31 Flightline Road 31 Flightline Road 35 Flightline Road 35 Flightline Road 35 Flightline Road 31 INTERNATIONAL DR 11 INTERNATIONAL DR 31 INTERNA	241 241 241 241 241 241 241 241 321 321	8,976 0 148,852 90,378,596 3,740	8,228 0 0 145,860 2,864,092 98,321,608 2,992	9,724 0 32,164 145,112 37,717,152 76,340,132 2,244	26,928 0 32,164 439,824 439,824 40,581,244 265,040,336 8,976	T. 26,928 - 32,164 439,824 439,824 40,581,244 265,040,336 8,976	otal 8,976 - 10,721 146,608 13,527,081 88,346,779 2,992	8,765 25 - - 29 - 0 0 0 401 401 401 37,027 241,827 8	14 Aviation Avenue 12 Aviation Avenue 19 Durham Street 165 Arboretum Drive 360 Corporate Drive 40 Oak Street 50 International Drive 255 Corporate Drive 163 International Drive 255 Corporate Drive 163 International Drive 204 Flightline Road 205 Flightline Road 205 Flightline Road 205 Flightline Road 206 Flightline Road 207 Flightline Road 208 Flightline Road 209 Flightline Road 201 Flightline Road 202 Flightline Road 203 Flightline Road 204 Flightline Road	Portsmouth	Airport/Industrial Airport Industrial Airport/Industrial Business/Commercial Business/Commercial Business/Commercial Business/Commercial Airport/Industrial Airport/Industrial Airport/Industrial Business/Commercial Business/Commercial Business/Commercial	VACANT VACANT VACANT VACANT VACANT S3,86 53,86 656,000	Hangar Hangar VACANT VACANT VACANT VACANT PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED O Cell Twr Hangar Hangar Hangar 4 4 0 Biotech Biotech	Seasonal Irrigation Meter Available Available Option (GBCC) GSA 75 New Hampshire LLC PROPOSED/NOT YET / PROPOSED/NOT YET / GMR Holdings of NH No water/sewer No water/sewer No water/sewer No water/sewer No water/sewer
113 N. 114 V. 115 V. 116 A. 117 14 118 I. 117 14 118 I. 117 14 118 I. 119 I. 120 16 121 32 122 4. 122 4. 122 4. 122 4. 122 4. 122 4. 122 4. 122 4. 122 4. 122 4. 122 4. 122 4. 128 2. 129 2. 130 11. 133 10. 135 11. 136 11.	ACANT/OTHER ACANT/OTHER RBORETUM DR 4 AVIATION AVE 2 Aviation Avenue 2 DURHAM ST 55 Arboretum Drive 50 Corporate Drive 9 Oak Street MANCHESTER SQ/50 INTERNATIONAL DR 44 Corporate Drive 55 Corporate Drive 55 Corporate Drive 56 Corporate Drive 57 International Drive 58 International Drive 59 Flightline Road 10 Flightline Road 11 Flightline Road 12 Flightline Road 13 Flightline Road 14 Flightline Road 15 Flightline Road 15 Flightline Road 15 Flightline Road 10 Flightl	241 241 241 241 241 241 241 241 321 321 321	8,976 0 148,852 90,378,596 3,740 27,765,760	8,228 0 0 145,860 2,864,092 98,321,608 2,992 27,119,488	9,724 0 32,164 145,112 37,717,152 76,340,132 2,244 21,042,736	26,928 0 32,164 439,824 439,824 40,581,244 265,040,336 8,976 75,927,984	T. 26,928 - 32,164 439,824 439,824 40,581,244 265,040,336 8,976 75,927,984	8,976 - 10,721 146,608 13,527,081 88,346,779 2,992 25,309,328	8,765 25 - - - 0 0 - 0 0 401 401 401 401 8 69,278	14 Aviation Avenue 12 Aviation Avenue 19 Durham Street 165 Arboretum Drive 360 Corporate Drive 40 Oak Street 50 International Drive 254 Corporate Drive 163 International Drive 200 Flightline Road 201 Flightline Road 202 Flightline Road 101 International Drive 101 International Drive 38 Corporate Drive	Portsmouth	Airport/Industrial Airport Industrial Airport/Industrial Business/Commercial Business/Commercial Business/Commercial Business/Commercial Airport/Industrial Airport/Industrial Airport/Industrial Business/Commercial Business/Commercial Business/Commercial Business/Commercial	VACANT VACANT VACANT VACANT VACANT VACANT 53,86 53,86 656,000	Hangar Hangar VACANT VACANT VACANT VACANT PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED O Cell Tvr Hangar 4 Hangar 4 Hangar 4 Biotech Biotech Biotech	Seasonal Irrigation Meter Available Available Option (GBCC) GSA 75 New Hampshire LLC PROPOSED/NOT YET / PROPOSED/NOT YET / PROPOSED/NOT YET / GMR Holdings of NH No water/sewer No water/sewer No water/sewer Lonza Biologies, Inc. Lonza Biologies, Inc.
113 N. 114 V. 115 V. 116 A. 117 I4 118 I. 119 I. 111 I. 111 I. 111 I. 111 I. 112 I. 113 I. 113 I. 113 I. 113 I. <td>ACANT/OTHER ACANT/OTHER RBORETUM DR 4 AVIATION AVE 2 Aviation Avenue 1 DURHAM ST 5 Avioretum Drive 50 Corporate Drive 10 Corporate Drive 10 CIRAL 25 Corporate Drive 10 CIRAL 25 Corporate Drive 10 Flightline Road 15 Flightline Road 16 Flightline Road 17 Flightline Road 18 Flightline Road 19 Flightline Road 19 Flightline Road 19 Flightline Road 10 Flightl</td> <td>241 241 241 241 241 241 241 321 321 321</td> <td>8,976 0 148,852 90,378,596 3,740 27,765,760</td> <td>8,228 0 0 145,860 2,864,092 98,321,608 2,992 27,119,488</td> <td>9,724 0 32,164 145,112 37,717,152 76,340,132 2,244 21,042,736</td> <td>26,928 0 32,164 439,824 439,824 40,581,244 265,040,336 8,976 75,927,984</td> <td>T. 26,928 - 32,164 439,824 439,824 40,581,244 265,040,336 8,976 75,927,984</td> <td>8,976 - 10,721 146,608 13,527,081 88,346,779 2,992 25,309,328</td> <td>8,765 25 - - 0 0 0 401 401 37,027 241,827 8 69,278</td> <td>14 Aviation Avenue 12 Aviation Avenue 19 Durham Street 165 Arboretum Drive 360 Corporate Drive 40 Oak Street 50 International Drive 254 Corporate Drive 163 International Drive 200 Flightline Road 201 Flightline Road 202 Flightline Road 203 Flightline Road 204 Flightline Road 205 Flightline Road 206 Flightline Road 207 Flightline Road 208 Flightline Road</td> <td>Portsmouth Portsmouth Portsmouth</td> <td>Airport/Industrial Airport Industrial Airport/Industrial Business/Commercial Business/Commercial Business/Commercial Business/Commercial Airport/Industrial Airport/Industrial Airport/Industrial Business/Commercial Business/Commercial Business/Commercial Business/Commercial</td> <td>VACANT VACANT VACANT VACANT VACANT VACANT VACANT S3,86 53,86 656,00 129,12 785,12</td> <td>Hangar Hangar VACANT VACANT VACANT VACANT PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED O Cell Twr Hangar Hangar Hangar Hangar 4 Hangar 4 Biotech Biotech Biotech Biotech Biotech 4 Brewery 4</td> <td>Seasonal Irrigation Meter Available Available Option (GBCC) GSA 75 New Hampshire LLC PROPOSED/NOT YET / PROPOSED/NOT YET / GMR Holdings of NH No water/sewer No water/sewer No water/sewer No water/sewer No water/sewer Chorza Biologies, Inc.</td>	ACANT/OTHER ACANT/OTHER RBORETUM DR 4 AVIATION AVE 2 Aviation Avenue 1 DURHAM ST 5 Avioretum Drive 50 Corporate Drive 10 Corporate Drive 10 CIRAL 25 Corporate Drive 10 CIRAL 25 Corporate Drive 10 Flightline Road 15 Flightline Road 16 Flightline Road 17 Flightline Road 18 Flightline Road 19 Flightline Road 19 Flightline Road 19 Flightline Road 10 Flightl	241 241 241 241 241 241 241 321 321 321	8,976 0 148,852 90,378,596 3,740 27,765,760	8,228 0 0 145,860 2,864,092 98,321,608 2,992 27,119,488	9,724 0 32,164 145,112 37,717,152 76,340,132 2,244 21,042,736	26,928 0 32,164 439,824 439,824 40,581,244 265,040,336 8,976 75,927,984	T. 26,928 - 32,164 439,824 439,824 40,581,244 265,040,336 8,976 75,927,984	8,976 - 10,721 146,608 13,527,081 88,346,779 2,992 25,309,328	8,765 25 - - 0 0 0 401 401 37,027 241,827 8 69,278	14 Aviation Avenue 12 Aviation Avenue 19 Durham Street 165 Arboretum Drive 360 Corporate Drive 40 Oak Street 50 International Drive 254 Corporate Drive 163 International Drive 200 Flightline Road 201 Flightline Road 202 Flightline Road 203 Flightline Road 204 Flightline Road 205 Flightline Road 206 Flightline Road 207 Flightline Road 208 Flightline Road	Portsmouth	Airport/Industrial Airport Industrial Airport/Industrial Business/Commercial Business/Commercial Business/Commercial Business/Commercial Airport/Industrial Airport/Industrial Airport/Industrial Business/Commercial Business/Commercial Business/Commercial Business/Commercial	VACANT VACANT VACANT VACANT VACANT VACANT VACANT S3,86 53,86 656,00 129,12 785,12	Hangar Hangar VACANT VACANT VACANT VACANT PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED O Cell Twr Hangar Hangar Hangar Hangar 4 Hangar 4 Biotech Biotech Biotech Biotech Biotech 4 Brewery 4	Seasonal Irrigation Meter Available Available Option (GBCC) GSA 75 New Hampshire LLC PROPOSED/NOT YET / PROPOSED/NOT YET / GMR Holdings of NH No water/sewer No water/sewer No water/sewer No water/sewer No water/sewer Chorza Biologies, Inc.
113 N 114 V 115 V 116 A 117 I4 118 I117 118 I117 119 I12 111 I118 1121 312 1122 40 1123 1122 124 252 125 2128 126 122 128 20 130 212 133 10 133 10 134 10 135 1135 136 1 137 M	ACANT/OTHER ACANT/OTHER RBORETUM DR 4 AVIATION AVE 2 Aviation Avenue 2 Aviation Aven	241 241 241 241 241 241 241 321 321 321 321	8,976 0 148,852 90,378,596 3,740 27,765,760	8,228 0 0 145,860 2,864,092 98,321,608 2,992 27,119,488	9,724 0 32,164 145,112 37,717,152 76,340,132 2,244 21,042,736	26,928 0 32,164 439,824 439,824 40,581,244 265,040,336 8,976 75,927,984	T. 26,928 - 32,164 439,824 439,824 40,581,244 265,040,336 8,976 75,927,984 5,242,964	8,976 - 10,721 146,608 13,527,081 88,346,779 2,992 25,309,328 1,790,900	8,765 25 - - 0 0 0 401 401 401 401 401 401	14 Aviation Avenue 12 Aviation Avenue 19 Durham Street 165 Arboretum Drive 360 Corporate Drive 40 Oak Street 50 International Drive 254 Corporate Drive 255 Corporate Drive 163 International Drive 200 Flightline Road 201 Flightline Road 202 Flightline Road 203 Flightline Road 204 Flightline Road 205 Flightline Road 206 Flightline Road 207 Flightline Road 208 Flightline Road 209 Flightline Road 201 International Drive 101 International Drive 35 Corporate Drive 35 Corporate Drive	Portsmouth	Airport/Industrial Airport/Industrial Airport/Industrial Business/Commercial Business/Commercial Business/Commercial Business/Commercial Airport/Industrial Airport/Industrial Airport/Industrial Business/Commercial Business/Commercial Business/Commercial Business/Commercial Business/Commercial Business/Commercial	VACANT VACANT VACANT VACANT VACANT VACANT S3,86 53,86 53,86 53,86 129,12 785,12	Hangar Hangar VACANT VACANT VACANT VACANT PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED 0 Cell Twr Hangar 4 Hangar 4 Hangar 4 Biotech Biotech Biotech Biotech 4 Brewery 4	Seasonal Irrigation Meter Available Available Option (GBCC) GSA 75 New Hampshire LLC PROPOSED/NOT YET / PROPOSED/NOT YET / PROPOSED/NOT YET / GMR Holdings of NH No water/sewer No water/sewer No water/sewer No water/sewer No water/sewer Craft Brew Alliance, LLC
113 N. 114 V. 115 V. 116 A. 117 I.4 118 I.9 119 I.9 120 I.6 121 30.6 122 4.0 123 31.0 124 25.2 125 2.5 126 I.6 128 2.0 129 20.0 130 1.0 133 10 134 10.0 135 1.0 136 1.0 137 1.38 138 1.0 139 1.3	ACANT/OTHER ACANT/OTHER RBORETUM DR 4 AVIATION AVE 2 Aviation Avenue 2 Aviation Avenue 2 Aviation Avenue 2 ODURHAM ST 55 Arboretum Drive 30 Corporate Drive 30 Corporate Drive 30 Astroett MANCHESTER SQ/50 INTERNATIONAL DR 44 Corporate Drive 35 Corporate Drive 35 Corporate Drive 36 International Drive 30 Flightline Road 30 Flightline Road 30 Flightline Road 31 Flightline Road 32 Flightline Road 32 Flightline Road 32 Flightline Road 33 Flightline Road 34 Flightline Road 35 Flightline Road 35 Flightline Road 36 II INTERNATIONAL DR 30 I INTERNATIONAL DR 31 INTERNATIONAL DR 32 I INTERNATIONAL DR 33 I INTERNATIONAL DR 34 I INTERNATIONAL DR 35 CORPORATE DR-PEASE WWTP 35 Station 35 Flightline Road 35 Flightline Road 35 Flightline Road 36 Flightline Road 37 Flightline Road 38 Flightline Road 39 Flightline Road 39 Flightline Road 30 Flightline Road 30 Flightline Road 30 Flightline Road 30 Flightline Road 35 Fli	241 241 241 241 241 241 241 321 321 321 321 321	8,976 0 148,852 90,378,596 3,740 27,765,760 1,098,812	8,228 0 0 145,860 2,864,092 98,321,608 2,992 27,119,488 2,146,012	9,724 0 32,164 145,112 37,717,152 76,340,132 2,244 21,042,736 2,098,140	26,928 0 32,164 439,824 439,824 40,581,244 265,040,336 8,976 75,927,984 5,342,964	T. 26,928 - 32,164 439,824 439,824 40,581,244 265,040,336 8,976 75,927,984 5,342,964	otal 8,976 - 10,721 146,608 13,527,081 88,346,779 2,992 25,309,328 1,780,988 1,780,988	8,765 25 - - 29 - 0 0 0 401 401 401 401 401 401	14 Aviation Avenue 12 Aviation Avenue 19 Durham Street 165 Arboretum Drive 360 Corporate Drive 40 Oak Street 50 International Drive 255 Corporate Drive 263 International Drive 163 International Drive 164 International Drive 165 Arborato Antional Drive 166 International Drive 167 Flightline Road 200 Flightline Road 201 Flightline Road 205 Flightline Road 205 Flightline Road 206 Flightline Road 207 Flightline Road 208 Flightline Road 209 Flightline Road 201 International Drive 101 International Drive 35 Corporate Drive 135 Corporate Drive	Portsmouth	Airport/Industrial Airport Industrial Business/Commercial Business/Commercial Business/Commercial Business/Commercial Business/Commercial Airport/Industrial Airport/Industrial Airport/Industrial Business/Commercial Business/Commercial Business/Commercial Business/Commercial Business/Commercial Business/Commercial	VACANT VACANT VACANT VACANT VACANT VACANT 53,86 53,86 656,00 129,12 785,12	Hangar Hangar VACANT VACANT VACANT VACANT VACANT PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED 0 Cell Twr Hangar 4 Hangar 4 Biotech Biotech Biotech WWTP Even Ste	Seasonal Irrigation Meter Available Available Option (GBCC) GSA 75 New Hampshire LLC PROPOSED/NOT YET / PROPOSED/NOT YET / GMR Holdings of NH No water/sewer No water/sewer No water/sewer No water/sewer No water/sewer Cara Biologies, Inc. Lonza Biologies, Inc.
113 N. 114 V. 115 V. 116 A. 117 I4 118 I2 119 I20 112 I21 122 4C 122 4C 123 I22 126 I6 127 20 130 I22 131 I22 133 I 134 I01 135 I01 136 I1 137 I38 139 I31 139 I31 140 I1 141 I1	ACANT/OTHER ACANT/OTHER RBORETUM DR 4 AVIATION AVE 2 Aviation Avenue 9 DURHAM ST 55 Arboretum Drive 90 Oak Street MANCHESTER SQ/50 INTERNATIONAL DR 90 Corporate Drive 90 Astreet MANCHESTER SQ/50 INTERNATIONAL DR 91 Corporate Drive 93 International Drive 90 Flightline Road 91 Flightline Road 93 Flightline Road 93 Flightline Road 94 Corporate DR 95 Corporate DR 91 INTERNATIONAL DR 93 CORPORATE DR-PEASE WWTP 95 CORPORATE DR-PEASE WWTP 95 International Drive 95 CORPORATE DR-PEASE WWTP 95 International Drive 95 CORPORATE DR-PEASE WWTP 95 CORPORATE DR-PEASE WWTP 95 International Drive 95 International Drive 95 CORPORATE DR-PEASE WWTP 95 International Drive 95 International Drive 95 CORPORATE DR-PEASE WWTP 95 International Drive 95 International DR 95 International DR 95 International DR	241 241 241 241 241 241 241 321 321 321 321 201	8,976 0 148,852 90,378,596 3,740 27,765,760 1,098,812	8,228 0 0 145,860 2,864,092 98,321,608 2,992 27,119,488 2,146,012	9,724 0 32,164 145,112 37,717,152 76,340,132 2,244 21,042,736 2,098,140	26,928 0 32,164 439,824 439,824 40,581,244 265,040,336 8,976 75,927,984 5,342,964	T. 26,928 - 32,164 439,824 439,824 40,581,244 265,040,336 8,976 75,927,984 5,342,964	8,976 - 10,721 146,608 13,527,081 88,346,779 2,992 25,309,328 1,780,988	8,765 25 - - - 0 0 0 401 401 401 401 401 401	14 Aviation Avenue 12 Aviation Avenue 19 Durham Street 165 Arboretum Drive 360 Corporate Drive 40 Oak Street 50 International Drive 254 Corporate Drive 163 International Drive 200 Flightline Road 201 Flightline Road 202 Flightline Road 203 Flightline Road 204 Flightline Road 205 Flightline Road 206 Flightline Road 207 Flightline Road 208 Flightline Road 209 Flightline Road 201 International Drive 315 Corporate Drive 325 Corporate Drive 335 Corporate Drive 135 Corporate Drive 135 Corporate Drive 136 Droporate Drive	Portsmouth	Airport/Industrial Airport Industrial Airport/Industrial Business/Commercial Business/Commercial Business/Commercial Business/Commercial Airport/Industrial Airport/Industrial Airport/Industrial Business/Commercial Business/Commercial Business/Commercial Business/Commercial Business/Commercial	VACANT VACANT VACANT VACANT VACANT VACANT VACANT S3,86 53,86 53,86 53,86 129,12 785,12	Hangar Hangar VACANT VACANT VACANT VACANT PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED PROPOSED/NOT YET APPROVED O Cell Tvr Hangar Hangar Hangar 4 4 0 Biotech Biotech Biotech Biotech Biotech 0 Biotech Biotech 0 Diotech 0 Di	Seasonal Irrigation Meter Available Available Available Option (GBCC) GSA 75 New Hampshire LLC PROPOSED/NOT YET / PROPOSED/NOT YET / PROPOSED/NOT YET / OMR Holdings of NH No water/sewer No water/sewer No water/sewer Lonza Biologies, Inc. Lonza Biologies, Inc. Craft Brew Alliance, LLC City of Portsmouth city of Portsmouth
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		No Water Service
		Lonza Biologics
		Lonza Biologics, same lot as above
2		Redhook
		Pease Water Tank

ATTACHMENT B

WWTP MAPS AND PROCESS FLOW SCHEMATIC








ATTACHMENT C

PEASE WWTF PRIORITY POLLUTANT SCANS

		Round 1	- Sept. 16-1	7, 2018	Round	2 - Oct. 17-18	3, 2018	Round 3	- Nov. 14-1	5, 2018	Round 4	- Dec. 11-1	2, 2018
Parameter	Units	Newington	Pease	River	Newington	Pease	River	Newington	Pease	River	Newington	Pease	River
Nutrients / Solids / other	-3												
Ammonia-N	mg/L as N	ND	3.6	ND	ND	2.1	ND	ND	3.4	ND	0.65	3.2	ND
Nitrate plus nitrite-N	mg/L as N	0.34	0.8	ND	1.4	3.68	0.06	0.6	3.2	0.09	0.54	2.42	0.14
Total Kjeldahl Nitrogen	mg/L as N	1.2	6	0.16	1	2.85	ND	1.72	5.35	0.345	1.7	4.6	0.15
Total Nitrogen	mg/L as N	1.5	6.8	ND	2.4	6.53	0.06	2.32	8.55	0.435	2.24	7.02	0.29
Total phosphorus	mg/L	1.2	52	0.033	0.25	51	1.4	0.61	30	0.084	0.77	31	0.047
Total suspended solids	mg/L	1.7	17	20	4.6	6.1	3.9	12	15	29	27	19	15
Total dissolved solids	mg/L	710	2,100	31,000	740	1,800	26,000	630	1,600	12,000	1,200	1,900	21,000
Turbidity	NTU	1.23	8.33	0.62	2.04	3.64	0.87	7.38	2.43	1.07	2.2	2	2.3
Oil and grease	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Biochemical Oxygen Demand	mg/L	ND	13	ND	ND	ND	ND	31	6.2	ND	ND	7.8	ND
Total Phenolic Compounds	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Residual Chlorine	mg/L	0.00	0.00	-	-	0.02	-	0.01	0.01	-	3.2	0	-
Total Cyanide	mg/L	ND	0.012	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bacteria													
Fecal Coliform	CFU/100mL	5	3	2	1	1	1	5	ND	107	ND	1	20
Enterococcus	CFU/100mL	7	40	ND	ND	ND	1	ND	2	143	69	40	13
Field Parameters				•						•			
Conductivity	mS/cm	1318	336	44.3	1185	3.57	39.79	1174	12.88	21.6	1.287	2.62	28.242
Dissolved oxygen	mg/L	0.2	4.04	7.5	8.48	2.44	8.15	8.88	5.07	10.9	9.69	3.74	9.87
рН		6.63	7.42	7.95	7.59	7.19	-	7.04	7.18	7.71	7.19	7.23	7.78
Temperature	deg C	22.8	26.7	20.1	17.0	19.1	12	14.3	15.5	5.6	10.3	16.2	14.3

Table 4: Water Quality Sampling Results for Conventional Pollutants, Bacteria and Field Samples

Note: Each WWTF has additional testing and routine testing performed as part of the NPDES permit. This table does not include this data.



		Round 1	- Sept. 16-1	17, 2018	Round	2 - Oct. 17-18	3, 2018	Round 3	- Nov. 14-1	15, 2018	Round 4	- Dec. 11-1	2, 2018
Parameter	Units	Newington	Pease	River	Newington	Pease	River	Newington	Pease	River	Newington	Pease	River
Total Metals													
Mercury	μg/L	0.99	3.17	-	1.45	2.16	-	12.6	5.15	-	6.82	6.49	-
Antimony	μg/L	0.118	0.23	0.356	0.16	0.315	0.624	0.114	0.197	0.154	0.125	0.158	ND
Arsenic	μg/L	1.28	3.64	-	0.87	4.57	-	1	4.63	-	0.7	3.15	-
Beryllium	μg/L	0.005	0.004	ND	0.007	ND	ND	ND	ND	ND	0.004	ND	ND
Cadmium	μg/L	0.014	ND	-	0.015	0.095	-	0.05	0.118	-	0.053	0.052	-
Chromium	μg/L	0.39	0.73	0.38	0.42	0.48	0.43	0.29	0.59	0.71	0.26	0.49	0.93
Copper	μg/L	2.16	10.8	-	2.4	19.8	-	6.03	17.5	-	5.94	9.76	-
Iron	μg/L	63	802	142	57	254	189	142	271	304	159	215	145
Lead	μg/L	0.4	1.03	-	2	0.224	-	1.3	0.304	-	0.82	0.211	-
Nickel	μg/L	2.22	8.31	-	2.31	4.61	-	2.37	3.65	-	2.72	3.58	-
Selenium	μg/L	1.09	1.45	-	1.11	1.35	-	1.59	2.23	-	1.2	1.44	-
Silver	μg/L	0.217	0.027	-	0.267	0.016	-	0.953	0.03	-	2.75	0.019	-
Thallium	μg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	ng/L	85.4	96.4	-	93.2	84.9	-	85.5	117	-	80.5	71.4	-
Dissolved Metals													
Dissolved Mercury	ng/L	-	-	0.35	-	-	1.38	-	-	1.23	-	-	0.59
Dissolved Arsenic	μg/L	-	-	0.97	-	-	0.88	-	-	0.76	-	-	0.85
Dissolved Cadmium	μg/L	-	-	0.135	-	-	0.038	-	-	0.05	-	-	0.04
Dissolved Copper	μg/L	-	-	0.71	-	-	0.53	-	-	0.60	-	-	0.44
Dissolved Lead	μg/L	-	-	0.021	-	-	0.024	-	-	0.11	-	-	0.03
Dissolved Nickel	μg/L	-	-	0.48	-	-	0.41	-	-	0.68	-	-	0.54
Dissolved Selenium	μg/L	-	-	ND	-	-	ND	-	-	ND	-	-	ND
Dissolved Silver	μg/L	-	-	0.09	-	-	0.02	-	-	0.02	-	-	0.03
Dissolved Zinc	μg/L	-	-	0.57	-	-	0.91	-	-	2.39	-	-	1.80

Table 5: Water Quality Sampling Results for Total Metals and Dissolved Metals



		Round 1	L - Sept. 16-1	17, 2018	Round	2 - Oct. 17-1	8, 2018	Round	3 - Nov. 14-1	5, 2018	Round	4 - Dec. 11-1	2, 2018
Parameter	Units	Newington	Pease	River	Newington	Pease	River	Newington	Pease	River	Newington	Pease	River
Volatile Organic Compounds	•		•	•						•			
1,1,1,2-tetrachloroethane	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
1,1,1-trichloroethane	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
1,1,2,2-tetrachloroethane	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
1,1,2-trichloroethane	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
1,1-dichloroethane	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
1,1-dichloroethene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
1,1-dichloropropene	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
1,2,3-trichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
1,2,3-trichloropropane	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
1,2,4-trichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
1,2,4-trimethylbenzene	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
1,2-dibromo-3-chloropropane	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
1,2-dibromoethane	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
1,2-dichlorobenzene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
1,2-dichloroethane	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
1,2-dichloropropane	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
1,3,5-trimethylbenzene	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
1,3-dichlorobenzene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
1,3-dichloropropane	ug/L	-	-	-	U	U	U	-	-	-	U	U	U
1,4-dichlorobenzene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
2,2-dichloropropane	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
2-Butanone (MEK)	ug/L	U	U	U	-	-	-	U	U	U	U	U	U
2-chloroethylvinylether	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
2-chlorotoluene	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
2-Hexanone	ug/L	U	U	U	-	-	-	U	U	U	U	U	U
2-methoxy-2-methylbutane	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
4-bromofluorobenzene	%	98	97	92	104	104	108	106	104	97	100	98	98
4-chlorotoluene	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
4-isopropyltoluene	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
4-Methyl-2-pentanone	ug/L	U	U	U	-	-	-	U	U	U	U	U	U
Acetone	ug/L	U	17	U	-	-	-	U	U	U	U	U	U
acrolein	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
acrylonitrile	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
benzene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U

Table 6: Water Quality Sampling Results for Volatile Organic Compounds



		Round 1	- Sept. 16-1	7, 2018	Round	2 - Oct. 17-1	8, 2018	Round 3	- Nov. 14-1	5, 2018	Round	4 - Dec. 11-1	2, 2018
Parameter	Units	Newington	Pease	River	Newington	Pease	River	Newington	Pease	River	Newington	Pease	River
Volatile Organic Compounds (c	ontinued)										-		
bromobenzene	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
bromochloromethane	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
bromodichloromethane	ug/L	71	53	U	140	40	U	30	28	U	22	14	U
bromoform	ug/L	6.7	2.2	U	7	U	U	1.6	U	U	2.3	U	U
bromomethane	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
Carbon disulfide	ug/L	U	U	U	-	-	-	U	U	U	U	U	U
carbon tetrachloride	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
chlorobenzene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
chloroethane	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
chloroform	ug/L	40	66	U	220	92	U	53	74	U	18	25	U
chloromethane	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
cis-1,2-dichloroethene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
cis-1,3-dichloropropene	ug/L	υ	U	U	U	U	U	U	U	U	U	U	U
dibromochloromethane	ug/L	54	24	U	79	18	U	17	10	U	12	6.6	U
dibromofluoromethane	%	-	-	-	108	104	100	-	-	-	88	86	88
dibromomethane	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
dichlorodifluoromethane	ug/L	-	-	-	U	U	U	-	-	-	U	U	U
diethylether	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
diisopropyl ether	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
ethylbenzene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
ethyl-t-butyl ether	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
Fluorobenzene	%	94	99	95	-	-	-	108	108	96	-	-	-
hexachlorobutadiene	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
iodomethane	ug/L	-	-	-	-	-	-	-	-	-	3.1	U	U
isopropylbenzene	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
m- and p-xylene	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
methylene chloride	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
methyl-t-butyl ether	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
naphthalene	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
n-butylbenzene	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
n-propylbenzene	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
o-xylene	ug/L	U	U	U	-	-	-	U	U	U	U	U	U
p/m-Xylene	ug/L	U	U	U	-	-	-	U	U	U	-	-	-
Pentafluorobenzene	%	96	98	104	-	-	-	120	120	98	-	-	-



		Round 1	Round 1 - Sept. 16-17, 2018		Round	2 - Oct. 17-1	8, 2018	Round 3 - Nov. 14-15, 2018			Round 4 - Dec. 11-12, 2018		
Parameter	Units	Newington	Pease	River	Newington	Pease	River	Newington	Pease	River	Newington	Pease	River
Volatile Organic Compounds	(continued)			•	-		•	· · · ·		•	· · · · ·		
sec-butylbenzene	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
Styrene	ug/L	U	U	U	-	-	-	U	U	U	U	U	U
tert-butanol	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
tert-butylbenzene	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
tetrachloroethene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
tetrahydrofuran	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
toluene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
toluene-d8	%	-	-	-	102	100	102	-	-	-	94	96	96
trans-1,2-dichloroethene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
trans-1,3-dichloropropene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
trans-1,4-dichloro-2-bute	ug/L	-	-	-	-	-	-	-	-	-	U	U	U
trichloroethene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
trichlorofluoromethane	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
Vinyl acetate	ug/L	U	U	U	-	-	-	U	U	U	U	U	U
vinyl chloride	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
Xylenes, Total	ug/L	U	U	U	-	-	-	U	U	U	-	-	-



		Round 1	- Sept. 16-1	7, 2018	Round	2 - Oct. 17-1	8, 2018	Round 3	8 - Nov. 14-1	5, 2018	Round	l - Dec. 11-1	2, 2018
Parameter	Units	Newington	Pease	River	Newington	Pease	River	Newington	Pease	River	Newington	Pease	River
Acid-Base-Neutral Compounds	(Semivolatile	Organics)											
1,2,4-trichlorobenzene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
1,2-dichlorobenzene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
1,2-diphenylhydrazine (azobenze	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
1,3-dichlorobenzene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
1,4-dichlorobenzene	ug/L	υ	U	U	U	U	U	U	U	U	U	U	U
2,4,5-trichlorophenol	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
2,4,6-tribromophenol	%	-	95.29	75.05	114.825	109.05	89.745	63.68	64.5	59.865	81.775	59.63	62.355
2,4,6-trichlorophenol	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
2,4-dichlorophenol	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
2,4-dimethylphenol	ug/L	C	U	U	U	U	U	U	U	U	U	U	U
2,4-dinitrophenol	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
2,4-dinitrotoluene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
2,6-dichlorophenol	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
2,6-dinitrotoluene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
2-chloronaphthalene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
2-chlorophenol	ug/L	C	U	U	U	U	U	U	U	U	U	U	U
2-fluorobiphenyl	%	-	32.57	47.42	62.57	61.9	62.98	56.98	47.38	60.36	41.18	32.63	41.52
2-fluorophenol	%	-	39.77	49.245	55.545	55.63	57.265	35.255	37.645	44.65	23.115	22.19	33.675
2-methylnaphthalene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
2-methylphenol	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
2-nitroaniline	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
2-nitrophenol	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
3,3'-dichlorobenzidine	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
3-nitroaniline	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
4,6-dinitro-2-methylphenol	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
4-bromophenyl-phenylether	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
4-chloro-3-methylphenol	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
4-chloroaniline	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
4-chlorophenyl-phenylether	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
4-methylphenol (p-cresol)	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
4-nitroaniline	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
4-nitrophenol	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
acenaphthene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
acenaphthylene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U

Table 7: Water Quality Sampling Results for Acid and Base Neutral Compounds (Semi-volatile Organic Compounds)



		Round	L - Sept. 16-1	7, 2018	Round	2 - Oct. 17-1	8, 2018	Round	3 - Nov. 14-1	5, 2018	Round	4 - Dec. 11-1	2, 2018
Parameter	Units	Newington	Pease	River	Newington	Pease	River	Newington	Pease	River	Newington	Pease	River
Acid-Base-Neutral Compounds	(Semivolatile	e Organics) (c	ontinued)		. –								
aniline	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
anthracene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
benzidine	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
benzo(a)anthracene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
benzo(a)pyrene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
benzo(b)fluoranthene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
benzo(g,h,i)perylene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
benzo(k)fluoranthene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
benzoic acid	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
benzyl alcohol	ug/L	U	54	U	U	U	U	U	U	U	U	U	U
bis(2-chloroethoxy)methane	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
bis(2-chloroethyl)ether	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
bis(2-chloroisopropyl)ether	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
bis(2-ethylhexyl)phthalate	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
butylbenzylphthalate	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
carbazole	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
chrysene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
dibenzo(a,h)anthracene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
dibenzofuran	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
diethylphthalate	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
dimethylphthalate	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
di-n-butylphthalate	ug/L	U	U	U	U, B	U, B	26	12	20	29	19	21	25
di-n-octylphthalate	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
fluoranthene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
fluorene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
hexachloro-1,3-butadiene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
hexachlorobenzene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
hexachlorocyclopentadiene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
hexachloroethane	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
indeno(1,2,3-cd)pyrene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
isophorone	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
naphthalene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
nitrobenzene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
nitrobenzene-d5	%	-	39.21	55.34	66.5	67.28	70.71	57.84	50.91	60.11	43.43	35.62	44.32



		Round 1	Round 1 - Sept. 16-17, 2018 Round 2 - Oct. 17-18, 2018 Round 3 - Nov. 14-15, 2018						Round 4 - Dec. 11-12, 2018				
Parameter	Units	Newington	Pease	River	Newington	Pease	River	Newington	Pease	River	Newington	Pease	River
Acid-Base-Neutral Compounds	(Semivolatile	Organics) (co	ontinued)										
N-nitrosodimethylamine	ug/L	-	U	U	U	U	U	U	U	U	U	U	U
N-nitroso-di-n-propylamine	ug/L	U	4.4	U	U	U	U	U	U	U	U	U	U
N-nitrosodiphenylamine	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
pentachlorophenol	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
phenanthrene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
phenol	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
phenol-d5	%	-	24.86	36.36	45.98	46	62.86	31.545	33.48	48.345	21.73	19.515	41.41
pyrene	ug/L	U	U	U	U	U	U	U	U	U	U	U	U
pyridine	ug/L	-	U	U	U	U	U	U	U	U	U	U	U
terphenyl-d14	%	-	41.48	34.48	85.48	86	66.69	67.31	64.32	60.34	75.18	59.11	64.26



Laboratory Parameter	Analytical Method	MDL	MRL	Units
Biochemical Oxygen Demand (BOD ₅)	SM 5210 B		5	mg/L
Enterococci & Fecal Coliform	SM 92222 D		1	CFU/100mL
Total Suspended Solids (TSS)	SM 2540 D	0.4	10	mg/L
Total Dissolved Solids (TDS)	SM 2540 C	0.4	10	mg/L
Ammonia as N (NH ₃ -N)	SM 4500-NH3 G	0.1	0.1	mg/L
Chlorine (Total Residual)	SM 4500-Cl D		0.02	mg/L
Total Kjeldahl Nitrogen (TKN)	SM 4500-NH3 G	0.1	0.1	mg/L
Nitrate + Nitrite as Nitrogen (NO ₃ +				
NO ₂ as N)	SM 4500-NO3 F	0.008	0.05	mg/L
Oil and Grease	EPA 1664 A		10	mg/L
Total Phosphorus (TP)	SM 4500-P E	0.008	0.02	mg/L
Turbidity	SM 2130 B			NTU
Total Phenols	EPA 420.1		0.05	mg/L
Volatile Organic Compounds (VOC)	EPA 624		5	µg/L
Acid-Base-Neutral Extractable				
Compounds (ABNs)	EPA 625 / 8270		5	µg/L
Total Recoverable	Metals - Fresh Water (CW	A Trace M	etals)	
Antimony (Sb)	EPA 200.8	0.009	0.02	µg/L
Arsenic (As)	EPA 200.8	0.1	0.3	µg/L
Beryllium (Be)	EPA 200.8	0.004	0.06	µg/L
Cadmium (Cd)	EPA 200.8	0.008	0.02	µg/L
Total Chromium	EPA 200.8	0.02	0.1	µg/L
Copper (Cu)	EPA 200.8	0.02	0.1	µg/L
Iron (Fe)	EPA 200.8	1.1	10	µg/L
Lead (Pb)	EPA 200.8	0.005	0.04	µg/L
Nickel (Ni)	EPA 200.8	0.04	0.1	µg/L
Selenium (Se)	EPA 200.8	0.44	0.6	µg/L
Silver (Ag)	EPA 200.8	0.002	0.02	µg/L
Thallium (Tl)	EPA 200.8	0.006	0.02	µg/L
Zinc (Zn)	EPA 200.8	0.16	0.5	µg/L
Total Mercury (Hg)	EPA 1631 E	0.0834	0.5	ng/L
Total Cyanide (CN)	SM 4500-CN E	0.007	0.02	mg/L
Total Recoverable	e Metals - Seawater (CWA	A Trace Me	tals)	
Antimony (Sb)	EPA 200.8	0.09	0.2	µg/L

Table 8: Method detection limit (MDL) and method reporting limit (MRL) for all target parameters in this project.

Beryllium (Be)	EPA 200.8	0.04	0.6	µg/L
Total Chromium	EPA 200.8	0.2	1.0	µg/L
Iron (Fe)	EPA 200.8	11	100	µg/L
Thallium (Tl)	EPA 200.8	0.06	0.2	µg/L
Total Cyanide (CN)	SM 4500-CN E	0.007	0.02	mg/L
Dis	solved Metals in Seawate	r		
Arsenic (As)	EPA 1640 RP	0.0395	0.375	µg/L
Cadmium (Cd)	EPA 1640 RP	0.0203	0.1	µg/L
Copper (Cu)	EPA 1640 RP	0.078	0.25	µg/L
Lead (Pb)	EPA 1640 RP	0.02	0.1	µg/L
Nickel (Ni)	EPA 1640 RP	0.0751	0.25	µg/L
Selenium (Se)	EPA 1640 RP	0.156	1.5	µg/L
Silver (Ag)	EPA 1640 RP	0.01	0.1	µg/L
Zinc (Zn)	EPA 1640 RP	0.139	0.5	µg/L
Dissolved Hg	EPA 1631 E	0.0834	0.5	ng/L

ATTACHMENT D

WHOLE EFFLUENT TOXICITY TESTING RESULTS

Client:	Pease Wastewater Treatment Plant	
NPDES Number:	NH0090000	
Job Number:	05.0044856.00	
Test Numbers:	18-1127a (Mysidopsis bahia) 18-1127b (Menidia beryllina)	
Test Material:	DSN 005 Effluent NEB Sample ID. No. C38-2999	
Sample Dates:	8/1-2/18	
Test Dates:	8/2-4/18	
Test Duration:	48-h Static Acute	
Test Methods:	U.S. Environmental Protection Agency (EPA) Toxicity of Effluents to Freshwater and 600/4-90/027F; 2002, EPA-821-R-02-012) and EPA Region 1 (New England) Modified Method	Methods for Measuring the Acute Marine Organisms, (1993, (EPA ds.
Test Species:	Mysid (<i>Mysidopsis bahia</i> ; aka <i>Americamysis</i>): Mb18(7-28) Source: New England Bioassay Cultures	Age: 5 days old
	Inland silverside (<i>Menidia beryllina</i>): Ss18AI(7-31) Source: Aquatic Indicators, Inc.	Age: 11 days old
Dilution Water:	Piscataqua River NEB Sample ID. No. C38-3000	
Receiving Water:	Piscataqua River	

Test Species	Test Exposure Duration	LC50	A-NOEC	Permit Limit (LC50)	Meets Permit Limits?	Tests Meet Protocol Limit?
		(% effluent)	(% effluent)	(% effluent)	(Yes/No)	(Yes/No)
Mysid: Mysidopsis bahia	48 h	>100%	100%	50%	Yes	Yes
Inland silverside: <i>Menidia beryllina</i>	48 h	>100%	50%	50%	Yes	Yes

Facility Name:	Pease WWTP	Test Start Date:	8/2/18
NPDES Permit Numbe	er: NH0090000	Pipe Number:	DSN 005
			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Test Type	Test Species	Sample Type	Sample Method
X Acute	Fathead Minnow	Prechlorinated	Grab
Chronic	Ceriodaphnia	X Dechlorinated	X Composite
Modified	Daphnia Pulex	Chlorine Spiked in Lab	Flowthru
(chronic reporting	X Mysid Shrimn	Chlorinated on site	Other
acute values)	<u>Sheenshead</u>	Unchlorinated	_ Other
24hr screening	_ Monidia	- Chemormated	
_ 24m screening	See Urahin		
	_ Sea Urchin		
	Selenastrum		
Dilution Water			
\underline{X} receiving water coll	ected at a point upstr	eam of or away from the discharge	, free from toxicity or other
sources of cont	tamination; (Receivir	ng water name: Piscataqua River)
_ alternate surface wat	ter of known quality	and a hardness, etc. to generally ref	lect the characteristics of the
receiving wate	r; (Surface water nan	ne:)
synthetic water prep	ared using either Mil	lipore Mill-Q or equivalent deioniz	ed water and reagent grade
chemicals; or d	leionized water comb	bined with mineral water;	
or artificial sea salts	mixed with deionize	d water:	
deionized water and	hypersaline brine: or		
other	nypersame orme, or		
Effluent compling date	(a), <u>0/1 2/10</u>		
Ernuent sampting date	(S): 0/1-2/10		
E.C.C			
Effluent concentrations	s tested (in%): $\underline{0}$	<u>5.25 12.5 25 50 100</u>	
* Permit limit	concentration: 100%	•	
Was effluent salinity ac	djusted? <u>Yes</u> If y	/es, to what value? 25 ± 1 ppt	
With sea salts? Yes	Hypersaline brine s	olution? <u>No</u>	
Actual effluent concent	trations tested after s	alinity adjustment (%): 0 6.25 12	2.5 25 50 100
Reference Toxicant tes	t date: 8/8	/18	
	Te	st Acceptability Criteria	
		and the second second	
Mean Control Survival	· 100%	Mean Control Reproduction:	N/A
Mean Diluent Survival	. 97 5%	Mean Diluent Reproduction:	N/A
Mean Control Weight:	N/A	Mean Control Cell Count:	
Mean Diluent Weight.		Mean Diluent Cell Count.	
Mean Dhuent weight:	_IN/A	Mean Difuent Cen Count:	IN/A
Limits		Results	
$LC50 \underline{50\%}$	LC	50 >100%	_
	Up	per Value $\pm \infty$	
	Lo	wer Value 100%	
	Da	ta Analysis	
	Me	thod Used Graphical	
A-NOEC	A_1	NOEC 100%	
C-NOEC N/A	C-1	NOEC	
		FC	
1C25 NI/A			- /
$\frac{1023}{1050} = \frac{10/A}{1000}$			
IC30 <u>N/A</u>			

Facility Name:	Pease WW	TP	Test Start Date:	8/2/18		
NPDES Permit Numbe	r: <u>NH0090000</u>		Pipe Number:	DSN 005		
<u>Test Type</u> <u>X</u> Acute Chronic Modified (chronic reporting acute values) 24hr screening	Test Species - Fathead Minnow - Ceriodaphnia - Daphnia Pulex - Mysid Shrimp - Sheepshead X Menidia - Sea Urchin - Champia - Salonastaum	<u>Sam</u> _ Pr _ D _ Ch _ Ch _ Ur	<u>ple Type</u> echlorinated echlorinated ilorine Spiked in Lab ilorinated on site ichlorinated	Sample Method Grab X Composite Flowthru Other		
_ or artificial sea salts _ deionized water and _ other	mixed with deionize hypersaline brine; or	d water;				
Effluent sampling date	(s): <u>8/1-2/18</u>					
Effluent concentrations * Permit limit	tested (in%): <u>0</u> concentration: 100%	<u>5.25 12.5 25</u>	50 100			
Was effluent salinity ad With sea salts? <u>Yes</u> Actual effluent concent	ljusted? <u>Yes</u> If y Hypersaline brine s trations tested after s	yes, to what work was been solution? <u>Na</u> alinity adjust	ralue? 25 ± 1 ppt <u>5</u> ment (%): <u>0</u> <u>6.25</u> <u>12</u>	<u>5</u> <u>25</u> <u>50</u> <u>100</u>		
Reference Toxicant tes	t date: 7/3/18		2			
	Test Ac	ceptability C	riteria			
Mean Control Survival	: 100%	Mean C	ontrol Reproduction:	N/A		
Mean Diluent Survival	97.5%	Mean D	viluent Reproduction:	N/A		
Mean Control Weight:	<u>N/A</u>	Mean C	Control Cell Count:	<u>N/A</u>		
Mean Diluent Weight:	N/A	Mean L	filuent Cell Count:	N/A		
LC50 50%	LC	250	Results >100%			
	Up Lo Da	per Value wer Value ta Analysis	±∞ 100%			
A-NOEC	A	ethod Used NOEC	Graphical 50%			
C-NUEC <u>N/A</u>	U-	NUEU DEC				
IC25N/A	IC:	25				
IC50 N/A	IC	50				

Client:	Pease Wastewater Treatment Plant	
NPDES Number:	NH0090000	
Job Number:	05.0044856.00	
Test Numbers:	18-628a (Mysidopsis bahia) 18-628b (Menidia beryllina)	
Test Material:	DSN 005 Effluent NEB Sample ID. No. C38-2073	
Sample Dates:	5/2-3/18	
Test Dates:	5/3-5/18	
Test Duration:	48-h Static Acute	
Test Methods:	U.S. Environmental Protection Agency (EPA) Met Toxicity of Effluents to Freshwater and Marin 600/4-90/027F; 2002, EPA-821-R-02-012) and EPA Region 1 (New England) Modified Methods.	hods for Measuring the Acute ne Organisms, (1993, (EPA
Test Species:	Mysid (<i>Mysidopsis bahia</i> ; aka <i>Americamysis</i>): Mb18(4-28) Source: New England Bioassay Cultures	Age: 5 days old
	Inland silverside (<i>Menidia beryllina</i>): Ss18AI(5-1)A Source: Aquatic Indicators, Inc.	Age: 11 days old
Dilution Water:	Piscataqua River NEB Sample ID. No. C38-2074	
Receiving Water:	Piscataqua River	

Test Species	Test Exposure Duration	LC50	A-NOEC	Permit Limit (LC50)	Meets Permit Limits?	Tests Meet Protocol Limit?
		(% effluent)	(% effluent)	(% effluent)	(Yes/No)	(Yes/No)
Mysid: <i>Mysidopsis bahia</i>	48 h	>100%	100%	50%	Yes	Yes
Inland silverside: <i>Menidia beryllina</i>	48 h	>100%	50%	50%	Yes	Yes

Facility Name:	Pease WWTP	Test Start Date:	5/3/18
NPDES Permit Number	r: <u>NH0090000</u>	Pipe Number:	DSN 005
<u>Test Type</u> <u>X</u> Acute _Chronic _ Modified (chronic reporting acute values) _24hr screening	<u>Test Species</u> Fathead Minnow Ceriodaphnia Daphnia Pulex <u>X</u> Mysid Shrimp Sheepshead Menidia Sea Urchin Champia Selenastrum	Sample Type Prechlorinated X Dechlorinated Chlorine Spiked in Lab Chlorinated on site Unchlorinated	Sample Method Grab X Composite Flowthru Other
Dilution Water			
 X receiving water coller sources of conta alternate surface water receiving water synthetic water prepa chemicals; or d or artificial sea salts redeionized water and b other Effluent sampling date of Effluent concentrations * Permit limit c 	ected at a point upstream amination; (Receiving w er of known quality and r; (Surface water name: ured using either Millipo eionized water combined mixed with deionized wat hypersaline brine; or (s): $5/2-3/18$ tested (in%): <u>0 6.25</u> concentration: 100%	of or away from the discharge vater name: <u>Piscataqua River</u> a hardness, etc. to generally ref re Mill-Q or equivalent deioniz d with mineral water; ater; <u>12.5 25 50 100</u>	, free from toxicity or other) lect the characteristics of the) ed water and reagent grade
Was effluent salinity ad With sea salts? <u>Yes</u> Actual effluent concent	justed? <u>Yes</u> If yes, Hypersaline brine solut rations tested after salini	to what value? <u>25 ppt</u> ion? <u>No</u> ty adjustment (%): <u>0</u> 6.25 12	<u>5 25 50 100</u>
Reference Toxicant test	date: 5/1/18		
	Test A	cceptability Criteria	
Mean Control Survival:	97.5%	Mean Control Reproduction:	N/A
Mean Diluent Survival:	100%	Mean Diluent Reproduction:	N/A
Mean Control Weight:	<u>N/A</u>	Mean Control Cell Count:	N/A
Mean Diluent Weight:	N/A	Mean Diluent Cell Count:	N/A
LC50 LC50	LC50 Upper Lower Data A	Results>100%Value $\pm \infty$ Value100%nalysis	
ANOFC	Method	d Used <u>Graphical</u>	
A-NUEU	A-NOt	EC <u>100%</u>	-
C-NUEC N/A			
IC25 N/A			
IC50 N/A	IC25		

Facility Name:	Pease WWTP	Test Start Date:	5/3/18
NPDES Permit Numb	er: NH0090000	Pipe Number:	DSN 005
<u>Test Type</u> <u>X</u> Acute Chronic Modified (chronic reporting acute values) _24hr screening	<u>Test Species</u> _ Fathead Minnow _ Ceriodaphnia _ Daphnia Pulex _ Mysid Shrimp _ Sheepshead X Menidia _ Sea Urchin Champia	<u>Sample Type</u> _ Prechlorinated X Dechlorinated _ Chlorine Spiked in Lab _ Chlorinated on site _ Unchlorinated	Sample Method Grab X Composite Flowthru Other
 <u>Dilution Water</u> <u>X</u> receiving water color or other source alternate surface was characteristics synthetic water prepreagent grade or artificial sea salts deionized water and other Effluent sampling date Effluent concentration * Permit limit Was effluent salinity a With sea salts? Yes Actual effluent concert 	Champia Selenastrum llected at a point upstream es of contamination; (Rec ater of known quality and s of the receiving water; (pared using either Millipo chemicals; or deionized w d hypersaline brine; or (s): 5/2-3/18 es tested (in%): <u>0 6.25</u> concentration: 100% adjusted? <u>Yes</u> If yes, Hypersaline brine solution trations tested after salin	n of or away from the discharge ceiving water name: <u>Piscataqu</u> a hardness, etc. to generally ref Surface water name: ore Mill-Q or equivalent deioniz water combined with mineral w ater; <u>12.5 25 50 100</u> to what value? <u>25 ppt tion? No</u> ity adjustment (%): <u>0 6.25 12</u>	2.5 25 50 100
Reference Toxicant te	st date: 5/9/18		
	Test Accept	tability Criteria	
Mean Control Surviva Mean Diluent Surviva Mean Control Weight: Mean Diluent Weight:	l: 97.5% l: 97.5% : N/A : N/A	Mean Control Reproduction: Mean Diluent Reproduction: Mean Control Cell Count: Mean Diluent Cell Count:	N/A N/A N/A N/A
LC50 Limits 50% A-NOEC C-NOEC N/A	E LC50 Upper Lower Data A Metho A-NOI C-NOI LOEC	Results>100%Value $\pm \infty$ Value100%unalysisGraphicalEC50%EC	
IC25 <u>N/A</u> IC50 <u>N/A</u>	IC25 IC50		_

Client:	Pease Wastewater Treatment Plant	
NPDES Number:	NH0090000	
Job Number:	05.0044856.00	
Test Numbers:	17-1184a (Mysidopsis bahia) 17-1184b (Menidia beryllina)	
Test Material:	DSN 005 Effluent (NEB Sample ID. No. C37-2057)	
Sample Dates:	8/2-3/17	
Test Dates:	8/4-6/17	
Test Duration:	48-h Static Acute	
Test Methods:	U.S. Environmental Protection Agency (EPA) Meth Toxicity of Effluents to Freshwater and Marin 600/4-90/027F; 2002, EPA-821-R-02-012) and EPA Region 1 (New England) Modified Methods.	hods for Measuring the Acute ne Organisms, (1993, (EPA
Test Species:	Mysid (Mysidopsis bahia; aka Americamysis):	Mb17(7-30)
	Source: New England Bioassay Cultures	Age: 5 days old
	Inland silverside (Menidia beryllina):	Ss17AI(8-1)
	Source: Aquatic Indicators, Inc.	Age: 12 days old
Dilution Water:	Piscataqua River (NEB Sample ID. No. C37-2058)	
Receiving Water:	Piscataqua River	

Test Species	Test Exposure Duration	LC50	A-NOEC	Permit Limit (LC ₅₀)	Meets Permit Limits?	Tests Meet Protocol Limit?
		(% effluent)	(% effluent)	(% effluent)	(Yes/No)	(Yes/No)
Mysid: Mysidopsis bahia	48 h	>100%	100%	50%	Yes	Yes
Inland silverside: <i>Menidia beryllina</i>	48 h	>100%	100%	50%	Yes	Yes

Facility Name:	Pease WWTF	>	Test Start Date:	8/4/17	
NPDES Permit Number	er: NH0090000		Pipe Number:		
Test Type	Test Species	Sample	е Туре	Sample Method	
XAcute	_Fathead Minnow	/ _ Precl	nlorinated	Grab	
Chronic	Ceriodaphnia	XDech	lorinated	<u>X</u> Composite	
_ Modified	_ Daphnia Pulex	_Chlo	rine Spiked in Lab	_ Flowthru	
(chronic reporting	XMysid Shrimp	Chlo	rinated on site	Other	
acute values)	_ Sheepshead	Unch	lorinated		
24hr screening	Menidia				
	Sea Urchin				
	Champia				
	Selenastrum				
Dilution Water					
X receiving water coll	lected at a point upst	ream of or away	from the discharge	, free from toxicity or ot	her
sources of con	tamination; (Receivi	ng water name:	Piscataqua River)	
_alternate surface was	ter of known quality	and a hardness,	etc. to generally ref	lect the characteristics o	f the
receiving wate	er; (Surface water na	me:)	
_ synthetic water prep	ared using either Mi	llipore Mill-Q or	r equivalent deioniz	ed water and reagent gra	ade
chemicals; or o	deionized water com	bined with mine	ral water;		
or artificial sea salts	mixed with deionize	ed water;			
_ deionized water and	hypersaline brine; o	r			
other					
Effluent sampling date	s (s): <u>8/2-3/17</u>				
Effluent concentrations	s tested (in%): <u>0</u>	<u>6.25</u> <u>12.5</u> <u>25</u> <u>5</u>	<u>0</u> <u>100</u>		
* Permit limit	concentration: 50%				
Was effluent salinity a	djusted? <u>Yes</u> If	yes, to what value	ue? <u>25 ppt</u>		
With sea salts? Yes	Hypersaline brine	solution? <u>No</u>			
Actual effluent concen	trations tested after s	salinity adjustme	ent (%): $0 6.25 12$	<u>.5 25 50 100</u>	
Reference Toxicant tes	st date: <u>8/1/17</u>				
	<u>1</u>	est Acceptability	Criteria		
Mean Control Survival	l: 100%	Mean Con	trol Reproduction:	N/A	
Mean Diluent Survival	: 100%	Mean Dil	ent Reproduction:	N/A	
Mean Control Weight:	N/A	Mean Con	trol Cell Count:	N/A	
Mean Diluent Weight:	N/A	Mean Dilu	ient Cell Count:	N/A	
Limits			Results		
LC50 50%	L	C50	>100%		
	U	pper Value	±∞		
	Le	ower Value	100%		
	Da	ata Analysis			
	M	ethod Used	Graphical		
A-NOEC	A	-NOEC	100%		
C-NOEC N/A		NOEC			
	L(DEC			
IC25 N/A	IC	25			
IC50 N/A					
		5 of 38			

Facility Name:	Pease WW	ТР	Test Start Date:	8/4/17
NPDES Permit Numb	er: NH0090000		Pipe Number:	
Test Type	Test Species	Sam	ple Type	Sample Method
XAcute	Fathead Minnow	Pr	echlorinated	Grab
Chronic	Ceriodaphnia	XDe	chlorinated	XComposite
Modified	Danhnia Pulex	C	lorine Spiked in Lab	Flowthru
(chronic reporting	_ Mysid Shrimp		lorinated on site	Other
(chrome reporting	_ Mysia Shrinip Sheenshead		achlorinated	_ Other
24hr screening	_ Sheepshead	_01	iemoi mateu	
	Son Urahin			
	- Champia			
	_ Selenastrum			
Dilution Water	1 . 1	C		
\underline{X} receiving water col	lected at a point upstr	eam of or aw	ay from the discharge	, free from toxicity
or other sourc	es of contamination; (Receiving w	ater name: Piscataqui	a River)
_alternate surface wa	iter of known quality	and a hardnes	ss, etc. to generally ref	lect the
characteristics	s of the receiving wate	er; (Surface w	ater name:)
_ synthetic water prep	pared using either Mil	lipore Mill-Q	or equivalent deioniz	ed water and
reagent grade	chemicals; or deioniz	ed water com	bined with mineral w	ater;
_or artificial sea salts	s mixed with deionize	d water;		
_ deionized water and	l hypersaline brine; or	•		
other				
2.0				
Effluent sampling date	e (s): 8/2-3/17			
Effluent concentration	s tested (in%): 0 6	5.25 12.5 25	50 100	
* Permit limit	concentration: 50%			
Was effluent salinity a	udiusted? Yes If y	ves to what y	value? 25 nnt	
With sea salts? Yes	Hypersaline brine s	solution? N	0	
Actual effluent concer	trations tested after s	alinity adjust	<u>∽</u> ment(%)·0 625 12	5 25 50 100
		unnity uujust	<u> </u>	<u>10 20 00 100</u>
Reference Toxicant te	st date: 8/1	6/17		
	5t dute	0.17	-	
	Test Ac	centability C	riteria	
	1050710	coptainity c	noria	
Mean Control Surviva	1. 100%	Mean (ontrol Reproduction	N/A
Moon Diluont Surviva	1. 10070	Mean C	Viluent Reproduction:	
Mean Control Weight	$\frac{10070}{100}$	Mean C	Control Coll County	
Mean Control Weight		Mean C	Control Cell Count:	
Mean Diluent weight:	: <u>N/A</u>	Mean L	iluent Cell Count:	<u>N/A</u>
			D 1	
Limit	5		Results	
LC50 <u>50%</u>	LC	250	>100%	
	Up	per Value	±∞	
	Lo	wer Value	100%	
	Da	ta Analysis		
	Me	ethod Used	Graphical	- C
A-NOEC	A-2	NOEC	100%	
C-NOEC N/A	C-1	NOEC		
	LC	DEC		
IC25 N/A	IC	25		
$IC50 N/\Delta$		50		
	IC.		CITES IN Co	

Client:	Pease Wastewater Treatment Plant	
NPDES Number:	NH0090000	
Job Number:	05.0044856.00	
Test Numbers:	17-638a (Mysidopsis bahia) 17-638b (Menidia beryllina)	
Test Material:	DSN 005 Effluent (NEB Sample ID. No. C37-2057)	
Sample Dates:	5/3-4/17	
Test Dates:	5/4-6/17	
Test Duration:	48-h Static Acute	
Test Methods:	U.S. Environmental Protection Agency (EPA) Meth Toxicity of Effluents to Freshwater and Marin 600/4-90/027F; 2002, EPA-821-R-02-012) and EPA Region 1 (New England) Modified Methods.	nods for Measuring the Acute ne Organisms, (1993, (EPA
Test Species:	Mysid (Mysidopsis bahia; aka Americamysis):	Mb17(4-30)
	Source: New England Bioassay Cultures	Age: 5 days old
	Inland silverside (Menidia beryllina):	Ss17AI(5-4)
	Source: Aquatic Indicators, Inc.	Age: 9 days old
Dilution Water:	Piscataqua River (NEB Sample ID. No. C37-2058)	
Receiving Water:	Piscataqua River	18

Test Species	Test Exposure Duration	LC50	A-NOEC	Permit Limit (LC50)	Meets Permit Limits?	Tests Meet Protocol Limit?
		(% effluent)	(% effluent)	(% effluent)	(Yes/No)	(Yes/No)
Mysid: Mysidopsis bahia	48 h	>100%	50%	50%	Yes	Yes
Inland silverside: Menidia beryllina	48 h	>100%	50%	50%	Yes	Yes

Facility Name:	Pease WWTP		Test Start Date:	5/4/17
NPDES Permit Number	r: NH0090000		Pipe Number:	
<u>Test Type</u>	Test Species	Sam	<u>ple Type</u>	Sample Method
<u>X</u> Acute	_Fathead Minnow	Pre	echlorinated	_Grab
_Chronic	_Ceriodaphnia	XDe	chlorinated	X Composite
_ Modified	_ Daphnia Pulex	_Ch	lorine Spiked in Lab	Flowthru
(chronic reporting	<u>X</u> Mysid Shrimp	_Ch	lorinated on site	_Other
acute values)	_ Sheepshead	Ur	chlorinated	
_ 24hr screening	_ Menidia			
	_Sea Urchin			
	_Champia			
	_ Selenastrum			
Dilution Water				
\underline{X} receiving water colle	ected at a point upstrea	am of or aw	ay from the discharge,	, free from toxicity or other
sources of cont	amination; (Receiving	, water nam	e: Piscataqua River)
_ alternate surface wat	er of known quality an	nd a hardnes	s, etc. to generally ref	lect the characteristics of the
receiving water	r; (Surface water name	:)
_synthetic water prepa	ared using either Millip	pore Mill-Q	or equivalent deioniz	ed water and reagent grade
chemicals; or d	eionized water combin	ned with mi	neral water;	
_ or artificial sea salts	mixed with deionized	water;		
_ deionized water and	hypersaline brine; or			
other				
Effluent sampling date	(s): <u>5/3-4/17</u>			
Effluent concentrations	tested (in%): $0 \underline{6.2}$	<u>25 12.5 25</u>	<u>50 100</u>	
* Permit limit c	concentration: 100%			
Was effluent salinity ac	ljusted? <u>Yes</u> If ye	s, to what v	alue? <u>25 ppt</u>	
With sea salts? Yes	Hypersaline brine so	lution? <u>No</u>	<u>0</u>	
Actual effluent concent	rations tested after sal	inity adjusti	ment (%): $0 6.25 12$	<u>.5 25 50 100</u>
	. 1			
Reference Toxicant test	t date: $5/10/17$		2 ¹	
	77			
	<u>1 est</u>	t Acceptabil	lity Criteria	
Mann Control Combined	1000/	Maria		NT/A
Mean Control Survival	100%	Mean C	ontrol Reproduction:	
Mean Diluent Survival:	<u>100%</u>	Mean D	autori Call Construction:	
Mean Control Weight:	N/A	Mean C	ontrol Cell Count:	
Mean Diluent weight:	N/A	Mean D	iluent Cell Count:	N/A
Limita			Dogulta	
LIMILS 500/	LOS	0	<u>Kesuits</u>	
LC30 <u>30%</u>	LC3	U Valua	/100%	
	Uppe	er value	1000/	
	Low	er value	100%	
		Analysis	Cumhical	
ANOEC	IVIeth	IOU USED	<u>Graphical</u>	
A-INUEL	A-N			
C-NUEUN/A				
1005 NT/A	LUE			
N/A	IC25	,	the last and the last and the	

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IC50

N/A

IC50

Facility Name:	Pease WW	TP	_ Test Start Date:	5/4/17
NPDES Permit Numb	er: NH0090000		Pipe Number:	
Test Type	Test Species	Sam	ple Type	Sample Method
XAcute	Fathead Minnow	Pr	echlorinated	Grab
Chronic	- Ceriodaphnia	XD	echlorinated	XComposite
Modified	Danhnia Pulex	C	hlorine Sniked in Lab	Flowthru
(chronic reporting	_ Mysid Shrimn		hlorinated on site	Other
acute values)	_ Nysia Shrinp Sheenshead	- 01	nchlorinated	- Other
24hr corconing	_ Sheepsheau VMonidia	_ 01	licitiorinateu	
_ 24m screening	Saa Urahin			
	- Sea Urchin			
	_ Champia			
	_ Selenastrum			
Dilution Water		2		
\underline{X} receiving water col	llected at a point upstro	eam of or aw	ay from the discharge	, free from toxicity
or other sourc	es of contamination; (Receiving w	ater name: Piscataqu	a River
_alternate surface wa	ater of known quality a	and a hardne	ss, etc. to generally ref	flect the
characteristics	s of the receiving wate	er; (Surface v	vater name:	
synthetic water prej	pared using either Mill	lipore Mill-Q) or equivalent deioniz	ed water and
reagent grade	chemicals: or deionize	ed water con	bined with mineral w	ater:
or artificial sea salts	s mixed with deionized	d water:		,
deionized water and	t hypersaline brine: or			
_ other	a hypersuine of the, of			
Effluent concilies dat	$5/2 \sqrt{117}$			
Enluent sampling date	$e(s):{3/3-4/1/}$			
E 001				
Effluent concentration	is tested (in%): $0 6$	<u>5.25 12.5 25</u>	<u>50 100</u>	
* Permit limit	concentration: 100%	1		
IN COL	17 × 10 × 70		1 0 05 /	
Was effluent salinity a	adjusted? <u>Yes</u> If y	es, to what	value? <u>25</u> ppt	
With sea salts? Yes	Hypersaline brine s	olution? <u>N</u>	0	
Actual effluent concer	ntrations tested after sa	alinity adjust	ment (%): $0 6.25 12$	$2.5 \ 25 \ 50 \ 100$
Reference Toxicant te	est date: 5/3	0/17	-	
	Test Acc	ceptability C	riteria	
Mean Control Surviva	al: 100%	Mean C	Control Reproduction:	N/A
Mean Diluent Surviva	1: 97.5%	Mean I	Diluent Reproduction:	N/A
Mean Control Weight	· N/A	Mean (Control Cell Count:	N/A
Mean Diluent Weight	· N/A	Mean I	Diluent Cell Count:	N/A
Mean Dhuent Weight	·	Wiedii I		11/1
Limit			Poquito	
	5	50	<u>Nesults</u>	
LC50 <u>50%</u>		50	>100%	
	Up	per Value	±∞	
	Lov	wer Value	100%	
	Dat	ta Analysis		
	Me	thod Used	Graphical	
A-NOEC	A-1	NOEC	50%	
C-NOEC N/A	(NOEC		
		FC		
IC25 N/A		25 25		
IC23 IN/A		50	2	
N/A	ICS	00		

Client:	Pease Wastewater Treatment Plant				
NPDES Number:	NH 0090000				
Job Number:	05.0044856.00				
Test Numbers:	16-1158a (Mysidopsis bahia) 16-1158b (Menidia beryllina)				
Test Material:	DSN 005 Effluent NEB Sample ID. No.C36-2892				
Sample Dates:	8/10-11/16				
Test Dates:	8/12-14/16				
Test Duration:	48-h Static Acute				
Test Methods:	U.S. Environmental Protection Agency (EPA) Toxicity of Effluents to Freshwater and 600/4-90/027F; 2002, EPA-821-R-02-012) and EPA Region 1 (New England) Modified Metho) Methods for Measuring the Acute Marine Organisms, (1993, (EPA ds.			
Test Species:	Mysid (Mysidopsis bahia; aka Americamysis):				
	Source: New England Bioassay Cultures	Age: 5 days old			
	Inland silverside (Menidia beryllina):				
	Source: Aquatic Indicators, Inc.	Age: 12 days old			
Dilution Water:	Piscataqua River (NEB Sample ID. No. C36-2893)				
Receiving Water	Piscataoua River				

Test Species	Test Exposure Duration	LC50 (% effluent)	A-NOEC (% effluent)	Permit Limit (LC50) (% effluent)	Meets Permit Limits? (Yes/No)	Tests Meet Protocol Limit? (Yes/No)
Mysid: Mysidopsis bahia	48 h	>100%	100%	50%	Yes	Yes
Inland silverside: Menidia beryllina	48 h	94.0%	50%	50%	Yes	Yes

rease www.rr	Test Start Date:	8/12/16
NH0090000	Pipe Number:	
Test Species Fathead Minnow	Sample Type Prechlorinated	Sample Method
_ raileau Williow Ceriodanhnia	X Dechlorinated	X Composite
_ Danhnia Pulex	Chlorine Spiked in Lah	Flowthru
X Mysid Shrimp	_ Chlorinated on site Unchlorinated	Other
_ Menidia _ Sea Urchin _ Champia _ Selenastrum		
- The Production		
eted at a point upstream o mination; (Receiving wat r of known quality and a f	f or away from the discharge er name: <u>Piscataqua River</u> hardness, etc. to generally ref	, free from toxicity or other) flect the characteristics of the
(Surface water name:		
ed using either Millipore ionized water combined v nixed with deionized wate	Mill-Q or equivalent defoniz with mineral water; er;	ed water and reagent grade
ypersaline brine; or		
s): <u>8/10-11/16</u>		
$\frac{0}{0.25}$	2.0 20 50 100	
usted? <u>Yes</u> If yes, to Hypersaline brine solutions tested after salinity	what value? <u>25 ppt</u> n? <u>No</u> adjustment (%): 0 6.25 12	2.5 25 50 100
usted? <u>Yes</u> If yes, to Hypersaline brine solutio ations tested after salinity date: <u>8/1/16</u>	what value? <u>25 ppt</u> n? <u>No</u> adjustment (%): <u>0</u> 6.25 12	2.5 <u>25</u> 50 <u>100</u>
usted? <u>Yes</u> If yes, to Hypersaline brine solutio ations tested after salinity date: <u>8/1/16</u> <u>Test Acc</u>	what value? <u>25 ppt</u> n? <u>No</u> adjustment (%): <u>0 6.25 12</u> 	2.5 <u>25 50 100</u>
usted? <u>Yes</u> If yes, to Hypersaline brine solutio ations tested after salinity date: <u>8/1/16</u> <u>Test Acc</u>	what value? <u>25 ppt</u> n? <u>No</u> adjustment (%): <u>0</u> <u>6.25</u> <u>12</u> <u>ceptability Criteria</u>	2.5 25 50 100 N/A
usted? <u>Yes</u> If yes, to Hypersaline brine solutio ations tested after salinity date: <u>8/1/16</u> <u>Test Acc</u> <u>100%</u> N	what value? <u>25 ppt</u> n? <u>No</u> adjustment (%): <u>0</u> <u>6.25</u> <u>12</u> <u>ceptability Criteria</u> Mean Control Reproduction:	2.5 25 50 100 N/A
usted? <u>Yes</u> If yes, to Hypersaline brine solutio ations tested after salinity date: <u>8/1/16</u> <u>Test Acc</u> <u>100%</u> N <u>100%</u> N	what value? <u>25 ppt</u> n? <u>No</u> adjustment (%): <u>0</u> <u>6.25</u> <u>12</u> <u>ceptability Criteria</u> Mean Control Reproduction: Mean Diluent Reproduction:	2.5 25 50 100 N/A N/A N/A
usted? <u>Yes</u> If yes, to Hypersaline brine solutio ations tested after salinity date: <u>8/1/16</u> <u>Test Acc</u> <u>100%</u> N <u>100%</u> N <u>N/A</u> N	what value? <u>25 ppt</u> n? <u>No</u> adjustment (%): <u>0</u> <u>6.25</u> <u>12</u> <u>ceptability Criteria</u> Mean Control Reproduction: Mean Diluent Reproduction: Mean Control Cell Count: Mean Diluent Cell Count:	2.5 25 50 100 N/A N/A N/A N/A N/A
usted? <u>Yes</u> If yes, to Hypersaline brine solutio ations tested after salinity date: <u>8/1/16</u> <u>Test Acc</u> <u>100%</u> N <u>100%</u> N <u>N/A</u> N	what value? <u>25 ppt</u> n? <u>No</u> adjustment (%): <u>0</u> <u>6.25</u> <u>12</u> <u>ceptability Criteria</u> Mean Control Reproduction: Mean Diluent Reproduction: Mean Control Cell Count: Mean Diluent Cell Count: Results	2.5 25 50 100 N/A N/A N/A N/A N/A
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usted? <u>Yes</u> If yes, to Hypersaline brine solutio ations tested after salinity date: <u>8/1/16</u> <u>Test Acc</u> <u>100%</u> N <u>100%</u> N <u>N/A</u> N <u>N/A</u> N <u>N/A</u> N <u>LC50</u> Upper Va Lower V Data Ana Method I	what value? 25 ppt n? No adjustment (%): 0 6.25 12 <u>ceptability Criteria</u> Mean Control Reproduction: Mean Diluent Reproduction: Mean Diluent Cell Count: Mean Diluent Cell Count:	2.5 25 50 100 N/A N/A N/A
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usted? Yes If yes, to Hypersaline brine solutio ations tested after salinity date: <u>8/1/16</u> <u>Test Acc</u> <u>100%</u> N <u>100%</u> N <u>100%</u> N <u>N/A</u> N <u>N/A</u> N <u>N/A</u> N <u>Upper Va</u> Lower V Data Ana Method U A-NOEC LOEC	what value? 25 ppt n? No adjustment (%): 0 6.25 12 ceptability Criteria Mean Control Reproduction: Mean Diluent Reproduction: Mean Diluent Cell Count: Mean Diluent Cell Count:	2.5 25 50 100 N/A N/A N/A N/A
usted? Yes If yes, to Hypersaline brine solutio ations tested after salinity date: <u>8/1/16</u> <u>Test Acc</u> <u>100%</u> N <u>100%</u> N <u>100%</u> N <u>N/A</u> N <u>N/A</u> N <u>N/A</u> N <u>N/A</u> N <u>Upper Va</u> Lower V Data Ana Method I A-NOEC LOEC LOEC LOEC IC25	what value? 25 ppt n? No adjustment (%): 0 6.25 12 <u>ceptability Criteria</u> Mean Control Reproduction: Mean Diluent Reproduction: Mean Diluent Cell Count: Mean Diluent Cell Count: Not the the the the the the the the the th	2.5 25 50 100 N/A N/A N/A N/A
usted? Yes If yes, to Hypersaline brine solutio ations tested after salinity date: <u>8/1/16</u> <u>Test Acc</u> <u>100%</u> N <u>100%</u> N <u>100%</u> N <u>N/A</u> N <u>N/A</u> N <u>N/A</u> N <u>N/A</u> N <u>Upper Va</u> Lower V Data Ana Method U A-NOEC LOEC LOEC LOEC IC25 IC50	what value? 25 ppt n? No adjustment (%): 0 6.25 12 <u>ceptability Criteria</u> Mean Control Reproduction: Mean Diluent Reproduction: Mean Diluent Cell Count: Mean Diluent Cell Count: Note: Mean Diluent Cell Count: Note: Note: Mean Diluent Cell Count: Note: Mean Diluent Cell Count: Note: Mean Diluent Cell Count: Note: Mean Diluent Cell Count: Note: Mean Diluent Cell Count: Note: Note: Mean Diluent Cell Count: Note: Mean Diluent Cell Count: Note: Mean Diluent Cell Count: Note:	2.5 25 50 100
	Test Species _ Fathead Minnow _ Ceriodaphnia _ Daphnia Pulex X Mysid Shrimp _ Sheepshead _ Menidia _ Sea Urchin _ Champia _ Selenastrum Sted at a point upstream of known quality and a 1 (Surface water name: red using either Millipore ionized water combined water ypersaline brine; or	NH0090000 Pipe Number; Test Species Sample Type Fathead Minnow Prechlorinated Ceriodaphnia X Dechlorinated Daphnia Pulex Chlorine Spiked in Lab X Mysid Shrimp Chlorinated on site Sheepshead Unchlorinated Menidia Sea Urchin Champia Selenastrum Sted at a point upstream of or away from the discharge mination; (Receiving water name: <u>Piscataqua River</u> r of known quality and a hardness, etc. to generally ref (Surface water name: <u>Piscataqua River</u> red using either Millipore Mill-Q or equivalent deioniz ionized water combined with mineral water; tixed with deionized water; ypersaline brine; or s): <u>8/10-11/16</u> tested (in%): <u>0</u> 6.25 12.5 25 50 100

ruonity runner	I Case w w II	Test Start Date:	0/12/10
NPDES Permit Numbe	er: <u>NH NH009000</u>	0 Pipe Number:	
	10 To	6	
l'est Type	Test Species	Sample Type	Sample Method
X Acute	_ Fathead Minnow	_Prechlorinated	_ Grab
Chronic	_Ceriodaphnia	X Dechlorinated	X Composite
Modified	_ Daphnia Pulex	Chlorine Spiked in Lab	Flowthru
(chronic reporting	Mysid Shrimp	Chlorinated on site	Other
acute values)	Sheepshead	Unchlorinated	
24hr screening	X Menidia	and the second se	
	Sea Urchin		
	Champia		
	Selenastrum		
Dilution Water	_ origination		
X receiving water coll	lected at a point unstream	of or away from the discharge	free from toxicit
or other source	es of contamination: (Rec	eiving water name: Piscatagu	a River
alternate surface wa	ter of known quality and	a hardness etc. to generally rel	flect the
_alternate surface wa	of the receiving water (S	Surface water name:	neet me
synthetic water prop	ared using aither Milling	re Mill-O or equivalent deisnis	red water and
_ synthetic water prep	area using cruter wintipor	eter combined with mineral	ator
reagent grade	mixed with determined w	vater combined with mineral w	alci,
_ or artificial sea saits	mixed with defonized wa	iter;	
_ deionized water and	hypersaline brine; or		
other			
Effluent sampling date	(s): <u>8/10-11/16</u>		
	1 1 (12 5 25 50 100	
Effluent concentration: * Permit limit	s tested (in%): <u>0</u> 6.25 concentration: 100%	12.5 25 50 100	
Effluent concentrations * Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen	s tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> If yes, 1 Hypersaline brine solut trations tested after salini	<u>12.5 25 50 100</u> to what value? <u>25</u> ppt ion? <u>No</u> ty adjustment (%): 0 6.25 12	2.5 25 50 100
Effluent concentrations * Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes	s tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> If yes, t Hypersaline brine solut trations tested after salini st date: <u>8/3/16</u>	<u>12.5 25 50 100</u> to what value? <u>25</u> ppt ion? <u>No</u> ty adjustment (%): <u>0</u> 6.25 12	2.5 25 50 100
Effluent concentration: * Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes	s tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> If yes, t Hypersaline brine solut trations tested after salini st date: <u>8/3/16</u> Test Accepta	<u>12.5 25 50 100</u> to what value? <u>25</u> ppt ion? <u>No</u> ty adjustment (%): <u>0</u> 6.25 12 	2.5 25 <u>50 100</u>
Effluent concentration: * Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes	s tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> If yes, t Hypersaline brine solut trations tested after salini st date: <u>8/3/16</u> <u>Test Accepts</u>	12.5 25 50 100 to what value? 25 ppt ion? No ty adjustment (%): 0 6.25 12 ability Criteria Mean Control Reproduction:	2.5 25 50 100 N/A
Effluent concentration: * Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Survival	s tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> If yes, t Hypersaline brine solut trations tested after salini st date: <u>8/3/16</u> <u>Test Accepta</u> 1: <u>100%</u>	<u>12.5 25 50 100</u> to what value? <u>25</u> ppt ion? <u>No</u> ty adjustment (%): <u>0 6.25 12</u> <u>ability Criteria</u> Mean Control Reproduction: Mean Diluent Perceduction:	2.5 25 50 100 N/A
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Effluent concentrations * Permit limit Was effluent salinity av With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Survival	s tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> If yes, t Hypersaline brine solut trations tested after salini at date: <u>8/3/16</u> <u>Test Accepta</u> 1: <u>100%</u> 1: <u>97.5%</u> <u>N/A</u>	<u>12.5 25 50 100</u> to what value? <u>25</u> ppt ion? <u>No</u> ty adjustment (%): <u>0 6.25 12</u> <u>ability Criteria</u> Mean Control Reproduction: Mean Diluent Reproduction: Mean Control Cell Count: <u></u>	2.5 25 50 100 N/A N/A N/A N/A
Effluent concentrations * Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight:	s tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> If yes, 1 Hypersaline brine solut trations tested after salini st date: <u>8/3/16</u> <u>Test Accepta</u> 1: <u>100%</u> : <u>97.5%</u> <u>N/A</u> <u>N/A</u>	12.5 25 50 100 to what value? 25 ppt ion? No ty adjustment (%): 0 6.25 12	2.5 25 50 100
Effluent concentrations * Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight:	s tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> If yes, t Hypersaline brine solut trations tested after salini st date: <u>8/3/16</u> <u>Test Accepts</u> 1: <u>100%</u> 1: <u>97.5%</u> <u>N/A</u> <u>N/A</u>	12.5 25 50 100 to what value? 25 ppt ion? No ty adjustment (%): 0 6.25 12	2.5 25 50 100 N/A N/A N/A N/A N/A
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Effluent concentrations * Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: LC50 <u>Limits</u>	s tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> If yes, t Hypersaline brine solut trations tested after salini at date: <u>8/3/16</u> <u>Test Accepta</u> : <u>100%</u> : <u>97.5%</u> <u>N/A</u> <u>N/A</u> <u>LC50</u>	12.5 25 50 100 to what value? 25 ppt ion? No ty adjustment (%): 0 6.25 12 ability Criteria Mean Control Reproduction: Mean Diluent Reproduction: Mean Control Cell Count: Mean Diluent Cell Count: Mean Diluent Cell Count: Mean Diluent Cell Count:	2.5 25 50 100 N/A N/A N/A
Effluent concentrations * Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: <u>Limits</u> .C50 <u>50%</u>	s tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> If yes, t Hypersaline brine solut trations tested after salini st date: <u>8/3/16</u> <u>Test Accepta</u> I: <u>100%</u> : <u>97.5%</u> <u>N/A</u> <u>N/A</u> <u>LC50</u> Upper '	12.5 25 50 100 to what value? 25 ppt ion? No 0 6.25 12 ty adjustment (%): 0 6.25 12 ability Criteria	2.5 25 50 100 N/A N/A N/A
Effluent concentrations * Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: LC50 <u>Limits</u>	s tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> If yes, t Hypersaline brine solut trations tested after salini at date: <u>8/3/16</u> <u>Test Accepta</u> I: <u>100%</u> : <u>97.5%</u> <u>N/A</u> <u>N/A</u> <u>N/A</u> LC50 Upper Lower	12.5 25 50 100 to what value? 25 ppt ion? No 0 6.25 12 ty adjustment (%): 0 6.25 12 ability Criteria Mean Control Reproduction: Mean Diluent Reproduction: Mean Control Cell Count: Mean Diluent Cell Count: Yalue 118.3% Value 74.8%	2.5 25 50 100
Effluent concentrations * Permit limit Was effluent salinity au With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: LC50 <u>Limits</u>	s tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> If yes, t Hypersaline brine solut trations tested after salini at date: <u>8/3/16</u> <u>Test Accepta</u> : <u>100%</u> : <u>97.5%</u> <u>N/A</u> <u>N/A</u> <u>LC50</u> Upper Lower Data A	12.5 25 50 100 to what value? 25 ppt ion? No 0 6.25 12 ty adjustment (%): 0 6.25 12 ability Criteria Mean Control Reproduction: Mean Diluent Reproduction: Mean Control Cell Count: Mean Diluent Cell Count: 94.0% Value 118.3% Value 74.8% nalysis 100	2.5 25 50 100
Effluent concentrations * Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: LC50 <u>Limits</u>	s tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> If yes, t Hypersaline brine solut trations tested after salini st date: <u>8/3/16</u> <u>Test Accepta</u> : <u>100%</u> : <u>97.5%</u> <u>N/A</u> <u>N/A</u> <u>N/A</u> <u>LC50</u> Upper Lower Data A Method	12.5 25 50 100 to what value? 25 ppt ion? No 0 6.25 12 ty adjustment (%): 0 6.25 12 ability Criteria Mean Control Reproduction: Mean Diluent Reproduction: Mean Control Cell Count: Mean Diluent Cell Count: 94.0% Value 118.3% Value 74.8% nalysis 1 1 Used Spearman	2.5 25 50 100 N/A N/A N/A
Effluent concentration: * Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: LC50 <u>Limits</u> S0%	s tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> If yes, t Hypersaline brine solut trations tested after salini st date: <u>8/3/16</u> <u>Test Accepts</u> : <u>100%</u> : <u>97.5%</u> <u>N/A</u> <u>N/A</u> <u>N/A</u> <u>LC50</u> Upper Lower Data A Methoo A-NOE	12.5 25 50 100 to what value? 25 ppt ion? No 0 6.25 12 ty adjustment (%): 0 6.25 12 ability Criteria Mean Control Reproduction: Mean Diluent Reproduction: Mean Control Cell Count: Mean Diluent Cell Count: Spearman C 50%	2.5 25 50 100 N/A N/A
Effluent concentration: * Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: LC50 <u>Limits</u> LC50 <u>S0%</u>	s tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> If yes, t Hypersaline brine solut trations tested after salini st date: <u>8/3/16</u> <u>Test Accepts</u> : <u>100%</u> : <u>97.5%</u> <u>N/A</u> <u>N/A</u> <u>LC50</u> Upper Lower Data A Method A-NOE C-NOF	12.5 25 50 100 to what value? 25 ppt ion? No 12.5 12 ty adjustment (%): 0 6.25 12 ability Criteria	2.5 25 50 100 N/A N/A
Effluent concentrations * Permit limit Was effluent salinity a With sea salts? Yes Actual effluent concen Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: LC50 <u>Limits</u> LC50 <u>S0%</u>	s tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> If yes, t Hypersaline brine solut trations tested after salini at date: <u>8/3/16</u> <u>Test Accepta</u> : <u>100%</u> : <u>97.5%</u> <u>N/A</u> <u>N/A</u> <u>LC50</u> Upper Lower Data A Method A-NOE C-NOE	12.5 25 50 100 to what value? 25 ppt ion? No 50 12 ty adjustment (%): 0 6.25 12 ability Criteria	2.5 25 50 100 N/A N/A
Effluent concentrations * Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: LC50 <u>Limits</u> LC50 <u>50%</u>	s tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> If yes, t Hypersaline brine solut trations tested after salini at date: <u>8/3/16</u> <u>Test Accepta</u> : <u>97.5%</u> <u>N/A</u> <u>N/A</u> <u>N/A</u> <u>LC50</u> Upper Lower Data A Method A-NOE C-NOE LOEC	12.5 25 50 100 to what value? 25 ppt ion? No 12.5 12 ty adjustment (%): 0 6.25 12 ability Criteria	2.5 25 50 100 N/A N/A
Effluent concentrations * Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: LC50 <u>Limits</u> LC50 <u>50%</u> A-NOEC <u>N/A</u> C25 <u>N/A</u>	s tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> If yes, t Hypersaline brine solut trations tested after salini at date: <u>8/3/16</u> <u>Test Accepta</u> I: <u>100%</u> : <u>97.5%</u> <u>N/A</u> <u>N/A</u> <u>N/A</u> <u>LC50</u> Upper Lower Data A Method A-NOE LOEC LOEC LOEC	12.5 25 50 100 to what value? 25 ppt ion? No 0 6.25 12 ability Criteria Mean Control Reproduction: Mean Diluent Reproduction: Mean Control Cell Count: Mean Control Cell Count: Mean Diluent Cell Count: Mean Diluent Cell Count: Mean Diluent Cell Count: Mean Diluent Cell Count: 94.0% Value 118.3%	2.5 25 50 100
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Client:	Pease Wastewater Treatment Plant			
NPDES Number:	NH 0090000			
Job Number:	05.0044856.00			
Test Numbers:	16-627a (Mysidopsis bahia) 16-627b (Menidia beryllina)			
Test Material:	DSN 005 Effluent NEB Sample ID. No.C36-1965			
Sample Dates:	5/4-5/16			
Test Dates:	5/5-7/16			
Test Duration:	48-h Static Acute			
Test Methods:	U.S. Environmental Protection Agency (EPA) Toxicity of Effluents to Freshwater and M 600/4-90/027F; 2002, EPA-821-R-02-012) and EPA Region 1 (New England) Modified Method	Methods for Measuring the Acute Marine Organisms, (1993, (EPA Is.		
Test Species:	Mysid (Mysidopsis bahia; aka Americamysis):			
	Source: New England Bioassay Cultures	Age: 4 days old		
	Inland silverside (Menidia beryllina):			
	Source: Aquatic Indicators, Inc.	Age: 9 days old		
Dilution Water:	Piscataqua River (NEB Sample ID, No. C36-1965)			
Receiving Water:	Piscataqua River			

Test Species	Test Exposure Duration	LC50 (% effluent)	A-NOEC (% effluent)	Permit Limit (LC50) (% effluent)	Meets Permit Limits? (Yes/No)	Tests Meet Protocol Limit? (Yes/No)
Mysid: Mysidopsis bahia	48 h	>100%	100%	100%	Yes	Yes
Inland silverside: Menidia beryllina	48 h	>100%	50%	100%	Yes	Yes

NPDES Permit Number		Test Start Date:	5/5/16
	er: NH0090000	Pipe Number:	
Test Type	Test Species	Sample Type	Sample Method
X Acute	_Fathead Minnow	_ Prechlorinated	_ Grab
Chronic	_Ceriodaphnia	X Dechlorinated	X Composite
_ Modified	_ Daphnia Pulex	_Chlorine Spiked in Lab	Flowthru
(chronic reporting	X Mysid Shrimp	_Chlorinated on site	Other
acute values)	_Sheepshead	_Unchlorinated	
_24hr screening	_Menidia		
	_Sea Urchin		
	_ Champia		
D'L d' - W de	_ Selenastrum		
Dilution Water		Provide Art Broken	enco enco anticia considera
sources of con	tamination; (Receiving w	ater name: Piscataqua River	, free from toxicity or other
_alternate surface wa	ter of known quality and	a hardness, etc. to generally ref	lect the characteristics of the
receiving wate	er; (Surface water name:)
_synthetic water prep	pared using either Millipor	re Mill-Q or equivalent deioniz	ed water and reagent grade
chemicals; or	deionized water combined	d with mineral water;	
_or artificial sea salts	mixed with deionized wa	iter;	
_ deionized water and	hypersaline brine; or		
_other			
n / 1	1		
Effluent sampling date	e (s): <u>5/4-5/16</u>	-	
F.09		12 5 25 50 100	
Effluent concentration	s tested (10%) : 0 6.25	12.5 25 50 100	
* Descrite Excite	1000/	And the set of the	
* Permit limit	concentration: 100%		
* Permit limit Was effluent salinity a	concentration: 100%	to what value? 25 ppt	
* Permit limit Was effluent salinity a With sea salts? Yes	concentration: 100% djusted? <u>Yes</u> If yes, Hypersaline brine solut	to what value? <u>25 ppt</u>	
* Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen	concentration: 100% djusted? <u>Yes</u> If yes, Hypersaline brine solut trations tested after salini	to what value? <u>25 ppt</u> ion? <u>No</u> ty adjustment (%): 0 6.25 12	5 25 50 100
* Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen	concentration: 100% djusted? <u>Yes</u> If yes, Hypersaline brine solut itrations tested after salini st date: 5/2/16	to what value? <u>25 ppt</u> ion? <u>No</u> ty adjustment (%): <u>0</u> <u>6.25</u> <u>12</u>	.5 25 50 100
* Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes	concentration: 100% djusted? <u>Yes</u> If yes, 1 Hypersaline brine solut attrations tested after salini st date: <u>5/2/16</u>	to what value? <u>25 ppt</u> ion? <u>No</u> ty adjustment (%): <u>0</u> 6.25 12	<u>5 25 50 100</u>
* Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes	concentration: 100% djusted? <u>Yes</u> If yes, 1 Hypersaline brine solut attrations tested after salini st date: <u>5/2/16</u> <u>Test A</u>	to what value? <u>25 ppt</u> ion? <u>No</u> ty adjustment (%): <u>0</u> 6.25 12 	<u>5 25 50 100</u>
* Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Surviva	concentration: 100% djusted? <u>Yes</u> If yes, 1 Hypersaline brine solut atrations tested after salini st date: <u>5/2/16</u> <u>Test A</u> 1: 100%	to what value? <u>25 ppt</u> ion? <u>No</u> ty adjustment (%): <u>0</u> <u>6.25</u> <u>12</u> <u>cceptability Criteria</u> Mean Control Reproduction:	<u>5 25 50 100</u> N/A
* Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Surviva Mean Diluent Surviva	concentration: 100% djusted? <u>Yes</u> If yes, 1 Hypersaline brine solut atrations tested after salini st date: <u>5/2/16</u> <u>Test A</u> 1: <u>100%</u>	to what value? <u>25 ppt</u> ion? <u>No</u> ty adjustment (%): <u>0</u> <u>6.25</u> <u>12</u> <u>cceptability Criteria</u> Mean Control Reproduction: Mean Diluent Reproduction:	<u>5 25 50 100</u> <u>N/A</u> N/A
* Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Surviva Mean Diluent Surviva Mean Control Weight;	concentration: 100% djusted? <u>Yes</u> If yes, 1 Hypersaline brine solut itrations tested after salini st date: <u>5/2/16</u> <u>Test A</u> 1: <u>100%</u> : N/A	to what value? <u>25 ppt</u> ion? <u>No</u> ty adjustment (%): <u>0</u> <u>6.25</u> <u>12</u> <u>cceptability Criteria</u> Mean Control Reproduction: Mean Diluent Reproduction: Mean Control Cell Count:	<u>.5 25 50 100</u> <u>N/A</u> <u>N/A</u> N/A
* Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Surviva Mean Diluent Survival Mean Diluent Weight:	concentration: 100% djusted? Yes If yes, Hypersaline brine solut attrations tested after salini st date: 5/2/16 <u>Test A</u> 1: 100% 1: 100% <u>N/A</u> <u>N/A</u>	to what value? <u>25 ppt</u> ion? <u>No</u> ty adjustment (%): <u>0</u> <u>6.25</u> <u>12</u> <u>cceptability Criteria</u> Mean Control Reproduction: Mean Diluent Reproduction: Mean Control Cell Count: Mean Diluent Cell Count:	<u>N/A</u> N/A N/A N/A N/A
* Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant te: Mean Control Surviva Mean Diluent Surviva Mean Diluent Weight: Mean Diluent Weight:	concentration: 100% djusted? Yes If yes, 1 Hypersaline brine solut atrations tested after salini st date: 5/2/16 Test A 1: 100% 1: 100% 1: 100% 1: 100%	to what value? <u>25 ppt</u> ion? <u>No</u> ty adjustment (%): <u>0</u> <u>6.25</u> <u>12</u> <u>cceptability Criteria</u> Mean Control Reproduction: Mean Diluent Reproduction: Mean Control Cell Count: Mean Diluent Cell Count:	<u>N/A</u> N/A N/A N/A N/A
* Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Surviva Mean Diluent Surviva Mean Diluent Weight: Mean Diluent Weight:	concentration: 100% djusted? <u>Yes</u> If yes, 1 Hypersaline brine solut itrations tested after salini st date: <u>5/2/16</u> <u>Test A</u> 1: 100% 1: 100% <u>N/A</u> <u>N/A</u>	to what value? <u>25 ppt</u> ion? <u>No</u> ty adjustment (%): <u>0</u> <u>6.25</u> <u>12</u> <u>cceptability Criteria</u> Mean Control Reproduction: Mean Diluent Reproduction: Mean Control Cell Count: Mean Diluent Cell Count: <u>Results</u>	<u>N/A</u> N/A N/A N/A N/A
* Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Surviva Mean Diluent Surviva Mean Diluent Weight: Mean Diluent Weight: LC50 <u>Limits</u>	concentration: 100% djusted? Yes If yes, 1 Hypersaline brine solut itrations tested after salini st date: 5/2/16 <u>Test A</u> 1: 100% I: 100% <u>N/A</u> <u>N/A</u> <u>N/A</u> <u>LC50</u>	to what value? <u>25 ppt</u> ion? <u>No</u> ty adjustment (%): <u>0</u> <u>6.25</u> <u>12</u> <u>cceptability Criteria</u> Mean Control Reproduction: Mean Diluent Reproduction: Mean Diluent Cell Count: <u>Results</u> <u>>100%</u>	<u>N/A</u> N/A N/A N/A N/A
* Permit limit Was effluent salinity a With sea salts? Yes Actual effluent concen Reference Toxicant tes Mean Control Surviva Mean Diluent Surviva Mean Diluent Weight: Mean Diluent Weight: LC50 LC50 L00%	concentration: 100% djusted? Yes If yes, 1 Hypersaline brine solut attrations tested after salini st date: 5/2/16 Test A 1: 100% 1: 100% N/A N/A LC50 Upper	to what value? <u>25 ppt</u> ion? <u>No</u> ty adjustment (%): <u>0</u> <u>6.25</u> <u>12</u> <u>cceptability Criteria</u> Mean Control Reproduction: Mean Diluent Reproduction: Mean Diluent Cell Count: <u></u> Mean Diluent Cell Count: <u></u> <u>Results</u> <u>>100%</u> Value <u>$\pm \infty$</u>	<u>N/A</u> N/A N/A N/A N/A
* Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Surviva Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: LC50 <u>Limits</u>	concentration: 100% djusted? Yes If yes, 1 Hypersaline brine solut attrations tested after salini st date: 5/2/16 Test A 1: 100% 1: 100% N/A N/A LC50 Upper Lower	to what value? $\underline{25}$ ppt ion? <u>No</u> ty adjustment (%): <u>0</u> <u>6.25</u> <u>12</u> <u>cceptability Criteria</u> Mean Control Reproduction: Mean Diluent Reproduction: Mean Control Cell Count: Mean Diluent Cell Count:	<u>N/A</u> N/A N/A N/A N/A
* Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Surviva Mean Diluent Surviva Mean Diluent Weight: Mean Diluent Weight: LC50 <u>Limits</u>	concentration: 100% djusted? Yes If yes, 1 Hypersaline brine solut atrations tested after salini st date: 5/2/16 <u>Test A</u> 1: 100% <u>I: 100%</u> <u>N/A</u> <u>N/A</u> <u>N/A</u> <u>LC50</u> Upper Lower Data A	to what value? $\underline{25}$ ppt ion? <u>No</u> ty adjustment (%): <u>0</u> <u>6.25</u> <u>12</u> <u>cceptability Criteria</u> Mean Control Reproduction: Mean Diluent Reproduction: Mean Diluent Reproduction: Mean Diluent Cell Count: Mean Diluent Cell Count: <u>Results</u> <u>>100%</u> Value $\underline{\pm \infty}$ Value <u>100%</u> nalysis	<u>N/A</u> N/A N/A N/A N/A
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* Permit limit Was effluent salinity a With sea salts? Yes Actual effluent concen Reference Toxicant tes Mean Control Surviva Mean Diluent Surviva Mean Diluent Weight: Mean Diluent Weight: LC50 Limits	concentration: 100% djusted? Yes If yes, 1 Hypersaline brine solut attrations tested after salini st date: 5/2/16 Test A 1: 100% 1: 100% I: 100% LC50 Upper Lower Data A Methoo A-NOE	to what value? 25 ppt ion? No ty adjustment (%): 0 6.25 12 cceptability Criteria Mean Control Reproduction: Mean Diluent Reproduction: Mean Diluent Cell Count: Mean Diluent Cell Count: Nean Diluent Cell Count: Nean Diluent Cell Count: Nean Diluent Cell Count: Mean Diluent Cell Count: Nean Diluent Cell Count Nean Diluent Cell Count N	<u>N/A</u> N/A N/A N/A N/A
* Permit limit Was effluent salinity a With sea salts? Yes Actual effluent concen Reference Toxicant tes Mean Control Surviva Mean Diluent Surviva Mean Diluent Weight: Mean Diluent Weight: LC50 Limits LC50 LO0%	concentration: 100% djusted? Yes If yes, 1 Hypersaline brine solut attrations tested after salini st date: 5/2/16 Test A I: 100% I:	to what value? $\underline{25}$ ppt ion? No ty adjustment (%): 0 6.25 12 ccceptability Criteria Mean Control Reproduction: Mean Diluent Reproduction: Mean Diluent Reproduction: Mean Diluent Cell Count: Mean Diluent Cell Count: M	<u>N/A</u> <u>N/A</u> <u>N/A</u> <u>N/A</u>
* Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Surviva Mean Diluent Surviva Mean Diluent Weight: Mean Diluent Weight: LC50 <u>Limits</u> LC50 <u>Limits</u> C-NOEC <u>N/A</u>	concentration: 100% djusted? Yes If yes, 1 Hypersaline brine solut intrations tested after salini st date: 5/2/16 Test A I: 100% I:	to what value? $\underline{25}$ ppt ion? No ty adjustment (%): 0 6.25 12 <u>cceptability Criteria</u> Mean Control Reproduction: Mean Diluent Reproduction: Mean Diluent Reproduction: Mean Diluent Cell Count: Mean Diluent Cell Count	<u>N/A</u> N/A N/A N/A N/A
* Permit limit Was effluent salinity a With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Surviva Mean Diluent Surviva Mean Diluent Weight: Mean Diluent Weight: LC50 <u>Limits</u> LC50 <u>Limits</u> C-NOEC <u>N/A</u> IC25 <u>N/A</u>	concentration: 100% djusted? Yes If yes, 1 Hypersaline brine solut intrations tested after salini st date: 5/2/16 Test A I: 100% I:	to what value? $\underline{25}$ ppt ion? No ty adjustment (%): 0 6.25 12 	<u>N/A</u> N/A N/A N/A

NPDES Permit Numbe	r: NH NH0090000	Pipe Number:	
			and a start
Test Type	Test Species	Sample Type	Sample Method
X Acute	_ Fathead Minnow	Prechlorinated	Grab
Chronic	Ceriodaphnia	X Dechlorinated	X Composite
Modified	Daphnia Pulex	Chlorine Spiked in Lab	Flowthru
(chronic reporting	Mysid Shrimp	Chlorinated on site	Other
acute values)	Sheepshead	Unchlorinated	
74hr screening	X Menidia	_ chemornated	
	Sea Urchin		
	Champia		
	- Salanastrum		
Dilution Water	_ Selenasti uni		
X receiving water coll	ected at a point unstream of	f or away from the discharge	free from toxicit
or other source	s of contamination: (Receiv	ving water name: Disontage	, nee nom toxich
alternate surface wat	er of known quality and a h	hardness etc. to generally ref	lect the
_anomate surface wat	of the receiving water (Su	rface water parter	ieut me
synthetic water prop	ared using either Millingra	Mill O or aquivalant daiania	ad water and
_synthetic water prepa	area using etther winnpore	win-Q or equivalent detoniz	ed water and
reagent grade c	mined with detected wat	ter combined with mineral Wa	ater,
_ or artificial sea salts	mixed with defonized wate	τ,	
_ deionized water and	nypersaline brine; or		
_other	the second se		
and a stand of the	60 anada - 30		
	C		
Effluent sampling date Effluent concentrations * Permit limit of Was effluent salinity ad	(s): <u>5/4-5/16</u> s tested (in%): <u>0 6.25 1</u> concentration: 100% djusted? <u>Yes</u> If yes, to	2.5 25 50 100 what value? <u>25</u> ppt	
Effluent sampling date Effluent concentrations * Permit limit of Was effluent salinity ad With sea salts? <u>Yes</u> Actual effluent concent	(s): <u>5/4-5/16</u> stested (in%): <u>0 6.25 1</u> concentration: 100% djusted? <u>Yes</u> If yes, to Hypersaline brine solution trations tested after salinity	2.5 25 50 100 what value? <u>25</u> ppt n? <u>No</u> adjustment (%): 0 6.25 12	.5 25 50 100
Effluent sampling date Effluent concentrations * Permit limit of Was effluent salinity ad With sea salts? <u>Yes</u> Actual effluent concent Reference Toxicant tes	(s): <u>5/4-5/16</u> s tested (in%): <u>0</u> <u>6.25</u> <u>1</u> concentration: 100% djusted? <u>Yes</u> If yes, to Hypersaline brine solution trations tested after salinity t date: <u>5/5/16</u>	2.5 25 50 100 what value? <u>25</u> ppt n? <u>No</u> adjustment (%): <u>0 6.25 12</u>	<u>5 25 50 100</u>
Effluent sampling date Effluent concentrations * Permit limit of Was effluent salinity ad With sea salts? <u>Yes</u> Actual effluent concent Reference Toxicant tes	(s): <u>5/4-5/16</u> s tested (in%): <u>0 6.25 1</u> concentration: 100% djusted? <u>Yes</u> If yes, to Hypersaline brine solution trations tested after salinity t date: <u>5/5/16</u> Test Acceptab	2.5 25 50 100 what value? <u>25</u> ppt n? <u>No</u> adjustment (%): <u>0 6.25 12</u>	<u>5 25 50 100</u>
Effluent sampling date Effluent concentrations * Permit limit of Was effluent salinity ad With sea salts? <u>Yes</u> Actual effluent concent Reference Toxicant tes	(s): <u>5/4-5/16</u> s tested (in%): <u>0</u> <u>6.25</u> <u>1</u> concentration: 100% djusted? <u>Yes</u> If yes, to Hypersaline brine solution trations tested after salinity t date: <u>5/5/16</u> <u>Test Acceptab</u>	2.5 25 50 100 what value? <u>25</u> ppt n? <u>No</u> adjustment (%): <u>0 6.25 12</u> 	. <u>.5 25 50 100</u>
Effluent sampling date Effluent concentrations * Permit limit of Was effluent salinity ad With sea salts? <u>Yes</u> Actual effluent concent Reference Toxicant tes Mean Control Survival	(s): <u>5/4-5/16</u> s tested (in%): <u>0</u> <u>6.25</u> <u>1</u> concentration: 100% djusted? <u>Yes</u> If yes, to Hypersaline brine solution trations tested after salinity t date: <u>5/5/16</u> <u>Test Acceptab</u> : <u>100%</u> M	2.5 25 50 100 what value? <u>25</u> ppt n? <u>No</u> adjustment (%): <u>0 6.25 12</u> <u>ility Criteria</u> Mean Control Reproduction:	<u>5 25 50 100</u> N/A
Effluent sampling date Effluent concentrations * Permit limit of Was effluent salinity ad With sea salts? <u>Yes</u> Actual effluent concent Reference Toxicant tes Mean Control Survival Mean Diluent Survival	(s): <u>5/4-5/16</u> s tested (in%): <u>0</u> <u>6.25</u> <u>1</u> concentration: 100% djusted? <u>Yes</u> If yes, to Hypersaline brine solution trations tested after salinity t date: <u>5/5/16</u> <u>Test Acceptab</u> : <u>100%</u> M	2.5 25 50 100 what value? <u>25</u> ppt n? <u>No</u> adjustment (%): <u>0 6.25 12</u> <u>ility Criteria</u> Mean Control Reproduction: Mean Diluent Reproduction:	<u>5 25 50 100</u>
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Effluent sampling date Effluent concentrations * Permit limit of Was effluent salinity ad With sea salts? <u>Yes</u> Actual effluent concent Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight:	(s): $5/4-5/16$ s tested (in%): <u>0</u> 6.25 <u>1</u> concentration: 100% djusted? <u>Yes</u> If yes, to Hypersaline brine solution trations tested after salinity t date: $5/5/16$ <u>Test Acceptab</u> : <u>100%</u> M <u>N/A</u> M	2.5 25 50 100 what value? <u>25</u> ppt n? <u>No</u> adjustment (%): <u>0 6.25 12</u> <u>ility Criteria</u> Mean Control Reproduction: Mean Diluent Reproduction: Mean Diluent Cell Count: <u></u>	<u>5 25 50 100</u> N/A N/A N/A N/A
Effluent sampling date Effluent concentrations * Permit limit of Was effluent salinity ad With sea salts? <u>Yes</u> Actual effluent concent Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight:	(s): $5/4-5/16$ s tested (in%): <u>0</u> 6.25 <u>1</u> concentration: 100% djusted? <u>Yes</u> If yes, to Hypersaline brine solution trations tested after salinity t date: $5/5/16$ <u>Test Acceptab</u> : <u>100%</u> M <u>N/A</u> M <u>N/A</u> M	2.5 25 50 100 what value?25 ppt n? No adjustment (%): 0 6.25 12 ility Criteria Mean Control Reproduction: Mean Diluent Reproduction: Mean Control Cell Count: Mean Diluent Cell Count:	5 25 50 100 N/A N/A N/A N/A N/A
Effluent sampling date Effluent concentrations * Permit limit of Was effluent salinity ad With sea salts? <u>Yes</u> Actual effluent concent Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: Limits	(s): $5/4-5/16$ s tested (in%): <u>0</u> 6.25 <u>1</u> concentration: 100% djusted? <u>Yes</u> If yes, to Hypersaline brine solution trations tested after salinity t date: $5/5/16$ <u>Test Acceptab</u> : <u>100%</u> M <u>N/A</u> M <u>N/A</u> M	2.5 25 50 100 what value?25 ppt n? No adjustment (%): 0 6.25 12 ility Criteria Mean Control Reproduction: Mean Diluent Reproduction: Mean Control Cell Count: Mean Diluent Cell Count: Mean Diluent Cell Count: Mean Diluent Cell Count:	<u>5 25 50 100</u>
Effluent sampling date Effluent concentrations * Permit limit of Was effluent salinity ad With sea salts? <u>Yes</u> Actual effluent concent Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight:	(s): $5/4-5/16$ s tested (in%): <u>0</u> 6.25 <u>1</u> concentration: 100% djusted? <u>Yes</u> If yes, to Hypersaline brine solution trations tested after salinity t date: <u>5/5/16</u> <u>Test Acceptab</u> : <u>100%</u> M <u>N/A</u> M <u>N/A</u> M	2.5 25 50 100 what value?25 ppt n? No adjustment (%): 0 6.25 12 ility Criteria Mean Control Reproduction: Mean Diluent Reproduction: Mean Diluent Cell Count: Mean Diluent Cell Count: Mean Diluent Cell Count: Mean Diluent Cell Count: Mean Diluent Cell Count:	5 25 50 100 N/A N/A N/A N/A
Effluent sampling date Effluent concentrations * Permit limit of Was effluent salinity ad With sea salts? <u>Yes</u> Actual effluent concent Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: <u>Limits</u> LC50 <u>Limits</u>	(s): $5/4-5/16$ s tested (in%): <u>0</u> 6.25 <u>1</u> concentration: 100% djusted? <u>Yes</u> If yes, to Hypersaline brine solution trations tested after salinity t date: $5/5/16$ <u>Test Acceptab</u> : <u>100%</u> M <u>N/A</u> M <u>N/A</u> M <u>LC50</u> Upper Va	$\frac{2.5 \ 25 \ 50 \ 100}{\text{what value?} \ _25 \ ppt}$ $\frac{2.5 \ 25 \ 50 \ 100}{\text{what value?} \ _25 \ ppt}$ $\frac{2.5 \ 25 \ 50 \ 100}{model of the set of t$	<u>5 25 50 100</u> <u>N/A</u> <u>N/A</u> <u>N/A</u> <u>N/A</u>
Effluent sampling date Effluent concentrations * Permit limit of Was effluent salinity ad With sea salts? <u>Yes</u> Actual effluent concent Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: Mean Diluent Weight:	(s): $5/4-5/16$ s tested (in%): <u>0</u> 6.25 <u>1</u> concentration: 100% djusted? <u>Yes</u> If yes, to Hypersaline brine solution trations tested after salinity t date: $5/5/16$ <u>Test Acceptab</u> : <u>100%</u> M <u>N/A</u> M <u>N/A</u> M <u>LC50</u> Upper Va Lower Va	2.5 25 50 100 what value? 25 ppt n? No adjustment (%): 0 6.25 12	<u>5 25 50 100</u> <u>N/A</u> <u>N/A</u> <u>N/A</u> <u>N/A</u>
Effluent sampling date Effluent concentrations * Permit limit of Was effluent salinity and With sea salts? <u>Yes</u> Actual effluent concent Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: Mean Diluent Weight: Mean Diluent Weight:	(s): $5/4-5/16$ s tested (in%): <u>0</u> 6.25 <u>1</u> concentration: 100% djusted? <u>Yes</u> If yes, to Hypersaline brine solution trations tested after salinity t date: $5/5/16$ <u>Test Acceptab</u> : <u>100%</u> M <u>N/A</u> M <u>N/A</u> M <u>N/A</u> M <u>LC50</u> Upper Va Lower Va Data Ana	2.5 25 50 100 what value?25 ppt n? No adjustment (%): 0 6.25 12 ility Criteria Mean Control Reproduction: Mean Diluent Reproduction: Mean Diluent Cell Count: Mean Diluent Cell Count	5 25 50 100
Effluent sampling date Effluent concentrations * Permit limit of Was effluent salinity and With sea salts? <u>Yes</u> Actual effluent concent Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Mean Mean Mean Mean Mean Mean Mean Mean	(s): $5/4-5/16$ s tested (in%): <u>0</u> 6.25 <u>1</u> concentration: 100% djusted? <u>Yes</u> If yes, to Hypersaline brine solution trations tested after salinity t date: $5/5/16$ <u>Test Acceptab</u> : <u>100%</u> M <u>N/A</u> M <u>N/A</u> M <u>N/A</u> M <u>LC50</u> Upper Va Lower Va Data Ana Method I	2.5 25 50 100 what value? 25 ppt n? No adjustment (%): 0 6.25 12	5 25 50 100
Effluent sampling date Effluent concentrations * Permit limit of Was effluent salinity ac With sea salts? <u>Yes</u> Actual effluent concent Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: Limits LC50 <u>Limits</u> A-NOEC	(s): $5/4-5/16$ s tested (in%): <u>0</u> 6.25 <u>1</u> concentration: 100% djusted? <u>Yes</u> If yes, to Hypersaline brine solution trations tested after salinity t date: $5/5/16$ <u>Test Acceptab</u> : <u>100%</u> M <u>N/A</u> M <u>N/A</u> M <u>N/A</u> M <u>LC50</u> Upper Va Lower Va Data Ana Method U A-NOEC	2.5 25 50 100 what value? 25 ppt n? No adjustment (%): 0 6.25 12	<u>5 25 50 100</u> <u>N/A</u> <u>N/A</u> <u>N/A</u>
Effluent sampling date Effluent concentrations * Permit limit of Was effluent salinity ad With sea salts? <u>Yes</u> Actual effluent concent Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: LC50 <u>Limits</u> LC50 <u>N/A</u>	(s): <u>5/4-5/16</u> s tested (in%): <u>0</u> <u>6.25</u> <u>1</u> concentration: 100% djusted? <u>Yes</u> If yes, to Hypersaline brine solution trations tested after salinity t date: <u>5/5/16</u> <u>Test Acceptab</u> : <u>100%</u> M <u>N/A</u> M <u>N/A</u> M <u>N/A</u> M <u>LC50</u> Upper Va Lower Va Data Ana Method U A-NOEC C-NOEC	2.5 25 50 100 what value? 25 ppt n? No adjustment (%): 0 6.25 12	<u>.5 25 50 100</u> <u>N/A</u> <u>N/A</u> <u>N/A</u> <u>N/A</u>
Effluent sampling date Effluent concentrations * Permit limit of Was effluent salinity ad With sea salts? <u>Yes</u> Actual effluent concent Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: LC50 <u>Limits</u> LC50 <u>N/A</u>	(s): <u>5/4-5/16</u> s tested (in%): <u>0</u> <u>6.25</u> <u>1</u> concentration: 100% djusted? <u>Yes</u> If yes, to Hypersaline brine solution trations tested after salinity t date: <u>5/5/16</u> <u>Test Acceptab</u> : <u>100%</u> M <u>N/A</u> M <u>N/A</u> M <u>N/A</u> M <u>LC50</u> Upper Va Lower Va Data Ana Method U A-NOEC C-NOEC	2.5 25 50 100 what value? 25 ppt n? No adjustment (%): 0 6.25 12	<u>N/A</u> N/A N/A N/A N/A
Effluent sampling date Effluent concentrations * Permit limit of Was effluent salinity ac With sea salts? <u>Yes</u> Actual effluent concent Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: LC50 <u>Limits</u> LC50 <u>Limits</u> A-NOEC <u>N/A</u>	(s): $5/4-5/16$ s tested (in%): $0 6.25 1$ concentration: 100% djusted? Yes If yes, to Hypersaline brine solution trations tested after salinity t date: $5/5/16$ Test Acceptab : 100% N N/A N/A N N/A N LC50 Upper Va Lower Va Data Ana Method U A-NOEC LOEC LOEC LOEC	2.5 25 50 100 what value?25 ppt n? No adjustment (%): 0 6.25 12 ility Criteria Mean Control Reproduction: Mean Control Cell Count: Mean Control Cell Count: Mean Diluent Cell Count: Mean Diluent Cell Count: Mean Diluent Cell Count: Mean Diluent Cell Count:	<u>N/A</u> N/A N/A N/A N/A
Effluent sampling date Effluent concentrations * Permit limit of Was effluent salinity and With sea salts? <u>Yes</u> Actual effluent concent Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: Mean Diluent Weight: LC50 <u>Limits</u> LC50 <u>N/A</u> (C25 <u>N/A</u>	(s): $5/4-5/16$ s tested (in%): $0 6.25 1$ concentration: 100% djusted? Yes If yes, to Hypersaline brine solution trations tested after salinity t date: $5/5/16$ Test Acceptab : 100% N :	2.5 25 50 100 what value?25 ppt n? No adjustment (%): 0 6.25 12 ility Criteria Mean Control Reproduction: Mean Diluent Reproduction:	5 25 50 100 N/A N/A N/A N/A
Effluent sampling date Effluent concentrations * Permit limit of Was effluent salinity ac With sea salts? <u>Yes</u> Actual effluent concent Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: LC50 <u>Limits</u> LC50 <u>Limits</u> LC50 <u>N/A</u> (C25 <u>N/A</u> IC50 <u>N/A</u>	(s): $5/4-5/16$ s tested (in%): $0 6.25 1$ concentration: 100% djusted? Yes If yes, to Hypersaline brine solution trations tested after salinity t date: $5/5/16$ Test Acceptab : 100% N :	$\frac{2.5 \ 25 \ 50 \ 100}{\text{what value?} \ 25 \ ppt}$ $\frac{2.5 \ 25 \ 50 \ 100}{\text{adjustment}}$ $\frac{25 \ ppt}{\text{adjustment}}$ $\frac{25 \ ppt}{\text{adjustment}}$ $\frac{6.25 \ 12}{\text{adjustment}}$ $\frac{1112}{\text{Mean Control Reproduction:}}$ $\frac{1112}{\text{Mean Control Reproduction:}}$ $\frac{1112}{\text{Mean Control Cell Count:}}$ $\frac{1112}{Mean Control Cell$	5 25 50 100

New England Bioassay, a Division of GZA GeoEnvironmental, Inc. wunu.nebio.com

New England Bioassay

77 Barson Drive Manchester, CT 06042 860-643-9560 FAX 860-646-7169

Dear Ms. Anania:

ACUTE TOXICITY TEST REPORT FOR PEASE WWTP – DSN-005 (COLLECTION DATES: 5-6 AUGUST 2015)

Enclosed, please find four (4) copies of New England Bioassay's August 2015 Acute Toxicity Test Report for the Pease wastewater treatment plant (WWTP) in Portsmouth, NH - Discharge DSN-005. Static-acute definitive LC₅₀ tests using saltwater mysids (*Mysidopsis bahia*; aka *Americamysis*) and inland silversides (*Menidia beryllina*) were conducted with a composite effluent sample collected from the Pease WWTP DSN-005 discharge during 5-6 August 2015 (0830 h - 0830 h). Test duration was 48 h for both *M. bahia* and *M. beryllina* (test dates: 6-8 August 2015). Results are summarized below.

Test	LC50	A-NOEC	% Survival in
Species	(% effluent)	(% effluent)	100% effluent
M. bahia	48 h: >100%	100%	82.5% at 48 h
M. beryllina	48 h: > 100%	100%	85% at 48 h

If you have any questions, please call (860-858-3153) or email (kimberly.wills@gza.com).

Sincerely,

Kimberly Wills Laboratory Manager



GZA GeoEnvironmental, Inc. www.gza.com August 19, 2015

Paula Anania Chief Plant Operator City of Portsmouth Wastewater 680 Peverly Hill Road Portsmouth, NH 03801

Whole Effluent Toxicity Testing Report Instruction Form

Client Name/Project: Pease WWTP Test Date: 8/6/15

Sample ID: DSN 005

Your results were as follows:

Pass

□ Fail – Please proceed according to the instructions in your permit.

□ Invalid - Retesting is still required. Retest report will be sent at a later date under separate cover.

I Original Test Invalid - Valid retest performed. Both test and retest results are attached.

- □ Retesting will be or has been performed according to the Case 1 Protocols outlined in the attached copy of EPA-New England's species-specific, self-implementing policy for alternate dilution water.
- □ This is your ______ case of dilution water toxicity. Please proceed according to the Case 2 Protocols outlined in the attached copy of EPA-New England's species-specific, self-implementing policy for alternate dilution water. The alternate dilution water you select for future tests for this species should be described as follows: "synthetic laboratory water made up according to EPA's toxicity test protocols, by adding specified amounts of salts into deionized water in order to match the hardness of our receiving water." Writing this letter should help you to avoid retests in the future.
- Available information is insufficient to determine whether this test passed or failed. Please compare results to your permit limits. Please submit a current copy of your permit to the GZA Lab so that we can determine the status of future tests results and help ensure your compliance with permit requirements.

Please complete the items on this list before reporting these results according to the instructions in the "Monitoring and Reporting" Section of your permit.

- Please complete, sign and date the upper portion of the "Whole Effluent Toxicity Test Report Certification" page which is the page directly following this page.
- Fill in the Sample Type and Sample Method (upper right) and the Permit Limits (lower left) on the GeoEnvironmental, Inc.-EPA Toxicity Test Summary Sheet(s) if they are incomplete.
- Fill in any missing information on the GZA Chain-of-Custody documents. This includes ensuring that the following information is recorded: Sampler's name and title, Facility name and address, Sample collection methods, Sample collection start and end dates and times, Types of sample, Chlorination status of samples upon shipment to GZA, Site description and Sample collection procedures.
- Monitoring results should be summarized on your monthly Discharge Monitoring Report Form.
- Signed and dated originals of this report must be submitted to the State (and Federal) Agencies specified in the "Monitoring and Reporting" section of your permit.

Questions? Please contact the Lab Manager, Kim Wills, at (860) 858-3153 or kimberly.wills@gza.com.

Facility Name:	Pease WWTP	Test Start Date:	8/6/15
NPDES Permit Number	: NH0090000	Pipe Number:	DSN 005
<u>Test Type</u> <u>X</u> Acute Chronic Modified (chronic reporting acute values) 24hr screening	Test Species Fathead Minnow Ceriodaphnia Daphnia Pulex XMysid Shrimp Sheepshead Menidia Sea Urchin Champia	Sample Type _ Prechlorinated XDechlorinated _ Chlorine Spiked in Lab _ Chlorinated on site _ Unchlorinated	Sample Method Grab XComposite Flowthru Other
	Other		
Dilution Water			
Xreceiving water collec	ted at a point upstream of	f or away from the discharge,	free from toxicity or other
sources of conta	mination; (Receiving wa	ter name: Piscataqua River)
_alternate surface wate	er of known quality and a	hardness, etc. to generally re-	flect the characteristics of the
receiving water	(Surface water name:	MCH O T T T T T T)
_ synthetic water prepa	red using either Millipore	e Mill-Q or equivalent deioniz	ted water and reagent grade
or artificial sea solts r	nived with deionized wat	with mineral water;	
	umersaline brine: or	ler,	
_ defonized water and I	rypersame orme, or		
_ ouler			
Effluent sampling date (s)· 8/5-6/15		
criticent sampling date (3). 0/5-0/15		
Effluent concentrations	tested (in%): 0 625	12 5 25 50 100	
* Permit limit o	$\frac{1000}{1000}$	12.5 25 50 100	
· Fermit minit c	oncentration. 100%		
Was offluent colinity of	instad? Var		
Was effluent samily au	S ant		
With con solts? Vos	<u>5 ppi</u> Uunarcalina brina saluti	an? No	
with sea saits? Tes	rypersame onne solutio	<u>INO</u>	
Actual effluent concentr	ations tested after salinity	y adjustment (%): 0 6.25 12	2.5 25 50 100
Reference Toxicant test	date: 8/3/15		
	Test Ac	cceptability Criteria	
Mean Control Survival:	100%	Mean Control Reproduction:	N/A
Mean Diluent Survival:	100%	Mean Diluent Reproduction:	N/A
Mean Control Weight:	N/A	Mean Control Cell Count:	N/A
Mean Diluent Weight: _	N/A	Mean Diluent Cell Count:	N/A
Limits		Results	
LC50 <u>100%</u>	LC50	>100%	
	Upper V	alue <u>±xx</u>	
	Lower \	/alue 100%	
	Data An	alysis	
	Method	Used Graphical	
A-NOEC	A-NOE	C 100%	
C-NOEC N/A	C-NOE0	C	
	LOEC	· ·······	
IC25 N/A	IC25	(
IC50 <u>N/A</u>	IC50		

Facility Name:	Pease WWTP	Test Start Date:	8/6/15	
NPDES Permit Numbe	er: <u>NH0090000</u>	_ Pipe Number:	DSN 005	
<u>Test Type</u> <u>X</u> Acute Chronic Modified (chronic reporting acute values) 24hr screening	<u>Test Species</u> Fathead Minnow Ceriodaphnia Daphnia Pulex Mysid Shrimp Sheepshead <u>X</u> Menidia Sea Urchin Champia Selenastrum	Sample Type Prechlorinated XDechlorinated Chlorine Spiked i Chlorinated on sid Unchlorinated	Sample Method _ Grab XComposite in Lab te _ Other	
Sil a Sil a	Other			
	ter of known quality and of the receiving water; (ared using either Millipo chemicals; or deionized mixed with deionized w hypersaline brine; or (s): <u>8/5-6/15</u> (s): <u>8/5-6/15</u> (s): <u>0 6.25</u> concentration: 100% djusted? <u>Yes</u> <u>25</u> ppt Hypersaline brine solu	tion? <u>No</u>	ally reflect the deionized water and neral water;	
Actual effluent concern	trations tested after salin	nty adjustment (%): 0 6	<u>5.25 12.5 25 50 100</u>	
Reference Toxicant tes	t date: 8/6/15	ī		
	Test Accep	tability Criteria		
Mean Control Survival	· 100%	Mean Control Reprodu	uction N/A	
Mean Diluent Survival	: 100%	Mean Diluent Reprodu	iction: N/A	
Mean Control Weight:	N/A	Mean Control Cell Con	unt: N/A	
Mean Diluent Weight:	N/A	Mean Diluent Cell Cou	unt: N/A	
LC50 <u>Limits</u>				
	LC50 Upper Lower Data A	Value $\frac{\text{Results}}{100\%}$ Value $\pm \infty$ r Value 100% Analysis	inal	
ANOEC	LC50 Upper Lower Data A Metho	Results100%Value $\pm \infty$ r Value100%AnalysisGraphFC100%	ical	
A-NOEC	LC50 Upper Lower Data A Metho A-NO	$\begin{array}{r c} & \underline{Results} \\ \hline 100\% \\ \hline 100\%$	ical	
A-NOEC C-NOECN/A	LC50 Upper Lower Data A Metho A-NO C-NO LOEC	$\begin{array}{c c} & \underline{Results} \\ \hline 100\% \\ \hline 100\%$	ical	
A-NOEC	LC50 Upper Lower Data A Metho A-NO C-NO LOEC IC25	$\begin{array}{r c} \hline Results \\ \hline 100\% \\ $	ical	

Client:	Pease Wastewater Treatment Plant					
NPDES Number:	NH 0090000					
Job Number:	05.0044856.00					
Test Numbers:	15-593a (Mysidopsis bahia) 15-593b (Menidia beryllina)					
Test Material:	DSN 005 Effluent NEB Sample ID. No. C35-1996					
Sample Dates:	5/6-7/15					
Test Dates:	5/7-9/15					
Test Duration:	48-h Static Acute					
Test Methods:	U.S. Environmental Protection Agency (EPA) M Toxicity of Effluents to Freshwater and M 600/4-90/027F; 2002, EPA-821-R-02-012) and EPA Region 1 (New England) Modified Methods	Methods for Measuring the Acute Iarine Organisms, (1993, (EPA				
Test Species:	Mysid (Mysidopsis bahia; aka Americamysis): Mb15(5-3)					
	Source: New England Bioassay Cultures	Age: 4 days old				
	Inland silverside (Menidia beryllina): SS15AI(5-5)					
	Source: Aquatic Indicators, Inc.	Age: 12 days old				
Dilution Water:	Piscataqua River (NEB Sample ID. No. C35-1997)					
Receiving Water:	Piscataqua River					

Test Species	Test Exposure Duration	LC50 (% effluent)	A-NOEC (% effluent)	Permit Limit (LC50) (% effluent)	Meets Permit Limits? (Yes/No)	Tests Meet Protocol Limit? (Yes/No)
Mysid: Mysidopsis bahia	48 h	>100%	50%	100%	Yes	Yes
Inland silverside: Menidia beryllina	48 h	100%	50%	100%	Yes	Yes
Facility Name:	Pease WWTP	Test Start Date:	5/7/15			
----------------------------------	--------------------------------------	--	---------------			
NPDES Permit Number	n: <u>NH0090000</u>	Pipe Number:	DSN 005			
Test Type	Test Species	Sample Type	Sample Method			
X Acute	_ Fathead Minnow	_ Prechlorinated	_ Grab			
_Chronic	_Ceriodaphnia	X Dechlorinated	X Composite			
_ Modified	_ Daphnia Pulex	Chlorine Spiked in Lab	_ Flowthru			
(chronic reporting acute values)	X Mysid Shrimp Sheepshead	_ Chlorinated on site _ Unchlorinated	Other			
_24hr screening	_ Menidia _ Sea Urchin Champia					
	Selenastrum					
Dilution Water	_Ouler	-				

New England Bioassay a division of GZA GeoEnvironmental - EPA Summary Sheet

Xreceiving water collected at a point upstream of or away from the discharge, free from toxicity or other sources of contamination; (Receiving water name: Piscataqua River

alternate surface water of known quality and a hardness, etc. to generally reflect the characteristics of the receiving water; (Surface water name:

synthetic water prepared using either Millipore Mill-Q or equivalent deionized water and reagent grade chemicals; or deionized water combined with mineral water;

or artificial sea salts mixed with deionized water;

deionized water and hypersaline brine; or

other

Effluent sampling date (s): 5/6-7/15

Effluent concentrations tested (in%): 0 6.25 12.5 25 50 100 * Permit limit concentration: 100%

Was effluent salinity adjusted? Yes If yes, to what value? 25 ppt

Hypersaline brine solution? No. With sea salts? Yes

Actual effluent concentrations tested after salinity adjustment (%): 0 6.25 12.5 25 50 100

Reference Toxicant test date: 5/1/15

Test Acceptability Criteria

Mean Control Survival: 100%	Mean Control Reproduction:	N/A
Mean Diluent Survival: 100%	Mean Diluent Reproduction:	N/A
Mean Control Weight: N/A	Mean Control Cell Count:	N/A
Mean Diluent Weight: N/A	Mean Diluent Cell Count:	N/A

	Limits		Results
LC50	100%	LC50	>100%
		Upper Value	±∞
		Lower Value	50%
		Data Analysis	
		Method Used	Graphical
A-NOEC		A-NOEC	50%
C-NOEC	N/A	C-NOEC	
		LOEC	
IC25	N/A	IC25	
IC50	N/A	IC50	

Facility Name: Pease WWTP Test Start Date: 5/7/15 NPDES Permit Number: NH0090000 Pipe Number: **DSN 005** Sample Method Test Species Sample Type Test Type Prechlorinated X Acute Fathead Minnow Grab Chronic Ceriodaphnia X Dechlorinated X Composite Modified Daphnia Pulex Chlorine Spiked in Lab Flowthru Mysid Shrimp Chlorinated on site (chronic reporting Other acute values) Sheepshead Unchlorinated 24hr screening X Menidia Sea Urchin Champia Selenastrum Other **Dilution Water** Xreceiving water collected at a point upstream of or away from the discharge, free from toxicity or other sources of contamination; (Receiving water name: Piscataqua River alternate surface water of known quality and a hardness, etc. to generally reflect the characteristics of the receiving water; (Surface water name: synthetic water prepared using either Millipore Mill-Q or equivalent deionized water and reagent grade chemicals; or deionized water combined with mineral water; or artificial sea salts mixed with deionized water; deionized water and hypersaline brine; or other Effluent sampling date (s): ___ 5/6-7/15 Effluent concentrations tested (in%): 0 6.25 12.5 25 50 100 * Permit limit concentration: 100% Was effluent salinity adjusted? Yes If yes, to what value? 25 ppt With sea salts? Yes Hypersaline brine solution? No Actual effluent concentrations tested after salinity adjustment (%): 0 6.25 12.5 25 50 100 Reference Toxicant test date: 5/6/15 Test Acceptability Criteria Mean Control Survival: 100% Mean Control Reproduction: N/A Mean Diluent Reproduction: Mean Diluent Survival: 100% N/A Mean Control Weight: N/A Mean Control Cell Count: N/A Mean Diluent Weight: N/A Mean Diluent Cell Count: N/A Limits Results LC50 100% LC50 100% Upper Value too 50% Lower Value Data Analysis Method Used Graphical A-NOEC A-NOEC 50% C-NOEC N/A C-NOEC LOEC ----IC25 IC25

IC50

N/A

N/A

IC50

New England Bioassay a division of GZA GeoEnvironmental - EPA Summary Sheet

SUMMARY

Client:	Pease Wastewater Treatment Plant	
NPDES Number:	NH 0090000	
Job Number:	05.0044856.00	
Test Numbers:	14-1185a (Mysidopsis bahia) 14-1185b (Menidia beryllina)	
Test Material:	DSN 005 Effluent NEB Sample ID. No. C34-2910	
Sample Dates:	8/4-5/14	
Test Dates:	8/6/14 - 8/8/14	
Test Duration:	48-h Static Acute	
Test Methods:	U.S. Environmental Protection Agency (EPA) Toxicity of Effluents to Freshwater and 600/4-90/027F; 2002, EPA-821-R-02-012) and EPA Region 1 (New England) Modified Metho) Methods for Measuring the Acute Marine Organisms, (1993, (EPA ds.
Test Species:	Mysid (Mysidopsis bahia; aka Americamysis):N	/b14(8-2)
	Source: New England Bioassay Cultures	Age: 4 days old
	Inland silverside (Menidia beryllina):SS14AI(8-	-5)
	Source: Aquatic Indicators, Inc.	Age: 11 days old
Dilution Water:	Piscataqua River (NEB Sample ID. No. C34-2911)	
Receiving Water	Piscatama River	

Results:

Test Species	Test Exposure Duration	LC ₅₀ (% effluent)	A-NOEC (% effluent)	Permit Limit (LC ₅₀) (% effluent)	Meets Permit Limits? (Yes/No)	Tests Mee Protocol Limit? (Yes/No)
Mysid: Mysidopsis bahia	48 h	>100%	100%	100%	Yes	Yes
Inland silverside: Menidia beryllina	48 h	>100%	50%	100%	Yes	Yes

MIDDLCC D	I Case w w II	Test Start Date:	8/6/14
NPDES Permit Numb	ber: NH0090000	Pipe Number:	
and a formation of			and the second
Test Type	Test Species	Sample Type	Sample Method
\underline{X} Acute	_Fathead Minnow	_ Prechlorinated	Grab
_Chronic	_Ceriodaphnia	X Dechlorinated	\underline{X} Composite
_ Modified	_ Daphnia Pulex	_Chlorine Spiked in Lab	Flowthru
(chronic reporting	X Mysid Shrimp	_Chlorinated on site	_Other
acute values)	_ Sheepshead	_Unchlorinated	
_ 24hr screening	_ Menidia		
	_ Sea Urchin		
	_Champia		
	_Selenastrum		
	Other		
Dilution Water			
Xreceiving water coll	lected at a point upstream	of or away from the discharge,	free from toxicity or oth
sources of cor	ntamination; (Receiving w	vater name: Piscataqua River)
alternate surface wa	ater of known quality and	a hardness, etc. to generally ref	lect the characteristics o
- receiving wate	er; (Surface water name:)
synthetic water prer	pared using either Millipo	re Mill-O or equivalent deionize	ed water and reagent gra
chemicals; or	deionized water combined	d with mineral water:	0.0
or artificial sea salts	s mixed with deionized wa	ater:	
deionized water and	hypersaline brine: or		
- other	injpersulate state, or		
Definition line data	(-)- P/A 5/1 A		
Enfuent sampling date	e (s). <u>8/4-3/14</u>	-	
Effluent concentration * Permit limit	s tested (in%): <u>0</u> 6.25 concentration: 100%	12.5 25 50 100	
Effluent concentration * Permit limit Was effluent salinity a If yes, to what value?	s tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> 25 ppt	<u>12.5 25 50 100</u>	
Effluent concentration * Permit limit Was effluent salinity a If yes, to what value? With sea salts? <u>Yes</u>	s tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> 25 ppt Hypersaline brine solut	<u>12.5 25 50 100</u> ion? <u>No</u>	
Effluent concentration * Permit limit Was effluent salinity a If yes, to what value? With sea salts? <u>Yes</u>	s tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> <u>25</u> ppt Hypersaline brine solut	<u>12.5 25 50 100</u> ion? <u>No</u>	
Effluent concentration * Permit limit Was effluent salinity a If yes, to what value? With sea salts? <u>Yes</u> Actual effluent concen	s tested (in%): <u>0 6.25</u> concentration: 100% djusted? <u>Yes</u> <u>25</u> ppt Hypersaline brine solut	<u>12.5 25 50 100</u> ion? <u>No</u> ty adjustment (%): <u>0 6.25 12</u> .	<u>5 25 50 100</u>
Effluent concentration * Permit limit Was effluent salinity a If yes, to what value? With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes	as tested (in%): <u>0</u> 6.25 concentration: 100% adjusted? <u>Yes</u> <u>25</u> ppt Hypersaline brine solut atrations tested after salini st date: <u>8/1/14</u>	<u>12.5 25 50 100</u> ion? <u>No</u> ty adjustment (%): <u>0 6.25 12.</u>	<u>5 25 50 100</u>
Effluent concentration * Permit limit Was effluent salinity a If yes, to what value? With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes	as tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> <u>25</u> ppt Hypersaline brine solut atrations tested after salini st date: <u>8/1/14</u> <u>Test A</u>	<u>12.5 25 50 100</u> ion? <u>No</u> ty adjustment (%): <u>0 6.25 12.</u> 	<u>5 25 50 100</u>
Effluent concentration * Permit limit Was effluent salinity a If yes, to what value? With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Survival	as tested (in%): <u>0</u> 6.25 concentration: 100% adjusted? <u>Yes</u> <u>25</u> ppt Hypersaline brine solut atrations tested after salini st date: <u>8/1/14</u> <u>Test A</u> 1: <u>100%</u>	<u>12.5 25 50 100</u> ion? <u>No</u> ty adjustment (%): <u>0 6.25 12.</u> 	<u>5 25 50 100</u> N/A
Effluent concentration * Permit limit Was effluent salinity a If yes, to what value? With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Survival Mean Diluent Survival	as tested (in%): <u>0</u> 6.25 concentration: 100% adjusted? <u>Yes</u> <u>25 ppt</u> Hypersaline brine solut atrations tested after salini st date: <u>8/1/14</u> <u>Test A</u> 1: <u>100%</u>	<u>12.5 25 50 100</u> ion? <u>No</u> ty adjustment (%): <u>0 6.25 12.</u> 	5 25 50 100 N/AN/A
Effluent concentration * Permit limit Was effluent salinity a If yes, to what value? With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Control Weight:	as tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> <u>25 ppt</u> Hypersaline brine solut atrations tested after salini st date: <u>8/1/14</u> <u>Test A</u> I: <u>100%</u> N/A	<u>12.5 25 50 100</u> ion? <u>No</u> ty adjustment (%): <u>0 6.25 12.</u> 	<u>5 25 50 100</u> <u>N/A</u> <u>N/A</u> N/A
Effluent concentration * Permit limit Was effluent salinity a If yes, to what value? With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight:	as tested (in%): <u>0</u> 6.25 concentration: 100% adjusted? <u>Yes</u> <u>25 ppt</u> Hypersaline brine solut atrations tested after salini st date: <u>8/1/14</u> <u>Test A</u> 1: <u>100%</u> <u>N/A</u> <u>N/A</u>	<u>12.5 25 50 100</u> ion? <u>No</u> ty adjustment (%): <u>0 6.25 12</u> . 	<u>5 25 50 100</u> <u>N/A</u> <u>N/A</u> <u>N/A</u> N/A
Effluent concentration * Permit limit Was effluent salinity a If yes, to what value? With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight:	s tested (in%): <u>0</u> <u>6.25</u> concentration: 100% djusted? <u>Yes</u> <u>25</u> ppt Hypersaline brine solut strations tested after salini st date: <u>8/1/14</u> <u>Test A</u> 1: <u>100%</u> 1: <u>100%</u> 1: <u>100%</u> <u>N/A</u> <u>N/A</u>	12.5 25 50 100 ion? No ty adjustment (%): 0 6.25 12.	<u>5 25 50 100</u> <u>N/A</u> <u>N/A</u> <u>N/A</u> <u>N/A</u>
Effluent concentration * Permit limit Was effluent salinity a If yes, to what value? With sea salts? <u>Yes</u> Actual effluent concen Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight:	as tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> 25 ppt Hypersaline brine solut atrations tested after salini st date: <u>8/1/14</u> <u>Test A</u> 1: <u>100%</u> 1: <u>100%</u> 1: <u>100%</u>	12.5 25 50 100 ion? No ty adjustment (%): 0 6.25 12.	<u>5 25 50 100</u> <u>N/A</u> <u>N/A</u> <u>N/A</u> <u>N/A</u>
Effluent concentration * Permit limit Was effluent salinity a If yes, to what value? With sea salts? Yes Actual effluent concent Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: Mean Diluent Weight: Mean Diluent Weight:	as tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> <u>25</u> ppt Hypersaline brine solut atrations tested after salini st date: <u>8/1/14</u> <u>Test A</u> 1: <u>100%</u> 1: <u>100%</u> <u>N/A</u> <u>N/A</u> <u>N/A</u>	<u>12.5 25 50 100</u> ion? <u>No</u> ty adjustment (%): <u>0 6.25 12.</u> <u>Acceptability Criteria</u> Mean Control Reproduction: Mean Diluent Reproduction: Mean Control Cell Count: Mean Diluent Cell Count: <u>Results</u> >100%	5 25 50 100 N/A N/A N/A N/A N/A
Effluent concentration * Permit limit Was effluent salinity a If yes, to what value? With sea salts? Yes Actual effluent concent Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Mean Weight: Mean Diluent Mean Weight: Mean Diluent Mean Weight: Mean Mean Mean Mean Mean Mean Mean Mean	as tested (in%): <u>0</u> 6.25 concentration: 100% djusted? <u>Yes</u> 25 ppt Hypersaline brine solut atrations tested after salini st date: <u>8/1/14</u> <u>Test A</u> 1: <u>100%</u> 1: <u>100%</u> <u>N/A</u> <u>N/A</u> <u>N/A</u> <u>LC50</u>	12.5 25 50 100 ion? No ty adjustment (%): 0 6.25 12.	5 25 50 100 N/A N/A N/A N/A
Effluent concentration * Permit limit Was effluent salinity a If yes, to what value? With sea salts? Yes Actual effluent concent Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: LC50 Limits 100%	as tested (in%): 0 6.25 concentration: 100% djusted? Yes 25 ppt Hypersaline brine solut atrations tested after salini st date: 8/1/14 $\underline{Test A}$ 1: 100% $\underline{N/A}$ $\underline{N/A}$ $\underline{N/A}$ $\underline{N/A}$	12.5 25 50 100 ion? No ty adjustment (%): 0 6.25 12.	<u>5 25 50 100</u> <u>N/A</u> <u>N/A</u> <u>N/A</u> <u>N/A</u>
Effluent concentration * Permit limit Was effluent salinity a If yes, to what value? With sea salts? Yes Actual effluent concen Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: LC50 Limits 100%	as tested (in%): 0 6.25 concentration: 100% djusted? Yes 25 ppt Hypersaline brine solut atrations tested after salini st date: 8/1/14 $\underline{Test A}$ 1: 100% $\underline{N/A}$ $\underline{N/A}$ $\underline{N/A}$ $\underline{N/A}$ $\underline{N/A}$ $\underline{N/A}$	12.5 25 50 100 ion? No ty adjustment (%): 0 6.25 12.	5 25 50 100 N/A N/A N/A
Effluent concentration * Permit limit Was effluent salinity a If yes, to what value? With sea salts? Yes Actual effluent concent Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: LC50 Limits	as tested (in%): <u>0</u> <u>6.25</u> concentration: 100% adjusted? <u>Yes</u> <u>25 ppt</u> Hypersaline brine solut atrations tested after salini st date: <u>8/1/14</u> <u>Test A</u> 1: <u>100%</u> 1: <u>100%</u> 1: <u>100%</u> <u>N/A</u> <u>N/A</u> <u>LC50</u> Upper Lower Data A	12.5 25 50 100 ion? No ty adjustment (%): 0 6.25 12.	5 25 50 100 N/A N/A N/A N/A
Effluent concentration * Permit limit Was effluent salinity a If yes, to what value? With sea salts? Yes Actual effluent concent Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Noter Mean Noter Mea	as tested (in%): <u>0</u> <u>6.25</u> concentration: 100% adjusted? <u>Yes</u> <u>25</u> ppt Hypersaline brine solut atrations tested after salini st date: <u>8/1/14</u> <u>Test A</u> 1: <u>100%</u> 1: <u>100%</u> <u>N/A</u> <u>N/A</u> <u>N/A</u> <u>LC50</u> Upper Lower Data A Method	12.5 25 50 100 ion? No ty adjustment (%): 0 6.25 12.	5 25 50 100 N/A N/A N/A N/A
Effluent concentration * Permit limit Was effluent salinity a If yes, to what value? With sea salts? Yes Actual effluent concent Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent We	as tested (in%): <u>0</u> 6.25 concentration: 100% adjusted? <u>Yes</u> <u>25</u> ppt Hypersaline brine solut atrations tested after salini st date: <u>8/1/14</u> <u>Test A</u> 1: <u>100%</u> 1: <u>100%</u> <u>N/A</u> <u>N/A</u> <u>N/A</u> <u>N/A</u> <u>LC50</u> Upper Lower Data A Method A-NOE	12.5 25 50 100 ion? No ty adjustment (%): 0 6.25 12.	5 25 50 100 N/A N/A N/A
Effluent concentration * Permit limit Was effluent salinity a If yes, to what value? With sea salts? <u>Yes</u> Actual effluent concent Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: LC50 <u>Limits</u> LC50 <u>Limits</u> A-NOEC <u>N/A</u>	as tested (in%): <u>0</u> 6.25 concentration: 100% adjusted? <u>Yes</u> <u>25 ppt</u> Hypersaline brine solut atrations tested after salini st date: <u>8/1/14</u> <u>Test A</u> 1: <u>100%</u> <u>N/A</u> <u>N/A</u> <u>N/A</u> <u>N/A</u> <u>LC50</u> Upper Lower Data A Method A-NOE C-NOE	12.5 25 50 100 ion? No ty adjustment (%): 0 6.25 12.	5 25 50 100 N/A N/A N/A
Effluent concentration * Permit limit Was effluent salinity a If yes, to what value? With sea salts? Yes Actual effluent concent Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: LC50 Limits LC50 LO0%	as tested (in%): 0 6.25 concentration: 100% djusted? Yes 25 ppt Hypersaline brine solut atrations tested after salini st date: 8/1/14 Test A 1: 100% I: 100% N/A N/A N/A LC50 Upper 1 Lower Data A Method A-NOE LOEC	12.5 25 50 100 ion? No ty adjustment (%): 0 6.25 12.	5 25 50 100 N/A N/A
Effluent concentration * Permit limit Was effluent salinity a If yes, to what value? With sea salts? Yes Actual effluent concent Reference Toxicant tes Mean Control Survival Mean Diluent Survival Mean Diluent Weight: Mean Diluent Weight: LC50 Limits LC50 Limits A-NOEC C-NOEC N/A C25 N/A	as tested (in%): 0 6.25 concentration: 100% djusted? Yes 25 ppt Hypersaline brine solut atrations tested after salini st date: 8/1/14 Test A $\frac{1200\%}{N/A}$ $\frac{N/A}{N/A}$ $\frac{N/A}{N/A}$ $\frac{N/A}{N/A}$ $\frac{1200\%}{N/A}$ $\frac{N/A}{N/A}$ $\frac{N/A}{N/A}$	12.5 25 50 100 ion? No ty adjustment (%): 0 6.25 12.	5 25 50 100 N/A N/A N/A

New England Bioassay a division of GZA GeoEnvironmental – EPA Summary Sheet

Pease WWTP Test Start Date: Facility Name: 8/6/14 NPDES Permit Number: NH0090000 Pipe Number: Test Type **Test Species** Sample Type Sample Method X Acute Fathead Minnow Prechlorinated Grab Chronic Ceriodaphnia X Dechlorinated X Composite Modified Daphnia Pulex Chlorine Spiked in Lab Flowthru Mysid Shrimp Chlorinated on site (chronic reporting Other acute values) Sheepshead Unchlorinated X Menidia 24hr screening Sea Urchin Champia Selenastrum Other **Dilution Water** X receiving water collected at a point upstream of or away from the discharge, free from toxicity or other sources of contamination; (Receiving water name: Piscatagua River alternate surface water of known quality and a hardness, etc. to generally reflect the characteristics of the receiving water; (Surface water name: synthetic water prepared using either Millipore Mill-Q or equivalent deionized water and reagent grade chemicals; or deionized water combined with mineral water; or artificial sea salts mixed with deionized water: deionized water and hypersaline brine; or other Effluent sampling date (s): 8/4-5/14 Effluent concentrations tested (in%): 0 6.25 12.5 25 50 100 * Permit limit concentration: 100% Was effluent salinity adjusted? Yes If yes, to what value? 25 ppt With sea salts? Yes Hypersaline brine solution? No Actual effluent concentrations tested after salinity adjustment (%): 0 6.25 12.5 25 50 100 Reference Toxicant test date: 8/1/14 Test Acceptability Criteria Mean Control Survival: 100% Mean Control Reproduction: N/A Mean Diluent Survival: 100% Mean Diluent Reproduction: N/A Mean Control Weight: N/A Mean Control Cell Count: N/A Mean Diluent Weight: N/A Mean Diluent Cell Count: N/A Limits Results LC50 100% LC50 >100% Upper Value ±∞ Lower Value 100% Data Analysis Method Used Graphical A-NOEC A-NOEC 50% C-NOEC C-NOEC N/A LOEC IC25 IC25 N/A IC50 N/A IC50 -----

New England Bioassay a division of GZA GeoEnvironmental - EPA Summary Sheet

SUMMARY

Client:	Pease Wastewater Treatment Plant	
NPDES Number:	NH0100234	
Job Number:	05.0044856.00	
Test Numbers:	14-418a (Mysidopsis bahia) 14-418b (Menidia beryllina)	
Test Material:	DSN 005 Effluent NEB Sample ID. No.c34-1699	
Sample Dates:	4/1-2/14	
Test Dates:	4/2-4/14	
Test Duration:	48-h Static Acute	
Test Methods:	U.S. Environmental Protection Agency (EPA) M Toxicity of Effluents to Freshwater and Ma 600/4-90/027F; 2002, EPA-821-R-02-012) and EPA Region 1 (New England) Modified Methods.	ethods for Measuring the Acute rine Organisms, (1993, (EPA
Test Species:	Mysid (Mysidopsis bahia; aka Americamysis): Mb	14(3-30)
	Source: New England Bioassay Cultures	Age: 3 days old
	Inland silverside (Menidia beryllina): SS14AI(4-1))
	Source: Aquatic Indicators, Inc.	Age: 11 days old
Dilution Water:	Piscataqua River (NEB Sample ID. No. c34-1700)	
Receiving Water:	Piscataqua River	

Results:

8000

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Test Species	Test Exposure Duration	LC ₅₀ (% effluent)	A-NOEC (% effluent)	Permit Limit (LC ₅₀) (% effluent)	Meets Permit Limits? (Yes/No)	Tests Meet Protocol Limit? (Yes/No)
Mysid: Mysidopsis bahia	48 h	>100%	100%	100%	Yes	Yes
Inland silverside: Menidia beryllina	48 h	>100%	100%	100%	Yes	Yes

New England Bioassay a division of GZA GeoEnvironmental - EPA Summary Sheet

Facility Name:	Pease WWTP	Test Start Date: Pipe Number:	4/2/14
<u>Test Type</u> X Acute Chronic Modified (chronic reporting acute values) 24hr screening	Test Species _ Fathead Minnow _ Ceriodaphnia _ Daphnia Pulex X Mysid Shrimp _ Sheepshead _ Menidia _ Sea Urchin _ Champia _ Selenastrum _ Other	Sample Type Prechlorinated X Dechlorinated Chlorine Spiked in Lab Chlorinated on site Unchlorinated	Sample Method Grab X Composite Flowthru Other

Dilution Water

X receiving water collected at a point upstream of or away from the discharge, free from toxicity or other sources of contamination; (Receiving water name: <u>Piscataqua River</u>)

_ alternate surface water of known quality and a hardness, etc. to generally reflect the characteristics of the receiving water; (Surface water name:_____)

_ synthetic water prepared using either Millipore Mill-Q or equivalent deionized water and reagent grade chemicals; or deionized water combined with mineral water;

- _ or artificial sea salts mixed with deionized water;
- _ deionized water and hypersaline brine; or
- _ other_____

Effluent sampling date (s): 4/1-2/14

Effluent concentrations tested (in%): <u>0</u> 6.25 12.5 25 50 100 * Permit limit concentration: 100%

Was effluent salinity adjusted?YesIf yes, to what value?25 pptWith sea salts?YesHypersaline brine solution?No

Actual effluent concentrations tested after salinity adjustment (%): 0 6.25 12.5 25 50 100

Reference Toxicant test date: 4/1/14

Test Acceptability Criteria

Mean Control Survival: 100%	Mean Control Reproduction:	N/A
Mean Diluent Survival: 97.5%	Mean Diluent Reproduction:	N/A
Mean Control Weight: N/A	Mean Control Cell Count:	N/A
Mean Diluent Weight: N/A	Mean Diluent Cell Count:	<u>N/A</u>

Limits			<u>Results</u>
LC50	100%	LC50	>100%
	· · · · ·	Upper Value	$\pm \infty$
		Lower Value	100%
		Data Analysis	
		Method Used	Graphical
A-NOEC		A-NOEC	100%
C-NOEC	N/A	C-NOEC	
		LOEC	
IC25	N/A	IC25	
IC50	N/A	IC50	

New England Bioassay a division of GZA GeoEnvironmental - EPA Summary Sheet

Facility Name:	Pease WWTP	Test Start Date:	4/2/14
NPDES Permit Numbe	er: <u>NH0100234</u>	Pipe Number:	
			Carrier 1 a Martha a d
<u>Fest Type</u>	Test Species	Sample 1 ype	Sample Method
X Acute	_Fathead Minnow	Prechlorinated	
_Chronic	Ceriodaphnia	<u>X</u> Dechlorinated	<u>A</u> Composite
Modified	_ Daphnia Pulex	_ Chlorine Spiked in Lab	_Flowthru
(chronic reporting	_ Mysid Shrimp	_ Chlorinated on site	_Other
acute values)	_ Sheepshead	_ Unchlorinated	
24hr screening	<u>X</u> Menidia		
	_Sea Urchin		
	_Champia		
	_Selenastrum		
	_Other		
Dilution Water			
X receiving water col	lected at a point upstream	of or away from the discharge	e, free from toxic
or other source	es of contamination; (Rec	eiving water name: <u>Piscataqu</u>	la River
_alternate surface wa	ter of known quality and	a hardness, etc. to generally re	flect the
characteristics	of the receiving water; (Surface water name:	
synthetic water prep	ared using either Millipo	re Mill-Q or equivalent deioni	zed water and
reagent grade	chemicals; or deionized v	vater combined with mineral w	vater,
_ or artificial sea salts	mixed with deionized w	ater;	
deionized water and	hypersaline brine; or		
other			
Effluent sampling date	: (s): <u>4/1-2/14</u>		
m.col	4	12.5 25 50 100	
Effluent concentration	s tested ($\frac{1176}{0}$). <u>0 0.25</u>	12.3 23 50 100	
· rennu mm	concentration. 10070		
Wee offluent colinity a	dineted? Ves		
Was cillucit samily of	$\frac{105}{25}$ mpt		
With con colta? Vec	<u></u>	tion? No	
with sea saits: <u>103</u>	Hypersame office solu	<u>uon. 140</u>	
Actual effluent concer	ntrations tested after salin	ity adjustment (%): 0 6.25 1	<u>2.5 25 50 100</u>
Reference Toxicant të	st date: 4/2/14		
	Test Accep	tability Criteria	
	_		
Mean Control Surviva	ıl: <u>97.5%</u>	Mean Control Reproduction	: <u>N/A</u>
Mean Diluent Surviva	l: <u>100%</u>	Mean Diluent Reproduction:	: <u>N/A</u>
Mean Control Weight	: <u>N/A</u>	Mean Control Cell Count:	<u>N/A</u>
Mean Diluent Weight	: <u>N/A</u>	Mean Diluent Cell Count:	N/A
T :	•	Regults	
<u>Limit</u>	<u>5</u> T CEO	<u>NCSUITS</u>	
100%		V_{0}	
	Upper	$\frac{\pm \omega}{1000/}$	
	Lowe	r value <u>100%</u>	
	Data A		
	Metho	Da Usea Graphical	<u> </u>
A-NOEC	A-NC	<u> </u>	146.4
	G MO		

C-NOEC	N/A	C-NOI
		LOEC
IC25	N/A	IC25
IC50	N/A	IC50

بأمرينا أرويها أخد

ATTACHMENT E

SIGNIFICANT INDUSTRIAL USER INFORMATION

FACILITY NAME	AND PERMIT	NUMBER:
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Pease Wastewater Treatment Facility

SUPPLEMENTAL APPLICATION INFORMATION

PART F. **INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES**

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete Part F.

GENERAL INFORMATION:

F.1.	Pretreatment Program.	Does the treatment works have	or is it subject to,	, an approved pretreatment program?
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Yes_	No
------	----

F.2. Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works.

6.00 a. Number of non-categorical SIUs.

0.00 b. Number of CIUs.

SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3.	Significant Industrial User Information	Provide the name and address of each SIU discharging to the treatment works.	Submit additional
	pages as necessary.		
	ר ית ד	· T	

Lonza Biologics, Inc.

Mailing Address:

Name:

101 International Drive

Portsmouth, NH 03801

F.4. Industrial Processes. Describe all of the industrial processes that affect or contribute to the SIU's discharge. Biopharmaceutical manufacture using Mammalian Cell Culture

F.5.	Principal Product(s) and Raw Material(s).	Describe all of the principal processes and raw materials that affect or contribute to the SIU's
	discharge.	

Principal product(s):	Biopharmaceutica	l proteins

Raw material(s):

F.6. Flow Rate.

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

- <u>350,000</u> gpd (<u>X</u> continuous or _____intermittent)
- b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

29,700 _ gpd (<u>X</u>continuous or _____intermittent)

- F.7. Pretreatment Standards. Indicate whether the SIU is subject to the following:
 - .No ✓ Yes a. Local limits
 - No b. Categorical pretreatment standards _____Yes

If subject to categorical pretreatment standards, which category and subcategory?

FACILITY NAME AND PERMIT NUMBER: Pease Wastewater Treatment Facility		Y NAME AND PERMIT NUMBER: Vastewater Treatment Facility	Form Approved 1/14/99 OMB Number 2040-0086	
F.8.	Pr	oblems at the Treatment Works Attributed to Waste Discharged by t	he SIU. Has the SIU caused or contributed to any problems (e.g.,	
		Yes X_No If yes, describe each episode.		
RCR	RA	HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDI	CATED PIPELINE:	
F.9.	RC pij	CRA Waste. Does the treatment works receive or has it in the past three pe?YesNo (go to F.12.)	years received RCRA hazardous waste by truck, rail, or dedicated	
F.10.	. w	laste Transport. Method by which RCRA waste is received (check all the	at apply):	
		TruckRailDedicated Pipe		
- 44				
F.11.	. VV Ef	PA Hazardous Waste Number Anazardous waste number and amount (voli PA Hazardous Waste Number Amount	ume or mass, speciry units). Units	
	rcl 101	.A (SUPERFUND) WASTEWATER, RCRA REMEDIATION/COF N WASTEWATER. AND OTHER REMEDIAL ACTIVITY WASTE		
F.12	. R	emediation Waste. Does the treatment works currently (or has it been n	otified that it will) receive waste from remedial activities?	
		Yes (complete F 13 through F 15) No		
	P	rovide a list of sites and the requested information (E 13 - E 15) for each	current and future site	
F.13.	. W	/aste Origin. Describe the site and type of facility at which the CERCLA/	RCRA/or other remedial waste originates (or is expected to originate	
		the next live years).		
	_			
F.14.	. Pe	ollutants. List the hazardous constituents that are received (or are exper-	cted to be received). Include data on volume and concentration, if	
	kn	own. (Attach additional sheets if necessary).		
F 15	w	lasta Traatment		
1.10.	 a	Is this waste treated (or will it be treated) prior to entering the treatment	works?	
	а.		WUIKS:	
		YesNU		
		If yes, describe the treatment (provide information about the removal ef	inciency):	
	b.	Is the discharge (or will the discharge be) continuous or intermittent?		
		ContinuousIntermittent If intermittent, c	describe discharge schedule.	
			- -	
RE	: F E	-R TO THE APPLICATION OVERVIEW TO DET		
		ZA YOU MUST CO	JMPLEIE	

Pease Wastewater Treatment Facility

SUPPLEMENTAL APPLICATION INFORMATION

PART F. **INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES**

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete Part F.

GENERAL INFORMATION:

F.1.	Pretreatment Program.	Does the treatment works have, o	or is it subject to,	an approved pretreatment progr	am?
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Yes_	_No
------	-----

F.2. Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works.

6.00 a. Number of non-categorical SIUs.

0.00 b. Number of CIUs.

SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3.	Significant Industrial User Information.	Provide the name and address of each SIU discharging to the treatment works.	Submit additional
	pages as necessary.		

Mailing Address:

Name:

Craft Brew Alliance (Redhook)

35 Corporate Dr. Portsmouth, NH 03801

F.4. Industrial Processes. Describe all of the industrial processes that affect or contribute to the SIU's discharge. Beer brewing

F.5.	5. Principal Product(s) and Raw Material(s). discharge.		Describe all of the principal processes and raw materials that affect or contribute to the SIU's
	Principal product(s):	Beer	
	Raw material(s):		

F.6. Flow Rate.

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

160,00<u>0</u>gpd

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

(_____continuous or _____intermittent) __ gpd

F.7. Pretreatment Standards. Indicate whether the SIU is subject to the following:

- No ✓ Yes a. Local limits
- No b. Categorical pretreatment standards _____Yes

If subject to categorical pretreatment standards, which category and subcategory?

ease Wastewater Treatment Facility	OMB Number 2040-0086		
.8. Problems at the Treatment Works Attributed to Waste Discharged by t upsets, interference) at the treatment works in the past three years?	he SIU. Has the SIU caused or contributed to any problems (e.g.,		
Yes X No If yes, describe each episode.			
CRA HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDI			
 RCRA Waste. Does the treatment works receive or has it in the past three pipe?YesNo (go to F.12.) 	years received RCRA hazardous waste by truck, rail, or dedicated		
10. Waste Transport. Method by which RCRA waste is received (check all th	at apply):		
TruckRailDedicated Pipe			
11. Waste Description. Give EPA hazardous waste number and amount (vol	lume or mass, specify units).		
EPA Hazardous Waste Number Amount	Units		
ERCLA (SUPERFUND) WASTEWATER, RCRA REMEDIATION/COF	RECTIVE EWATER:		
12. Remediation Waste. Does the treatment works currently (or has it been r	notified that it will) receive waste from remedial activities?		
Yes (complete F.13 through F.15.)No	,		
Provide a list of sites and the requested information (F.13 - F.15.) for each	ocurrent and future site.		
.13. Waste Origin. Describe the site and type of facility at which the CERCLA/ in the next five years).	RCRA/or other remedial waste originates (or is expected to originat		
 14. Pollutants. List the hazardous constituents that are received (or are experimentation of the second se	cted to be received). Include data on volume and concentration, if		
15. Waste Treatment.			
a. Is this waste treated (or will it be treated) prior to entering the treatment	t works?		
YesNo	ff i and i		
b. Is the discharge (or will the discharge be) continuous or intermittent?			
ContinuousIntermittent If intermittent, o	describe discharge schedule.		
END OF PAP			
REFER TO THE APPLICATION OVERVIEW TO DET 2A YOU MUST CO	FERMINE WHICH OTHER PARTS OF FORM OMPLETE		

EPA Form 3510-2A (Rev. 1-99). Replaces EPA forms 7550-6 & 7550-22.

FACILITY NAME AND PERMIT NUMBER:

Form Approved 1/14/99 OMB Number 2040-0086

Pease Wastewater Treatment Facility

SUPPLEMENTAL APPLICATION INFORMATION

PART F. **INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES**

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete Part F.

GENERAL INFORMATION:

F.1.	Pretreatment Program.	Does the treatment works have, or	r is it subject to,	, an approved pretreatment program?	
------	-----------------------	-----------------------------------	---------------------	-------------------------------------	--

Yes_	_No
------	-----

F.2. Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works.

6.00 a. Number of non-categorical SIUs.

0.00 b. Number of CIUs.

SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3.	Significant Industrial U	ser Information. Provide the name and address of each SIU discharging to the treatment works. S	ubmit additional
	pages as necessary.		
	Name:	Seacoast Media Group	

Mailing Address:

Seacoast Media Group

111 New Hampshire Avenue Portsmouth, NH 03801

F.4. Industrial Processes. Describe all of the industrial processes that affect or contribute to the SIU's discharge. Printing

F.5.	Principal Product(s) and Raw Material(s).	Describe all of the principal processes and raw materials that affect or contribute to the SIU's
	discharge.	
	D' 1 1'	

Printed media Principal product(s):

F.6. Flow Rate.

Raw material(s):

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

3,500 _ gpd (<u>X</u>continuous or _____intermittent)

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

_ gpd (____continuous or _____intermittent)

F.7. Pretreatment Standards. Indicate whether the SIU is subject to the following:

- .No ✓ Yes a. Local limits
- <u>____No</u> b. Categorical pretreatment standards _____Yes

If subject to categorical pretreatment standards, which category and subcategory?

FAC	FACILITY NAME AND PERMIT NUMBER: Form Approved 1/14/99 OMB Number 2040-0086				
Pease Wastewater Treatment Facility			OMB Number 2040-0086		
F.8.	Pr up	oblems at the Treatment Works Attributed to Waste Discharged by th sets, interference) at the treatment works in the past three years?	e SIU. Has the SIU caused or contributed to any problems (e.g.,		
		Yes X No If yes, describe each episode.			
RCR	RA	HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDIC			
F.9.	RC pij	CRA Waste. Does the treatment works receive or has it in the past three ype?YesNo (go to F.12.)	ears received RCRA hazardous waste by truck, rail, or dedicated		
F.10.	W	aste Transport. Method by which RCRA waste is received (check all that	t apply):		
		TruckRailDedicated Pipe			
F.11.	w	aste Description. Give EPA hazardous waste number and amount (volu	me or mass, specify units).		
	EF	PA Hazardous Waste Number Amount	Units		
CER ACT		A (SUPERFUND) WASTEWATER, RCRA REMEDIATION/COR N WASTEWATER, AND OTHER REMEDIAL ACTIVITY WASTE	RECTIVE WATER:		
F.12.	R	emediation Waste. Does the treatment works currently (or has it been no	tified that it will) receive waste from remedial activities?		
	_	Yes (complete F.13 through F.15.)No			
	Ρ	rovide a list of sites and the requested information (F.13 - F.15.) for each of	current and future site.		
F 40	14	and Origin. Describe the site and type of facility studies the CEDCLAT	2004/as ather same dial waste asinipates (as is supported to asinipate		
г.13.	in	the next five years).	CRAFOLOURIELLEHIEDIAL WASTE OFIGINATES (OF IS EXPECTED to OFIGINATE		
F.14.	P	bllutants. List the hazardous constituents that are received (or are expec	ted to be received). Include data on volume and concentration, if		
	kn	own. (Attach additional sheets if necessary).			
F.15.	w	aste Treatment.			
	a.	Is this waste treated (or will it be treated) prior to entering the treatment	works?		
		YesNo			
		If yes, describe the treatment (provide information about the removal eff	iciency):		
	b.	Is the discharge (or will the discharge be) continuous or intermittent?			
		ContinuousIntermittent If intermittent, d	escribe discharge schedule.		
			-		
			те		
RF	FF	END OF PAR	FRMINE WHICH OTHER PARTS OF FORM		
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FACILITY NAME AND PERMIT NUMBER:

Pease Wastewater Treatment Facility

SUPPLEMENTAL APPLICATION INFORMATION

PART F. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete Part F.

GENERAL INFORMATION:

F.1.	Pretreatment Program.	Does the treatment works have, or	r is it subject to,	, an approved pretreatment program?	
------	-----------------------	-----------------------------------	---------------------	-------------------------------------	--

Yes_	_No
------	-----

F.2. Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works.

a. Number of non-categorical SIUs. 6.00

b. Number of CIUs. 0.00

SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3.	Significant Industrial User Information. Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.		
	Name:	Ionbond	
	Mailing Address:	195 New Hampshire Ave Suite 190	
	3	Portsmouth, NH 03801	
F.4.	Industrial Processes. Metal finishing	Describe all of the industrial processes that affect or contribute to the SIU's discharge.	
F.5.	Principal Product(s) a discharge.	nd Raw Material(s). Describe all of the principal processes and raw materials that affect or contribute to the SIU's	
	Principal product(s):	Metal coatings	

F.6. Flow Rate.

Raw material(s):

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

500 gpd (_____continuous or _____intermittent)

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

400 ____ gpd (____continuous or _____intermittent)

F.7. Pretreatment Standards. Indicate whether the SIU is subject to the following:

- a. Local limits Yes No
- b. Categorical pretreatment standards ____Yes ___No

If subject to categorical pretreatment standards, which category and subcategory?

ease V		II NUMBER:		Form Approved 1/14/99 OMB Number 2040-0086		
	Vastewater Treatme	nt Facility				
.8. Ρr υρ	roblems at the Treatn psets, interference) at	nent Works Attribut	ted to Waste Discharged by th in the past three years?	e SIU. Has the SIU caused or contributed to any problems (e.g.,		
_	_{Yes} _X_ _{No}	If yes, describe	e each episode.			
CRA	HAZARDOUS WAS	STE RECEIVED E	Y TRUCK. RAIL. OR DEDI	CATED PIPELINE:		
.9. RC	CRA Waste. Does the	e treatment works re	ceive or has it in the past three	rears received RCRA hazardous waste by truck, rail, or dedicated		
p	pe:1es1	(go (o r . r 2.)				
.10. W	Vaste Transport. Met	hod by which RCRA	waste is received (check all that	t apply):		
	Truck	Rail	Dedicated Pipe			
.11. W	Vaste Description. Gi	ive FPA hazardous	waste number and amount (volu	me or mass, specify units)		
<u>EI</u>	PA Hazardous Waste	Number	<u>Amount</u>	Units		
_						
				DEOTIN/E		
	N WASTEWATER,	AND OTHER RE	MEDIAL ACTIVITY WASTE	WATER:		
.12. R	emediation Waste.	Does the treatment v	vorks currently (or has it been no	otified that it will) receive waste from remedial activities?		
	Yes (complete F ²	13 through E 15)	No			
	res (completer :	d the requested infr		surrent and future cite		
		id the requested int				
.13. W	Vaste Origin. Describ	e the site and type c	f facility at which the CERCLA/F	CRA/or other remedial waste originates (or is expected to originates)		
in	the next five vears).					
	, , , , , , , , , , , , , , , , , , ,					
	,					
— —						
		zardous constituente	that are received (or are expec	ted to be received). Include data on volume and concentration, if		
. 14. P	Collutants. List the haz	zardous constituents al sheets if necessa	that are received (or are expective).	ted to be received). Include data on volume and concentration, if		
. 14. P kr	Collutants. List the hai nown. (Attach addition	zardous constituents al sheets if necessa	that are received (or are expec	ted to be received). Include data on volume and concentration, if		
. 14. P . kr	Pollutants. List the haz	zardous constituents al sheets if necessa	that are received (or are expective).	ted to be received). Include data on volume and concentration, if		
. 14. P kr	Yollutants. List the har	zardous constituents al sheets if necessa	that are received (or are expec ry).	ted to be received). Include data on volume and concentration, if		
.14. P kr .15. W	Pollutants. List the haz nown. (Attach addition	zardous constituents al sheets if necessa	that are received (or are expective).	ted to be received). Include data on volume and concentration, if		
	Yollutants. List the hat nown. (Attach addition Vaste Treatment.	zardous constituents al sheets if necessa	that are received (or are expectly).	ted to be received). Include data on volume and concentration, if		
.14. Pr kr .15. W a.	Pollutants. List the haz hown. (Attach addition Vaste Treatment. . Is this waste treated YesNo	zardous constituents al sheets if necessa	that are received (or are expective).	ted to be received). Include data on volume and concentration, if		
.14. P. kr 	Pollutants. List the haz nown. (Attach addition Vaste Treatment. . Is this waste treated YesNo If yes, describe the fille	zardous constituents al sheets if necessa (or will it be treated	that are received (or are expective).	ted to be received). Include data on volume and concentration, it		
. 14. P r kr 	Vaste Treatment. Us this waste treated Us this waste treated Us this waste treated	zardous constituents al sheets if necessa (or will it be treated treatment (provide ir	that are received (or are expectly).	ted to be received). Include data on volume and concentration, if		
. 14. P kr 	Vaste Treatment.	zardous constituents al sheets if necessa (or will it be treated treatment (provide in	that are received (or are expective).	ted to be received). Include data on volume and concentration, if		
5.14. Pr kr - - - - - - - - - -	Vaste Treatment. Vaste Treatment. Is this waste treatedYesNo If yes, describe the t	zardous constituents al sheets if necessa) prior to entering the treatment	ted to be received). Include data on volume and concentration, if works?		
.14. P kr 	Pollutants. List the haz nown. (Attach addition Vaste Treatment. Is this waste treated YesNo If yes, describe the test	zardous constituents al sheets if necessa (or will it be treated treatment (provide in will the discharge be	 that are received (or are expective). prior to entering the treatment formation about the removal effective entering in the treatment? 	ted to be received). Include data on volume and concentration, if		
. 14. P . kr 	Pollutants. List the haz hown. (Attach addition Vaste Treatment. Is this waste treated YesNo If yes, describe the feature Is the discharge (or Continuous	zardous constituents al sheets if necessa (or will it be treated treatment (provide in will the discharge be Inter	 that are received (or are expective). prior to entering the treatment formation about the removal eff continuous or intermittent? mittent 	ted to be received). Include data on volume and concentration, if works? iciency): escribe discharge schedule.		
.14. P. kr .15. W a.	Pollutants. List the haz hown. (Attach addition Vaste Treatment. Is this waste treated Yes No If yes, describe the f Is the discharge (or Continuous	zardous constituents al sheets if necessa (or will it be treated treatment (provide ir will the discharge be Inter	that are received (or are expective).	ted to be received). Include data on volume and concentration, if works? iciency): escribe discharge schedule.		
. 14. P. kr 	Pollutants. List the haz nown. (Attach addition Vaste Treatment. Is this waste treated YesNo If yes, describe the figure Continuous	zardous constituents al sheets if necessa (or will it be treated treatment (provide ir will the discharge be Inter	that are received (or are expective).	ted to be received). Include data on volume and concentration, it works? iciency): escribe discharge schedule.		
.14. Pr kr .15. W a. b.	Vaste Treatment. Vaste Treatment. Is this waste treatedYesNo If yes, describe the t	zardous constituents al sheets if necessa (or will it be treated treatment (provide ir will the discharge be Inter	that are received (or are expective).) prior to entering the treatment formation about the removal eff) continuous or intermittent? mittent If intermittent, d END OF PAR OVERVIEW TO DET	ted to be received). Include data on volume and concentration, it works? iciency): escribe discharge schedule.		

EPA Form 3510-2A (Rev. 1-99). Replaces EPA forms 7550-6 & 7550-22.

FACILITY NAME	AND PERMIT	NUMBER:
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Pease Wastewater Treatment Facility

SUPPLEMENTAL APPLICATION INFORMATION

PART F. **INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES**

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete Part F.

GENERAL INFORMATION:

F.1.	Pretreatment Program.	Does the treatment works have, or	r is it subject to,	, an approved pretreatment program?	
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Yes_	~	_No
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F.2. Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works.

6.00 a. Number of non-categorical SIUs.

0.00 b. Number of CIUs.

SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3.	Significant Industrial U	ser Informatior	1. F	vrovide th	e name	e and a	ddress of	each Sl	U disc	charging	to the treatment works.	Submit additional
	pages as necessary.											
		NTTT D'	1	1 T	- 1	. •	1	• •	0		NULOTIO	

NH Biotechnology Education and Treaining Center at NHCTC

Mailing Address:

Name:

Portsmouth, NH 03801

320 Corporate Drive

F.4. Industrial Processes. Describe all of the industrial processes that affect or contribute to the SIU's discharge.

F.5.	Principal Product(s) discharge.	and Raw Material(s). Describe all of the principal processes and raw materials that affect or contribute to the SIU's
	Principal product(s):	Education
	Raw material(s):	
F.6.	Flow Rate.	

- Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.
- (_____continuous or <u>X</u> intermittent) 6,500 liters/veargod
- b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

_ gpd (____continuous or _____intermittent)

F.7. Pretreatment Standards. Indicate whether the SIU is subject to the following:

- No ✓ Yes a. Local limits
- No b. Categorical pretreatment standards _____Yes

If subject to categorical pretreatment standards, which category and subcategory?

FAC	LIT	Y NAME AND PERMIT NUMBER:	Form Approved 1/14/99 OMB Number 2040-0086				
Pease	εV	/astewater Treatment Facility	OMB Number 2040-0086				
F.8.	Pr up	oblems at the Treatment Works Attributed to Waste Discharged by th sets, interference) at the treatment works in the past three years?	e SIU. Has the SIU caused or contributed to any problems (e.g.,				
		Yes X No If yes, describe each episode.					
RCR	RA	HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDIC					
F.9.	RC pij	CRA Waste. Does the treatment works receive or has it in the past three ype?YesNo (go to F.12.)	ears received RCRA hazardous waste by truck, rail, or dedicated				
F.10.	W	aste Transport. Method by which RCRA waste is received (check all that	t apply):				
		TruckRailDedicated Pipe					
F.11.	w	aste Description. Give EPA hazardous waste number and amount (volu	me or mass, specify units).				
	EF	PA Hazardous Waste Number Amount	Units				
CER ACT		A (SUPERFUND) WASTEWATER, RCRA REMEDIATION/COR N WASTEWATER, AND OTHER REMEDIAL ACTIVITY WASTE	RECTIVE WATER:				
F.12.	R	emediation Waste. Does the treatment works currently (or has it been no	tified that it will) receive waste from remedial activities?				
	_	Yes (complete F.13 through F.15.)No					
	Ρ	rovide a list of sites and the requested information (F.13 - F.15.) for each of	current and future site.				
F 40	14	and Origin. Describe the site and type of facility studies the CEDCLAT	2004/as ather same dial waste asinipates (as is supported to asinipate				
г.13.	in	the next five years).	CRAVOLOURIELLEHIEDIAL WASTE OFIGINATES (OF IS EXPECTED to OFIGINATE				
F.14.	P	bllutants. List the hazardous constituents that are received (or are expec	ted to be received). Include data on volume and concentration, if				
	kn	own. (Attach additional sheets if necessary).					
F.15.	w	aste Treatment.					
	a.	Is this waste treated (or will it be treated) prior to entering the treatment	works?				
		YesNo					
		If yes, describe the treatment (provide information about the removal eff	iciency):				
	b.	Is the discharge (or will the discharge be) continuous or intermittent?					
		ContinuousIntermittent If intermittent, d	escribe discharge schedule.				
			-				
			те				
RF	FF	END OF PAR	FRMINE WHICH OTHER PARTS OF FORM				
		2A YOU MUST CO	MPLETE				

FACILITY NAME AND PERMIT NUMBER:

FACILITY NAME	AND PERMIT	NUMBER:
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Pease Wastewater Treatment Facility

SUPPLEMENTAL APPLICATION INFORMATION

PART F. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete Part F.

GENERAL INFORMATION:

F.1. Pretreatment Program. Does the treatment works have, or is it subject to, an approved pretreatment program?

Yes_	<u>No</u>
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F.2. Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works.

a. Number of non-categorical SIUs. 6.00

b. Number of CIUs. 0.00

SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3.	Significant Industrial User Information.	Provide the name and address of each SIU discharging to the treatment works.	Submit additional
	pages as necessary.		
	NI II	$1 \cdot 1 \cdot 1 \cdot 1$ $1 \cdot 1 $	

New Hampshire Air National Guard

Mailing Address:

Name:

<u>*</u>____

302 Newmarket Street Pease ANGB, NH 03803

F.4. Industrial Processes. Describe all of the industrial processes that affect or contribute to the SIU's discharge. Photography development

F.5.	Principal Product(s) and Raw Material(s).	Describe all of the principal processes and raw materials that affect or contribute to the SIU's
	discharge.	

Principal product(s): Developed photographs

Raw material(s): Photo developer, developing penetrant/emulsifier

F.6. Flow Rate.

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

105 gal/monthgpd (_____continuous or _____intermittent)

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

____ gpd (____continuous or _____intermittent)

F.7.	Pretreatment Standards.	Indicate whether the SIU is subject to the following	•
	r retreatment otanaaras.	indicate michael the orons subject to the following	٠

- a. Local limits _____Yes ____No
- b. Categorical pretreatment standards ____Yes ___No

If subject to categorical pretreatment standards, which category and subcategory?

FAC Pease	ILIT e V	ry NAME AND PERMIT NUMBER: Vastewater Treatment Facility	Form Approved 1/14/99 OMB Number 2040-0086
F.8.	Pr	oblems at the Treatment Works Attributed to Waste Discharged by t	 the SIU. Has the SIU caused or contributed to any problems (e.g.,
		Yes X No If yes, describe each episode.	
	-		
RCR	RA	HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DED	ICATED PIPELINE:
F.9.	RC pij	CRA Waste. Does the treatment works receive or has it in the past three pe?YesNo (go to F.12.)	years received RCRA hazardous waste by truck, rail, or dedicated
F.10.	. w	aste Transport. Method by which RCRA waste is received (check all th	at apply):
		TruckRailDedicated Pipe	
F.11.	. w	Vaste Description. Give EPA hazardous waste number and amount (vol	lume or mass, specify units).
	<u>E</u> ł	PA Hazardous Waste Number Amount	Units
CER ACT	RCL 10	A (SUPERFUND) WASTEWATER, RCRA REMEDIATION/COI N WASTEWATER, AND OTHER REMEDIAL ACTIVITY WAST	RRECTIVE EWATER:
F.12.	. R	emediation Waste. Does the treatment works currently (or has it been r	notified that it will) receive waste from remedial activities?
		Yes (complete F.13 through F.15.)No	
	Р	rovide a list of sites and the requested information (F.13 - F.15.) for each	current and future site.
F.13.	. w in	Vaste Origin. Describe the site and type of facility at which the CERCLA, the next five years).	/RCRA/or other remedial waste originates (or is expected to originate
	_		
F.14.	kn	ollutants. List the hazardous constituents that are received (or are expension. (Attach additional sheets if necessary).	ected to be received). Include data on volume and concentration, if
F.15.	. w a.	Aste Treatment. Is this waste treated (or will it be treated) prior to entering the treatmen Yes No	t works?
		If yes, describe the treatment (provide information about the removal e	fficiency):
	b.	Is the discharge (or will the discharge be) continuous or intermittent?	
		ContinuousIntermittent If intermittent,	describe discharge schedule.
RE	FE	END OF PAI ER TO THE APPLICATION OVERVIEW TO DE 24 YOU MUST OF	TERMINE WHICH OTHER PARTS OF FORM

ATTACHMENT F

SEWAGE SLUDGE TEST RESULTS



Eastern Analytical, Inc.

professional laboratory and drilling services

Paula Anania City of Portsmouth Wastewater 680 Peverly Hill Road Portsmouth, NH 03801



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 165228 Client Identification: Pierce Island & Pease Dewatered WW Sludge | Q1 2017 Date Received: 1/31/2017

Dear Ms. Anania :

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted

- < : "less than" followed by the reporting limit
- > : "greater than" followed by the reporting limit
- %R:%Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director

Date

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: 165228

Client: City of Portsmouth Wastewater

Client Designation: Pierce Island & Pease Dewatered WW Sludge | Q1 2017

Temperature upon receipt (°C): Acceptable temperature range (°C): 0-6		2.7	Received on ice or cold packs (Yes/No): Y				
l ah ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)	
165228.01	Pease	1/31/17	1/30/17	aqueous		Adheres to Sample Acceptance Policy	

>

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

1) EPA 600/4-79-020, 1983

2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012

3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB

4) Hach Water Analysis Handbook, 2nd edition, 1992

Eastern Analytical, Inc.

EAI ID#: 165228

Client: City of Portsmouth Wastewater

Client Designation: Pierce Island & Pease Dewatered WW Sludge | Q1 2017

Sample ID:	Pease								
Lab Sample ID:	165228.01								
Analytical Type:	Sample								
Matrix:	aqueous								
Date Sampled:	1/30/17								
Date Received:	1/31/17								mita
Date Extracted:		Dilution	Analytical		Date			(Leachate Co	nne.)
	Result	Factor	Matrix	Units	Analyzed	Method	Analyst		,,
Vinyl chloride	< 40	20	TCLPsolid	ug/L	2/2/17	1311/8260	B BAM	200	ug/l
1,1-Dichloroethene	< 40	20	TCLPsolid	ug/L	2/2/17	1311/8260	B BAM	700	ug/l
2-Butanone(MEK)	< 200	20	TCLPsolid	ug/L	2/2/17	1311/8260	3 BAM	200000	ug/l
Chloroform	< 40	20	TCLPsolid	ug/L	2/2/17	1311/8260	3 BAM	6000	ug/l
Carbon tetrachloride	_< 40	20	TCLPsolid	ug/L	2/2/17	1311/8260	з вам	500	ug/l
Benzene	< 40	20	TCLPsolid	ug/L	2/2/17	1311/8260	B BAM	500	ug/l
1,2-Dichloroethane	< 40	20	TCLPsolid	ug/L	2/2/17	1311/8260	B BAM	500	ug/l
Trichloroethene	< 40	20	TCLPsolid	ug/L	2/2/17	1311/8260	B BAM	500	ug/l
Tetrachloroethene	< 40	20	TCLPsolid	ug/L	2/2/17	1311/8260	B BAM	700	ug/l
Chlorobenzene	< 40	20	TCLPsolid	ug/L	2/2/17	1311/8260	B BAM	100000	ug/l
4-Bromofluorobenzene (surr)	101 %R		TCLPsolid	%	2/2/17	1311/8260	B BAM		
1,2-Dichlorobenzene-d4 (surr)	102 %R		TCLPsolid	%	2/2/17	1311/8260	B BAM		
Toluene-d8 (surr)	95 %R		TCLPsolid	%	2/2/17	1311/8260	B BAM		

EAI ID#: 165228

Client: City of Portsmouth Wastewater

Client Designation: Pierce Island & Pease Dewatered WW Sludge | Q1 2017

Sample ID:	Pease								,
Lab Sample ID:	165228.01								
Analytical Type:	Sample								• .
Matrix:	aqueous								
Date Sampled:	1/30/17								
Date Received:	1/31/17								
Date Extracted:	2/3/17	Dilution	Analytical		Date			TCLP Reg Lin	nits
	Result	Factor	Matrix	Units	Analyzed	Method	Analyst	(Leachate Co	nc.)
2,4,5-Trichlorophenol	< 10	10	TCLPsolid	ug/L	2/6/17	8270D	JMR	400000	ug/l
2,4,6-Trichlorophenol	< 10	10	TCLPsolid	ug/L	2/6/17	8270D	JMR	2000	ug/l
Pentachlorophenol	< 50	10	TCLPsolid	ug/L	2/6/17	8270D	JMR	100000	ug/l
2-Methylphenol	< 10	10	TCLPsolid	ug/L	2/6/17	8270D	JMR	200000	ug/l
3/4-Methylphenol	540	10	TCLPsolid	ug/L	2/6/17	8270D	JMR	200000	ug/l
1,4-Dichlorobenzene	< 10	10	TCLPsolid	ug/L	2/6/17	8270D	JMR	7500	ug/l
Hexachloroethane	< 10	10	TCLPsolid	ug/L	2/6/17	8270D	JMR	3000	uġ/l
Hexachlorobutadiene	< 10	10	TCLPsolid	ug/L	2/6/17	8270D	JMR	500	ug/l
Hexachlorobenzene	< 10	10	TCLPsolid	ug/L	2/6/17	8270D	JMR	130	ug/l
Nitrobenzene	< 10	10	TCLPsolid	ug/L	2/6/17	8270D	JMR	2000	ug/l
2,4-Dinitrotoluene	< 50	10	TCLPsolid	ug/L	2/6/17	8270D	JMR	130	ug/l
Pyridine	< 50	10	TCLPsolid	ug/L	2/6/17	8270D	JMR	5000	ug/l
2-Fluorophenol (surr)	32 %R		TCLPsolid	%	2/6/17	8270D	JMR		
Phénol-d6 (surr)	24 %R		TCLPsolid	%	2/6/17	8270D	JMR		
2,4,6-Tribromophenol (surr)	87 %R		TCLPsolid	%	2/6/17	8270D	JMR		
Nitrobenzene-D5 (surr)	61 %R		TCLPsolid	%	2/6/17	8270D	JMR		
2-Fluorobiphenyl (surr)	61 %R		TCLPsolid	%	2/6/17	8270D	JMR		
p-Terphenyl-D14 (surr)	84 %R		TCLPsolid	%	2/6/17	8270D	JMR		

EAI ID#: 165228

Client: City of Portsmouth Wastewater

Client Designation: Pierce Island & Pease Dewatered WW Sludge | Q1 2017

Sample ID:	Pease						
Lab Sample ID:	165228.01						
Matrix:	aqueous						
Date Sampled:	1/30/17			Ana	lysis		
Date Received:	1/31/17	ı	Jnits	Date	Time	Method	Analyst
Paint Filter (Free Liquid)	Absent	Ν	lone	2/01/17	9:40	9095	ΑΤΑ

Eastern Analytical, Inc.

EAI ID#: 165228

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Client: City of Portsmouth Wastewater

Client Designation: Pierce Island & Pease Dewatered WW Sludge | Q1 2017

Commite ID:	Pease								
Sample ID:	, 6466								
Lab Sample ID:	165228.01								
Analytical Type:	Sample								
Matrix:	aqueous								
Date Sampled:	1/30/17								
Date Received:	1/31/17							· .	•
Date Extracted:		Dilution	Analytical		Date			TCLP Reg Limits	
		Diracion	Fallaytioal		Duto				
	Result	Factor	Matrix	Units	Analyzed	Method	Analyst	(Leachate Co	onc.)
Arsenic	Result < 0.5	Factor 100	Matrix TCLPsolid	Units mg/L	Analyzed 2/2/17	Method 6020	Analyst DS	(Leachate Co	onc.) mg/l
Arsenic Barium	Result < 0.5 < 0.5	Factor 100 100	Matrix TCLPsolid TCLPsolid	Units mg/L mg/L	Analyzed 2/2/17 2/2/17	Method 6020 6020	Analyst DS DS	(Leachate Co 5 100	onc.) mg/i mg/i
Arsenic Barium Cadmium	Result < 0.5 < 0.5 < 0.1	Factor 100 100 100	Matrix TCLPsolid TCLPsolid TCLPsolid	Units mg/L mg/L mg/L	Analyzed 2/2/17 2/2/17 2/2/17	Method 6020 6020 6020	Analyst DS DS DS	(Leachate Co 5 100 1	mg/l mg/l mg/l mg/l
Arsenic Barium Cadmium Chromium	Result < 0.5 < 0.5 < 0.1 < 0.1	Factor 100 100 100 100	Matrix TCLPsolid TCLPsolid TCLPsolid TCLPsolid	Units mg/L mg/L mg/L mg/L	Analyzed 2/2/17 2/2/17 2/2/17 2/2/17	Method 6020 6020 6020 6020	Analyst DS DS DS DS	(Leachate Co 5 100 1 5	mg/i mg/i mg/i mg/i
Arsenic Barium Cadmium Chromium Lead	Result < 0.5 < 0.5 < 0.1 < 0.1 < 0.5	Factor 100 100 100 100 100	Matrix TCLPsolid TCLPsolid TCLPsolid TCLPsolid	Units mg/L mg/L mg/L mg/L mg/L	Analyzed 2/2/17 2/2/17 2/2/17 2/2/17 2/2/17	Method 6020 6020 6020 6020 6020	Analyst DS DS DS DS DS	(Leachate Co 5 100 1 5 5	mg/l mg/l mg/l mg/l mg/l mg/l
Arsenic Barium Cadmium Chromium Lead Mercury	Result < 0.5 < 0.5 < 0.1 < 0.1 < 0.5 < 0.01	Factor 100 100 100 100 100 100	Matrix TCLPsolid TCLPsolid TCLPsolid TCLPsolid TCLPsolid	Units mg/L mg/L mg/L mg/L mg/L	Analyzed 2/2/17 2/2/17 2/2/17 2/2/17 2/2/17 2/2/17	Method 6020 6020 6020 6020 6020 6020	Analyst DS DS DS DS DS DS DS	(Leachate Co 5 100 1 5 5 0.2	mg/l mg/l mg/l mg/l mg/l mg/l
Arsenic Barium Cadmium Chromium Lead Mercury Selenium	Result < 0.5 < 0.5 < 0.1 < 0.1 < 0.5 < 0.01 < 0.1	Factor 100 100 100 100 100 100 100	Matrix TCLPsolid TCLPsolid TCLPsolid TCLPsolid TCLPsolid TCLPsolid	Units mg/L mg/L mg/L mg/L mg/L mg/L	Analyzed 2/2/17 2/2/17 2/2/17 2/2/17 2/2/17 2/2/17 2/2/17	Method 6020 6020 6020 6020 6020 6020 6020	Analyst DS DS DS DS DS DS DS DS	(Leachate Co 5 100 1 5 5 0.2 1	onc.) mg/l mg/l mg/l mg/l mg/l mg/l

CHAIN-OF-CUSTODY RECORD

ص 165228

LUPW

Sample IDs	Date/Time Composites need start and stop dates/times	Matrix	Parameters and Sample Notes	# of containers
Pease	1/30/17	aqueous Grab or Comp	SolAsRec/PtFltr TCLPsolid/ICPMets.As.Ba.Cd.Cr.Pb.Se.Ag.Hg/VOC/AGN 8270 SolTotDry/ABN/VNH8260BFullList	
Sampler cor	nfirms ID and parameters	are accurate	Circle preservative/s: HCL HNO ₃ H ₂ SO ₄ NaOH MEOH Na ₂ S ₂ O ₃ ICE	Dissolved Sample Field Filtered

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID	1724	Results Needed by: Preferred date	ReportingOptions		
Project Name	Pierce Island & Pease Dewatered WW	Notes:	К	🗌 NO FAX	PO# 0700018
•	Sludge Q1 2017		EDD PDF	Partial FAX	Quote#: 1010625
State	NH		🛛 EDD email	PDF Invoice	
Client (Pro Mgr)) Paula Anania		PDF prelim, NO FAX	🗌 EQUIS	T. 2.7°C
Customer	r City of Portsmouth Wastewater		e-mail Login Confirmation	1	
Address	s 680 Peverly Hill Road		Samples Collected by:		
City	Portsmouth NH 03801		Uniwight	1/31/17 7:07	Jisa 10/11/2
Phone 427-155	53 Fax	OC deliverables	Relinquished by	Date/Time	Received by
Email: panania(@cityofportsmouth.com	$\square A \square A + \square B \square B + \square C \square PC$	Relinquished by	Date/Time	Received by
Direct 427-1553	, ,	· · · · · · · · · · · · · · · · · · ·			



Eastern Analytical, Inc.

professional laboratory and drilling services

Paula Anania City of Portsmouth Wastewater 680 Peverly Hill Road Portsmouth , NH 03801



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 178301 Client Identification: Pierce Island & Pease Dewatered WW Sludge | Q1 2018 Date Received: 1/30/2018

Dear Ms. Anania :

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

- Solid samples are reported on a dry weight basis, unless otherwise noted
- < : "less than" followed by the reporting limit
- > : "greater than" followed by the reporting limit
- %R:% Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Olashaw, Lab Director

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: 178301

Client: City of Portsmouth Wastewater

Client Designation: Pierce Island & Pease Dewatered WW Sludge | Q1 2018

Temperate Acceptable to	ure upon receipt (°C): emperature range (°C): 0-6	2.7	2.7 Received on ice or cold packs (Yes/No): Υ						
Lab ID	Sample ID	Date Received	Date I Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)			
178301.01	Pease	1/30/18	1/29/18	solid	18.5	Adheres to Sample Acceptance Policy			

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

1) EPA 600/4-79-020, 1983

2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012

3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB

4) Hach Water Analysis Handbook, 2nd edition, 1992

Eastern Analytical, Inc.

www.easternanalytical.com | 800.287.0525 | customerservice@easternanalytical.com

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EAI ID#: 178301

Client: City of Portsmouth Wastewater

Client Designation: Pierce Island & Pease Dewatered WW Sludge | Q1 2018

Sample ID:	Pease							
Lab Sample ID:	178301.01							
Analytical Type:	Sample							
Matrix:	solid							
Date Sampled:	1/29/18							
Date Received:	1/30/18							
Date Extracted:		Dilution	Applytical		Dete		TCLP Reg Lim	its
	Result	Factor	Matrix	Units	Analyzed	Method Analys	(Leachate Con	c.)
Vinyl chloride	< 40	20	TCLPsolid	ug/L	2/6/18	1311/8260C BML	200 i	ug/l
1,1-Dichloroethene	< 40	20	TCLPsolid	ug/L	2/6/18	1311/8260C BML	700 ι	ug/l
2-Butanone(MEK)	< 200	20	TCLPsolid	ug/L	2/6/18	1311/8260C BML	200000 i	ug/i
Chloroform	< 40	20	TCLPsolid	ug/L	2/6/18	1311/8260C BML	6000 u	ug/l
Carbon tetrachloride	< 40	20	TCLPsolid	ug/L	2/6/18	1311/8260C BML	500 i	ug/l
Benzene	< 40	20	TCLPsolid	ug/L	2/6/18	1311/8260C BML	500 t	ug/l
1,2-Dichloroethane	< 40	20	TCLPsolid	ug/L	2/6/18	1311/8260C BML	500 ι	ug/l
Trichloroethene	< 40	20	TCLPsolid	ug/L	2/6/18	1311/8260C BML	500 t	ug/l
Tetrachloroethene	< 40	20	TCLPsolid	ug/L	2/6/18	1311/8260C BML	700 i	ug/l
Chlorobenzene	< 40	20	TCLPsolid	ug/L	2/6/18	1311/8260C BML	100000 i	ug/l
1,4-Dichlorobenzene	< 40	20	TCLPsolid	ug/L	2/6/18	1311/8260C BML	7500 i	ug/l
4-Bromofluorobenzene (surr)	103 %R		TCLPsolid	%	2/6/18	1311/8260C BML		
1,2-Dichlorobenzene-d4 (surr)	99 %R		TCLPsolid	%	2/6/18	1311/8260C BML		
Toluene-d8 (surr)	98 %R		TCLPsolid	%	2/6/18	1311/8260C BML		

EAI ID#: 178301

Client: City of Portsmouth Wastewater

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Client Designation: Pierce Island & Pease Dewatered WW Sludge | Q1 2018

Sample ID:	Pease								
Lab Sample ID:	178301.01								
Analytical Type:	Sample								
Matrix:	solid								
Date Sampled:	1/29/18								
Date Received:	1/30/18								
Date Extracted:	2/9/18	Dilution	Analytical		Date			TCLP Reg Li	mits
	Result	Factor	Matrix	Units	Analyzed	Method	Analyst	(Leachate Co	nc.)
2,4,5-Trichlorophenol	< 10	10	TCLPsolid	ug/L	2/9/18	8270D	JMR	400000	ug/l
2,4,6-Trichlorophenol	< 10	10	TCLPsolid	ug/L	2/9/18	8270D	JMR	2000	ug/l
Pentachlorophenol	< 50	10	TCLPsolid	ug/L	2/9/18	8270D	JMR	100000	ug/l
2-Methylphenol	< 10	10	TCLPsolid	ug/L	2/9/18	8270D	JMR	200000	ug/l
3/4-Methylphenol	560	10	TCLPsolid	ug/L	2/9/18	8270D	JMR	200000	ug/l
1,4-Dichlorobenzene	< 10	10	TCLPsolid	ug/L	2/9/18	8270D	JMR	7500	ug/l
Hexachloroethane	< 10	10	TCLPsolid	ug/L	2/9/18	8270D	JMR	3000	ug/l
Hexachlorobutadiene	< 10	10	TCLPsolid	ug/L	2/9/18	8270D	JMR	500	ug/l
Hexachlorobenzene	< 10	10	TCLPsolid	ug/L	2/9/18	8270D	JMR	130	ug/i
Nitrobenzene	< 10	10	TCLPsolid	ug/L	2/9/18	8270D	JMR	2000	ug/l
2,4-Dinitrotoluene	< 50	10	TCLPsolid	ug/L	2/9/18	8270D	JMR	130	ug/l
Pyridine	< 50	10	TCLPsolid	ug/L	2/9/18	8270D	JMR	5000	ug/l
2-Fluorophenol (surr)	37 %R		TCLPsolid	%	2/9/18	8270D	JMR		
Phenol-d6 (surr)	27 %R		TCLPsolid	%	2/9/18	8270D	JMR		
2,4,6-Tribromophenol (surr)	80 %R		TCLPsolid	%	2/9/18	8270D	JMR		
Nitrobenzene-D5 (surr)	69 %R		TCLPsolid	%	2/9/18	8270D	JMR		
2-Fluorobiphenyl (surr)	78 %R		TCLPsolid	%	2/9/18	8270D	JMR		
p-Terphenyl-D14 (surr)	78 %R		TCLPsolid	%	2/9/18	8270D	JMR		

3

EAI ID#: 178301

Client: City of Portsmouth Wastewater

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Client Designation: Pierce Island & Pease Dewatered WW Sludge | Q1 2018

······································					
Sample ID:	Pease				
Lab Sample ID:	178301.01				
Matrix:	solid				
Date Sampled:	1/29/18	Ana	alysis		
Date Received:	1/30/18	Units Date	Time	Method	Analyst
Paint Filter (Free Liquid) Solids Total	Absent 18.5	None 1/31/18 Percent 2/12/18	11:50 15:00	9095 2540G-91	ATA ATA

EAI ID#: 178301

Client: City of Portsmouth Wastewater

Client Designation: Pierce Island & Pease Dewatered WW Sludge | Q1 2018

nple ID:	Pease					
ab Sample ID:	178301.01					
/latrix:	solid					
Date Sampled:	1/29/18	Analytical		Date of		
Date Received:	1/30/18	Matrix	Units	Analysis	Method /	An
rsenic	< 0.5	TQLPsolid	mg/L	2/6/18	6020	0
arium	< 0.5	TCLPsolid	mg/L	2/6/18	6020	Ð
admium	< 0,1	TCLPsolid	mg/L	2/6/18	602(Q
Chromium	< Q.1	TCLPsolid	mg/L	2/6/18	602	Ø
ead	< 0,6	TCLPsolid	mg/L	2/6/18	602	Ø
/lercury	< 0.01	TCLPsolid	mg/L	2/6/18	602	Ø
selenium	< 0.1	TCLPsolid	mg/L	2/6/18	602	Ø
Silver	< 0.1	TCLPsolid	mg/L	2/6/18	602	Q

CHAIN-OF-CUSTODY RECORD

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178301

. . . .

	Date/Time Composites need start			
Sample IDs	and stop dates/times	Matrix	Parameters and Sample Notes	# of containers
Pease	1129/18 10:19 AM	Sol ib aqueeus Grab r Comp	SolAsRec/PtFltr/ກັຈເປັງເປັນໄດ້ເອັ້ TCLPsolid/ICPMets.As.Ba.Cd.Cr.Pb.Se.Ag.Hg/TCLPABN/TCLPVOCZHE	3
Sampler confirms ID and parameters are accurate			Circle preservative/s: HCL_HNO ₄ H ₂ SO ₄ NaOH_MEOH_Na ₂ S ₂ O ₄ _ICE	Dissolved Sample Field Filtered

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID 1724	Results Needed by: Preferred date	ReportingOptions	(76%0450
Project Name Pierce Island & Pease Dewatered WW	Notes:	И НС П НО Г	AX PO# 0700018
Siudge Q1 2018	Stor Paula Anania	EDD PDF 🛛 Parti	al FAX Quote#: 1010625
State NH	In Hillis	EDD email DPDF	Invoice
Client (Pro Mgr) Paula Anania		PDF prelim, NO FAX	is 2.7°C
Customer City of Portsmouth Wastewater		e-mail Login Confirmation	
Address 680 Peverly Hill Road		Samples Collected by: Ariel	Vright
City Portsmouth NH 03801		(hich wight 1/30/18 9	40 (Pile 9140)
Phone 427-1553 Fax		Relinquished by Date/Ti	me Received by 18 0/18
	QC deliverables franci 13:118	5.6 1/30/18 /3:00	Jacob
Email: panania@cityorportsmoutn.com	🖾 А 🗆 А+ 🗆 В 🗆 В+ 🖾 С 🖾 РС	Relinguished by Date/Ti	me Received by
Direct 427-1553	•	•	


Eastern Analytical, Inc.

professional laboratory and drilling services

Paula Anania City of Portsmouth Wastewater 680 Peverly Hill Road Portsmouth, NH 03801

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 191551 Date Received: 1/25/2019

Client Identification: Peirce Island & Pease Dewatered WW Sludge | Q1 2019

2018 EPA Annual Biosolids Report

IN ACCORD

Dear Ms. Anania:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.easternanalytical.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted

< : "less than" followed by the reporting limit

> : "greater than" followed by the reporting limit

%R:%Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012) and New York (12072).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample (s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director



of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: 191551

Client: City of Portsmouth Wastewater

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Client Designation: Peirce Island & Pease Dewatered WW Sludge | Q1 2019

Temperat Acceptable	ture upon receipt (°C): temperature range (°C): 0-6	1.3 Received on ice or cold packs (Yes/No): Υ					
Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)	
191551.01	Pierce Island	1/25/19	1/24/19	sludge	33.0	Adheres to Sample Acceptance Policy	
191551.02	Pease	1/25/19	1/24/19	sludge	16.4	Adheres to Sample Acceptance Policy	

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis. Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

1) EPA 600/4-79-020, 1983

2) Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd Edition or noted Revision year.

3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB

4) Hach Water Analysis Handbook, 4th edition, 1992

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EAI ID#: 191551

Client: City of Portsmouth Wastewater

Client Designation: Peirce Island & Pease Dewatered WW Sludge | Q1 2019

Sample ID:	Pierce Island	Pease					
Lab Sample ID:	191551.01	191551.02					
Matrix:	sludge	sludge					
Date Sampled:	1/24/19	1/24/19	Analytical		Date of		
Date Received:	1/25/19	1/25/19	Matrix	Units	Analysis	Method A	nalyst
Arsenic	< 0.5	< 0.5	TCLPsolid	mg/L	1/29/19	6020	DS
Barium	< 0.5	< 0.5	TCLPsolid	mg/L	1/29/19	6020	DS
Cadmium	< 0.1	< 0.1	TCLPsolid	mg/L	1/29/19	6020	DS
Chromium	< 0.1	< 0.1	TCLPsolid	mg/L	1/29/19	6020	DS
Lead	< 0.5	< 0.5	TCLPsolid	mg/L	1/29/19	6020	DS
Mercury	< 0.01	< 0.01	TCLPsolid	mg/L	1/29/19	6020	DS
Selenium	< 0.1	< 0.1	TCLPsolid	mg/L	1/29/19	6020	DS
Silver	< 0.1	< 0.1	TCLPsolid	mg/L	1/29/19	6020	DS

EAI ID#: 191551

Client: City of Portsmouth Wastewater

Client Designation: Peirce Island & Pease Dewatered WW Sludge | Q1 2019

Sample ID:	Pierce Island	Pease					
Lab Sample ID:	191551.01	191551.02					
Matrix:	sludge	sludge					
Date Sampled:	1/24/19	1/24/19		Ana	lysis		
Date Received:	1/25/19	1/25/19	Units	Date	Time	Method	A
Solids Total Paint Filter (Free Liquid)	33.0 Absent	16.4 Absent	Percent None	1/29/19 1/28/19	14:25 11:55	2540G-91 9095	



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CHAIN-OF-CUSTODY RECORD

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Sample IDs	Date/Time Composites need start and stop dates/times	Matrix	Parameters and Sample Notes	# of containers
	1	1		
Pierce Island	1-24-19	solid	SolAsRec/PtFltr/TS	7
	12-58	Grab or Comp	TCLPsolid/ICPMets.As.Ba.Cd.Cr.Pb.Se.Ag.Hg	3
Sampler confi	irms ID and parameter	are accurate	Circle preservative/s: HCL HNO ₃ H ₂ SO ₄ NaOH MEOH Na ₂ S ₂ O ₃ ICE	Dissolved Sample Field Filtered
Pease	1 1/24/19		SolAsRec/PtFltr/TS	
/	8.29	Grabor Comp	TCLPsolid/ICPMets.As.Ba.Cd.Cr.Pb.Se.Ag.Hg	3
Sampler confi	I 8:34 Irms ID and parameter	 s are accurate	Circle preservative/s: HCL HNO, H,SO, NaOH MEOH Na,S,O, ICE	Dissolved Sample Field Filtered

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID	1724	Results Needed by: Dreferred date	ReportingOptions		
Project Name	Peirce Island & Pease Dewatered WW Sludge Q1 2019	Notes:		NO FAX Destin EAX	PO# 0700018
State	NH	Somplos to be taken by 02/15 mouth due 02/04	EDD email		Quote#: 1010625
Client (Pro Mgr) Paula Anania	Samples to be taken by 02/15 - results due 03/01	DF prelim, NO FAX	EQUIS	/3°C
Custome	r City of Portsmouth Wastewater		🔲 e-mail Login Confirma	ation	
Address	; 680 Peverly Hill Road		Samples Collected I	ny: DE	
City	Portsmouth NH 03801		- millight	1/25/1909:30	Englaton
Phone 427-15	53 Fax		Relinquished by	Date/Time	Received by
-		QC deliverables	auflation	1-25-19 72:35	(hzum
Email: panania	@cityofportsmouth.com	$\square A \square A + \square B \square B + \square C \square MA M CP$	Relinquished by	Date/Time	Received by
Direct 427-1553	Eastern Analytical,	Inc. www.easternanalytical.com 800.287	7.0525 customerservice@	Deasternanalytical.com	



Eastern Analytical, Inc.

professional laboratory and drilling services

Paula Anania City of Portsmouth Wastewater 680 Peverly Hill Road Portsmouth, NH 03801



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 191639 Client Identification: Peirce Island & Pease Dewatered WW Sludge | Q1 2019 Date Received: 1/30/2019

Dear Ms. Anania:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.easternanalytical.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

- Solid samples are reported on a dry weight basis, unless otherwise noted
- < : "less than" followed by the reporting limit
- > : "greater than" followed by the reporting limit
- %R:%Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012) and New York (12072).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample (s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director

of pages (excluding cover letter)

EAI ID#: 191639

Client: City of Portsmouth Wastewater

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Client Designation: Peirce Island & Pease Dewatered WW Sludge | Q1 2019

Sample ID:	Pierce Island	Pease					
Lab Sample ID:	191639.01	191639.02					
Matrix:	solid	solid					
Date Sampled:	1/29/19	1/29/19		Ana	lysis		
Date Received:	1/30/19	1/30/19	Units	Date	Time	Method	Analyst
Fecal Coliform	≥ 144109	≥ 248849	MPN/GDW	1/30/19	14:00	9221E-06	KD

SAMPLE CONDITIONS PAGE

EAI ID#: 191639

Client: City of Portsmouth Wastewater

Client Designation: Peirce Island & Pease Dewatered WW Sludge | Q1 2019

Temperature upon receipt (°C): Acceptable temperature range (°C): 0-6		2.7	7 Received on ice or cold packs (Yes/No): Υ						
Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)			
191639.01	Pierce Island	1/30/19	1/29/19	solid	35.7	Adheres to Sample Acceptance Policy			
191639.02	Pease	1/30/19	1/29/19	solid	17.1	Adheres to Sample Acceptance Policy			

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

1) EPA 600/4-79-020, 1983

2) Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd Edition or noted Revision year.

3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB

4) Hach Water Analysis Handbook, 4th edition, 1992

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EAI ID#: 191639

Client: City of Portsmouth Wastewater

2

Client Designation: Peirce Island & Pease Dewatered WW Sludge | Q1 2019

Sample ID:	Pierce Island	Pease					
Lab Sample ID:	191639.01	191639.02					
Matrix:	solid	solid					
Date Sampled:	1/29/19	1/29/19		Ana	alysis		
Date Received:	1/30/19	1/30/19	Units	Date	Time	Method	Analys
Fecal Coliform	≥ 144109	≥ 248849	MPN/GDW	1/30/19	14:00	9221E-06	KD

Eastern Analytical, Inc.



CHAIN-OF-CUSTODY RECORD

Sample IDs	Date/Time Composites need start and stop dates/times	Matrix	Parameters and Sample Notes	# of containers
-Pierce Island	1-29+19 8:24 A.M.	solid Grab or Comp	SolTotDry/FColi	
Sampler confin	ms ID and parameters	are accurate	Circle preservative/s: HCL HNO3 H,SO4 NaOH MEOH Na,S,O3 ICE	Dissolved Sample Field Filtered
Pease	129/19	solid Grabor Comp	SolTotDry/FColi	
Sampler confir	I I.OS A M ms ID and parameters	are accurate	Circle preservative/s: HCL HNO3 H,SO, NaOH MEOH Na,S,O3 ICE	Dissolved Sample Field Filtered

Please ensure this auto COC is accurate, adheres to permit or sampling requirements for this sampling event, and modify as necessary.

EAI Project ID 1724	Results Needed by: Preferred date	ReportingOptions		
Project Name Peirce Island & Pease Dewatered WW	Notes:	Внс	🗆 NO FAX	PO# 0700018
Sludge Q1 2019		🛛 EDD PDF	Partial FAX	Quote# 1010625
State NH		EDD email	PDF Invoice	
Client (Pro Mgr) Paula Anania		DF prelim, NO FAX	🗖 EQUIS	- 2./°C
Customer City of Portsmouth Wastewater		e-mail Login Confirmation	n	Temp
Address 680 Peverly Hill Road		Samples Collected by:		
City Portsmouth NH 03801		Water heren 1.35	8-19/10:21	anillight
Phone 427,1553 Fax		Relinquished by	Date/Time	Received by
2 110110 427-1333 I ax	QC deliverables	antwint 1/30	119/10:14	7 rutaliona
Email: panania@cityofportsmouth.com		Relinguished by	Date/Time	Received by
Diract 427-1553 Eastern Analytical,	Inc. www.easternanalytical.com 800.287	.0525 customerservice@ea	30-1.9 1 21/25 asternanalytical.com	the Johnson
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