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GENERAL PERMIT FOR THE DISCHARGE OF WATER TREATMENT WASTEWATER FROM  
A GAS TURBINE OPERATION NSB NEW LONDON CT  
3/1/1997  
HRP ASSOCIATION, INC

**GENERAL PERMIT  
FOR THE DISCHARGE OF  
WATER TREATMENT WASTEWATER  
FROM A GAS TURBINE OPERATION**

**CONTRACT N62472-95-D-1448**

**NAVAL SUBMARINE BASE NEW LONDON  
ROUTE 12 AND CRYSTAL LAKE ROAD  
GROTON, CONNECTICUT**

**HRP #NAV-0096.FE**

**MARCH 1997**

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## 1.0 INTRODUCTION

### 1.1 Scope

Naval Submarine Base New London (SUBASENLON) in Groton, Connecticut has identified a total of six (6) wastewater discharges to be included under the General Permit for the Discharge of Water Treatment Wastewater. The two (2) gas turbine discharges are addressed in this report. The other four (4) discharges will be addressed in a report under separate cover. The two (2) gas turbine discharges were evaluated for compliance with the General Permit by HRP Associates, Inc. (HRP) personnel by the methods described below. The General Permit for the Discharge of Water Treatment Wastewater is included as Appendix A.

Information on each process and discharge was discussed during the project initiation meeting. The meeting minutes are included as Attachment B. Interviews were conducted with people familiar with each discharge and process to gain a further understanding of the operations. Interview Logs are included as Attachment C. Operation and Maintenance Manuals and other associated documents were reviewed and finally, sample results of each discharge were analyzed and field observations were made to determine compliance with the General Permit and the Town of Groton Sewer Ordinance (Appendix H). The laboratory results are included as Appendix D. The registration for the two (2) discharges, which are the subject of this report, are included in Appendix E.



I. **REPLIES TO COMMENTS ON THE DRAFT SUBMITTAL (JANUARY 1997) FOR THE GENERAL PERMIT FOR THE DISCHARGE OF WATER TREATMENT WASTEWATER (GAS TURBINE DISCHARGES) AT NSB NEW LONDON (HRP #NAV-0096.FE)**

A. **NORTHERN DIVISION COMMENTS**

1. **Table of Contents.** *Eliminate sections 3.3, 3.4, 3.5, 3.6, 6.3, 6.4, 6.5, 6.6, 7.2, 7.3, 7.4, 7.5, and 7.6. Section 7.1 shall be entitled, "Gas Turbine Water Softeners and Reverse Osmosis Unit."*

The changes have been made.

2. **Page 1, Section 1.1, First paragraph.** *Rewrite the paragraph as follows, "Naval Submarine Base New London (SUBASENLON) in Groton, Connecticut has identified a total of six (6) wastewater discharges to be included under the General Permit for the Discharge of Water Treatment Wastewater. Two (2) of these discharges are included in Appendix E. The discharges were evaluated for compliance with the General Permit by HRP Associates, Inc. (HRP) personnel by the methods described below."*

This section was rewritten to more clearly explain that this report deals only with the gas turbine discharges.

3. **Page 1, Section 1.2, first paragraph.** *The last sentence shall read as follows, "The two (2) processes investigated in this report are as follows:"*

*Discharge 001: Gas Turbine Water Softeners  
Discharge 002: Gas Turbine Reverse Osmosis Unit*

*The last sentence shall read, "Detailed descriptions of Discharges 001 and 002 are listed in Section 3.0."*

The changes have been made.

4. **Page 2, Section 2.0.** *The Executive Summary section from the January 23, 1997, submittal shall be modified as follows to fit this report:*

- (a) **First paragraph, first sentence.** *"HRP Associates, Inc. (HRP) evaluated and tested two (2) wastewater discharges, described in this report, at SUBASENLON with respect.. "*

This paragraph has been rewritten in order to clarify the fact that the report addresses the gas turbine discharges only.

(b) **First paragraph, second sentence.** Eliminate it along with the three discharges.

The change has been made.

(c) **Third paragraph, first sentence.** Remove the word, "All" and replace with the phrase, "The two (2) discharges were..."

The change has been made.

(d) **Third paragraph, second sentence.** Replace the word, "town" with the word, "Groton."

The change has been made.

5. **Page 3, Section 2.0, second paragraph, fourth sentence.** Capitalize the word, "The."

The change has been made.

6. **Page 4, Section 3.2, second paragraph, last sentence.** Change "...water levels" to ... water level."

The change has been made.

7. **Page 5, second full sentence.** Modify as follows, "..that can be used by the gas turbine, .."

The change has been made.

8. **Page 5.** Remove references to sections 3.3, 3.4, 3.5 and 3.6.

The changes have been made.

9. **Page 7, first paragraph, last sentence.** The last sentence shall state the following, "Table I lists the parameters monitored during each sampling round and the corresponding effluent limitations set forth by the General Permit **and** by the local POTW operated by the Town of Groton."

The change has been made.

10. **Page 8, Table 1.** Add another column stating what the minimum analytical quantification levels are for total copper, total zinc, and total aluminum as stated in Section 5(c)(2) of the General Permit for WTW.

Section 5(c)(2) of the General Permit applies to surface water discharges only. The column is not applicable and has not been added to the report.

11. **Page 9, Section 5.0.** The third sentence should state the following, "Results, as provided in Appendix D, are summarized..."

The change has been made.

12. **Page 15.** Remove references to sections 6.3, 6.4, 6.5 and 6.6.

The changes have been made.

13. **Page 16.** Remove references to sections 7.2, 7.3, 7.4, 7.5 and 7.6.

The changes have been made.

14. **Appendix D.** Include a copy of all laboratory reports.

The laboratory results are included in the final report.

15. **Appendix E, General Permit Registration Form for the Discharge of Water Treatment Wastewater, page 1 of 9, Part II.** Under the Facility or Site Owner section, the Title of Suzanne Berkman should be **Environmental** Department Head.

The change has been made.

## **B. SUBASENLON COMMENTS**

1. **Page 1, Section 1.2.** After the first sentence, insert the following statement; "The following discharge serial numbers are solely assigned for the use of this report and are not intended to be similar to other discharge serial numbers used by SUBASENLON or the CTDEP."

The sentence was added.

2. **Page 2, Section 2.0.** *The Executive Summary section from the January 23, 1997 submittal shall be modified as follows to fit this report:*

(a) **First Paragraph, third sentence.** *Revise as follows, "The two (2) discharges are generated in Building 29, the Power Plant on the Lower Base, and are currently directed to the Groton wastewater treatment plant through SUBASENLON and the Groton sanitary sewer system."*

The revision was made.

(b) **Second paragraph, second sentence.** *Eliminate the word, "also" and capitalize, "Town."*

The change has been made.

(c) **Third paragraph, second sentence.** *Remove the word, "town" and replace with the word, "Groton."*

The change has been made.

(d) **Third paragraph, third sentence.** *The sentence shall be modified to the following, "HRP made recommendations which are expected to..."*

The change has been made.

(e) **Third paragraph, fourth sentence.** *Place a comma after "...in addition to capital investments,..."*

This sentence was eliminated in the revision described in 2(d). The reference to "capital investments" did not apply to the gas turbine discharges.

3. **Page 3, First paragraph.**

(a) **First sentence.** *Insert the word, "an" between "obtain" and "authorization." Capitalize the word, "Town."*

The change has been made.

(b) **Second sentence.** *Eliminate this entire sentence.*

The change has been made.

- (c) **Third sentence.** *Modify as follows, "HRP has prepared the necessary submittal to the Town of Groton and will provide it to SUBASENLON and NORTHDIV under separate cover."*

The change has been made.

4. **Page 3, second paragraph.**

- (a) **First and second sentences.** *Modify into one sentence as follows: Finally, HRP has prepared the General Permit Registration Form for submittal to **the** DEP and serves to notify **the** DEP that these discharges exist and are covered by the General Permit.*

The change has been made. The word "and" between the words "DEP" and the word "serves" has been changed to the word "which".

- (b) **Third sentence.** *Place a comma after the word, "discharges" and one after the word, "them."*

The commas have been inserted.

5. **Page 4, Section 3.1.** *Remove the statement "...depending on the amount of time the gas turbine is operating." and replace with "...based upon maximum gas turbine usage of 24 hours per day, 365 days per year."*

The change has been made.

6. **Page 4, Section 3.1.** *Please explain how the 292 gpd is broken down. State how many gpd is attributed to each of the three regeneration steps; the backwash, the brine rinse, and the final rinse.*

The addition has been made.

7. **Page 4, Section 3.2.** *Delete the first sentence of the second paragraph. The new second paragraph should begin, "Treated water is pumped..."*

This entire paragraph has been revised in order to clarify the process description.

8. **Page 5, Section 3.2.** *Make the following changes to the second sentence; insert the word, "concentrate" before the word, "wastewater" and insert the word, "treated" before the word, "water." Also, the third sentence should be modified as follows; insert the phrase, "concentrate wastewater" after the word, "maximum."*

This entire paragraph has been revised.

9. **Page 5, Section 3.2.** *Explain where the 7 to 8 gpm figure was obtained (i.e. technical manual, technical representative, etc..).*

The figure was obtained from a number of Solar Turbine employees. This is now stated in more detail in the report and is documented in the Interview Logs in Appendix C.

10. **Page 5, Section 3.2.** *Explain the treated water process in more detail along with the concentrate wastewater process. Explain why there is an approximate 1:1 relationship between the treated water, which is understood to be entirely utilized in the gas turbine for emissions control, and the concentrate wastewater which is a waste from the reverse osmosis process. One would think that the concentrate wastewater stream from the reverse osmosis process would be much less than the volume of treated water entering the gas turbine combustion process.*

The second paragraph of Section 3.2 has been rewritten to describe the process better and to address these questions.

11. **Page 6, Section 4.0, first paragraph, third sentence.** *Change the word, "required" to "requires."*

The change has been made.

12. **Page 6, Section 4.0, second paragraph, third sentence.** *The phrase should correctly read, "...during the first 10 percent of **the** time the discharge..."*

The change has been made.

13. **Page 7, Section 4.0.** *Add a sentence to the end of the last paragraph stating whether the pH and temperature results were measured in the field or at the laboratory.*

An additional statement was added.

14. **Page 8, Table 1.** Add the word, "total" to "settleable solids."

The change has been made.

15. **Pages 10-13, Tables 2A, 2B, 2C and 3.** Add a column stating what the levels of detection were for each of the applicable parameters.

The additions were made.

16. **Page 16, Section 7.1.** State the paragraphs, under Section 5 (a) of the General Permit for the Discharge of Water Treatment Wastewater, that are applicable to the power plant discharges.

The applicable paragraphs from Section 5(a) were added.

17. **Appendix E, Permit Application Transmittal Form.** Change the phone number from "(860) 449-3400" to "(860) 449-5133."

The change has been made.

18. **Appendix E, General Permit Registration Form for Water Treatment Wastewater, Part IV, Discharge Serial No. 002.** Assuming that the design flow is supposed to be 21,600 gpd may be a little overstated. This number takes into account both the product and waste streams. This number should reflect only the wastewater discharge which should be closer to the maximum daily flow of 11,520 gpd. Also, the average daily flow of 8,640 gpd assumes a rate of 6 gpm. However, the wastewater discharge rate of 7-8 gpm would have an average of 7.5 gpm and an average daily flow of  $(7.5 \times 1,440) = 10,800$  gpd.

The design flow of 21,600 gpd was estimated as follows. If the gas turbine R.O. unit were to run 24 hours/day, it would produce concentrate wastewater at 15 gpm for a total of 1,440 minutes for a total of 21,600 gallons/day. This is the amount of concentrate wastewater the unit is capable of producing and this calculation does not include any treated water produced.

Based on conversations with four employees of Solar Turbine, the company which provided the gas turbine, the maximum flow rate of treated water used by the gas turbine is estimated at 9 gpd. As stated in Section 3.2 of the report, the 1:1 product to waste ratio of the reverse osmosis unit is the basis for stating that the maximum flow of concentrate waste to the sanitary sewer is also 9 gpm, or 12,960 gallons per day. The average daily flow of 7 gpm or 10,080 gallons per day is also based on the information obtained from Solar Turbine.

19. **Site Plan.** *All discharges to be certified are located in Bldg. 29. A site plan for Bldg. 29 showing all of the discharges would be preferred. The submitted site plan was created by SUBASENLON and not HRP. The title block of any future drawings should reflect SUBASENLON creation of SUBASENLON drawings.*

The site plan is required as a supporting document #1 on page 5 of 9 of the registration. The site plan changes discussed would not satisfy this requirement. An additional site plan of only Building 29 will be added for your convenience.

The map will reference the SUBASENLON map but HRP cannot put a SUBASENLON title block on a drawing we edited.

20. **Section 5 (d) (H) of the General Permit for the Discharge of Water Treatment Wastewater.** *The General Permit requires that for each discharge, a detailed 8-1/2 by 11 inch flow diagram and plan showing all major treatment and discharge components be developed. Please provide the floppy disk and one hard copy of each CAD drawing.*

The flow diagrams will be included with the final report.

## II. REPLIES TO COMMENTS ON THE INFORMATION TO BE SENT TO THE TOWN OF GROTON SEWAGE TREATMENT PLANT FOR DISCHARGE APPROVAL UNDER THE WATER TREATMENT WASTEWATER GENERAL PERMIT

### A. NORTHERN DIVISION COMMENTS

1. Page 2, paragraph (vi). *Change the last sentence to the following, "The ratio of the WTW from **the gas turbine wastewaters at NSB New London** to the total WPCF influent is 0.36 percent."*

The change has been made.

2. Page 2, paragraph (vii). *Remove the word, "let," before "...contact us."*

The change has been made.

### B. SUBASENLON COMMENTS

1. Page 1, first paragraph. *Remove the word, "base" and replace with "Naval Submarine Base, New London (SUBASENLON)."*

The change has been made.

2. Page 1, first paragraph. *The last sentence should read, "We are sending the following information as required by section 4(c)(2)(H) of the CTDEP General Permit for the Discharge of Water Treatment Wastewater:"*

The change has been made.

3. Page 1, paragraph (i). *Insert the following statement after the second sentence, cc Discharges 001 and 002 do not generate additional wastes. These discharges process potable water received from the Town of Groton and then discharge, over an extended period of time, the constituents already found in the water, back to the Groton sanitary sewer system. The mass balance of the constituents received and then discharged is maintained."*

This statement does not apply to this section. This section concerns the hydraulic capacity of the POTW and the sewer system. This section is asking for an analysis of how the volume of wastewater will affect the above mentioned facilities, not the quality of the wastewater.

4. **Page 1, paragraph (i).** *Change the last sentence to the following, "These waste streams have been discharging to your facility since December 26, 1996." The statement, "...**have** not caused problems for any facet of the sewerage system to date." is speculative and should be excluded.*

This sentence has been changed to reflect the fact that the statement was based on a conversation with Mr. Carl Almquist of the Groton WPFC.

5. **Page 2, paragraph (iii).** *The second sentence should be modified to state the following, "In the first round of sampling, the water softener regeneration wastewater exhibited a low pH, which may have been caused by the presence of excess material from the manufacturing process or by the installation of the units."*

The change has been made.

6. **Page 2, paragraph (iii).** Remove the phrase, "...Round 2 of sampling." and replace it with the phrase, "the second round of sampling."

The change has been made.

7. **Page 2, paragraph (iii).** The second to last sentence should have the word, "only" eliminated between "Ordinance" and "slightly."

The change has been made.

8. **Page 2, paragraph (vii).** The first sentence should state the following, "HRP does not have any additional information on these wastewater discharges, other than what has been provided in this report. Based on this report, HRP does not feel that these discharges will adversely impact the performance of the POTW and cause any violation of their discharge permit or render the sludge generated at the POTW unsuitable for landfilling, land application, or incineration."

The change has been made.

9. **Page 2, last sentence.** Please change to the following, "Please return a signed certification approving the discharge of the gas turbine water softener regeneration and reverse osmosis concentrate wastewaters into the Groton sanitary sewer system to Mr. Keith Chrisman, SUBASENLON Environmental Department, P.O. Box 39, Groton, CT 06349-5039."

The change has been made.

10. Pages 10-13, Tables 2A, 2B, 2C and 3. Add a column stating what the levels of detection were for each of the applicable parameters.

The changes have been made.



March 24, 1997

Commanding Officer  
Northern Division  
Naval Facilities Engineering Command  
10 Industrial Highway, Mail Stop #82  
Lester, PA 19113-2090

Attention: Lew Riess, Code 1813

**RE: NSB NEW LONDON GENERAL PERMIT COMPLIANCE (HRP #NAV-0096.FE)**

Dear Mr. Riess:

Enclosed please find one original and one (1) copy of both the final report for the Water Treatment Wastewater discharges from the Gas Turbine operation at NSB New London and the Replies to Comments on the Draft Submittal. A 3.5" disk of all the information generated by computer is also enclosed.

By copy of this letter, we are also submitting two (2) copies of this package (one disk only) to Mr. Keith Chrisman, NSB New London. In addition, as requested at the project initiation meeting, we are submitting three (3) separate copies (including the originals) of both the DEP Registration and the submittal to the Town of Groton.

Included in the report as Appendix F is a submittal to the Town of Groton Water Pollution Control Facility (WPCF) requesting written authorization to discharge the Gas Turbine Water Softener and Reverse Osmosis Water Treatment Wastewaters to the Town of Groton Sanitary Sewer System as required by the General Permit. This document must be sent to the Groton WPCF by SUBASENLON to obtain the required written authorization.

Also included in the report as Appendix E are the Permit Application Transmittal Form and the incomplete Water Treatment Wastewater General Permit Registration Form. The Registration Form can not be completed until the written authorization is obtained from the Groton WPCF.

Upon obtaining the written authorization from the Groton WPCF, the "Certifications" section of the registration (page 4) and the POTW Certification section of the registration (page 6) must be signed by Suzanne Berkman. The Professional Engineer Certification can then be completed by HRP.

Mr. Lew Riess  
Page 2  
March 24, 1997

Upon completion of the registration form as outlined above, SUBASENLON should enter the check number in the lower left corner on page 2 of the Permit Application Transmittal Form and mail the Transmittal Form, the Registration Form, and a \$250 certified check or money order which states "Water Management Permit Fee" on its face to the following address.

Central Permit Processing Unit  
Department of Environmental Protection  
79 Elm Street  
Hartford, CT 06106-5127

A final copy of the completed Registration must also be sent to the Groton WPCF.

If you have any questions or require additional information, please call either of us at HRP.

Sincerely,

HRP ASSOCIATES, INC.



Charles Leonard  
Project Engineer



Joseph Magdol, P.E.  
Senior Project Manager

cll  
Attachment

cc: Commanding Officer  
NSB New London  
Flasher Avenue, Building 166  
Environmental Department  
Groton, CT 06349-5039  
Attention: Mr. Keith Chrisman, Code 1602/KC

## 1.2 Facility Description

All six discharges evaluated are located in Building 29, the Power Plant, on the Lower Base of SUBASENLON. The following discharge serial numbers are solely assigned for the use of this report and are not intended to be similar to other discharge serial numbers used by SUBASENLON or the CT DEP. The two (2) processes investigated in this report are as follows:

Discharge 001:	Gas Turbine Water Softeners
Discharge 002:	Gas Turbine Reverse Osmosis Unit

Detailed descriptions of Discharges 001 and 002 are listed in Section 3.0.

## 2.0 EXECUTIVE SUMMARY

HRP Associates, Inc. (HRP) evaluated and tested the two (2) wastewater discharges associated with the gas turbine at SUBASENLON with respect to their potential to be permitted under the Connecticut Department of Environmental Protection (DEP) General Permit for the Discharge of Water Treatment Wastewater (General Permit). The two (2) discharges are generated in Building 29, the Power Plant on the Lower Base, and all are currently directed to the Groton wastewater treatment plant through SUBASENLON and the Groton sanitary sewer system.

The discharges were evaluated for their permit eligibility with respect to "Activities Authorized" and "Permit Terms and Conditions" as these terms are defined in the General Permit. Each discharge was sampled and tested in order to establish compliance with effluent limitations set forth by both the General Permit and the Town of Groton.

All discharges were found to be eligible for coverage under the General Permit. Most, but not all, sample results complied with the General Permit and Groton effluent limits. HRP made recommendations which are expected to result in SUBASENLON's compliance with the General Permit.

The General Permit requires that SUBASENLON obtain an authorization to discharge from the Town of Groton for any discharge which was initiated after the effective date of the Permit (May 1, 1995). HRP has prepared the necessary submittal to the Town of Groton and provided it to SUBASENLON and NORTHDIV under separate cover.

Finally, HRP has prepared the General Permit Registration Form for submittal to the DEP which serves to notify the DEP that these discharges exist and are covered by the General Permit. It also provides DEP with pertinent information about the discharges, including the processes generating them, and their maximum flow rates. The Registration must be certified by a representative of SUBASENLON and a licensed Professional Engineer (P.E.). HRP will provide the P.E. certification.

### **3.0 WASTEWATER GENERATION PROCESS DESCRIPTIONS**

#### **3.1 Gas Turbine Water Softeners**

The gas turbine water softeners are used to remove hardness from the Groton city water so the reverse osmosis unit which follows the softeners can more effectively produce water that is suitable for combustion injection in the gas turbine. There are two softener units used by the gas turbine so one can be regenerated while the other is in service. A meter on the system automatically takes the exhausted softener off-line and places the regenerated softener on-line. This can also be done manually. The water softeners remove hardness from the water using an ion exchange process.

The ion exchange process consists of using an exchange medium, in this case, a resin, which will exchange ions bound to the medium with cations dissolved in the water to be treated. In the case of these softeners, sodium ions are bound to the resin. When the incoming water passes through the medium, the sodium ions are exchanged with calcium and magnesium cations dissolved in the incoming water. Once all the exchanges are exhausted, the medium is regenerated.

Regeneration begins by backwashing the medium to remove any substances physically caught in it. Next, a sodium chloride brine and water rinse is passed through the medium to allow the sodium ions from the brine to bond to the resin and allow the calcium and magnesium cations to bond to the chloride portion of the brine. The last step in the regeneration of the medium is a final rinse which will wash out any

excess brine and chloride compounds. The softeners are equipped with an electronic timer which is programmed to control the length of time each phase of the regeneration cycle is in operation.

All three of the regeneration steps, the backwash, the brine rinse, and the final rinse, are discharged to the sanitary sewer. The entire regeneration process lasts approximately 76 minutes. A gas turbine water softener will be regenerated a maximum of once every 3 days based upon maximum gas turbine usage of 24 hours per day, 365 days per year. The total discharge for each regeneration consists of 292 gallons; therefore, the maximum flow is considered 300 gallons per day (gpd). The gas turbine water softener regeneration contains the following flow rates:

96 gallons in the Backwash phase,  
124 gallons in the Brine rinse phase, and  
72 gallons in the final rinse phase.  
292 gallons total

### **3.2 Gas Turbine Reverse Osmosis Unit**

The gas turbine reverse osmosis unit is used to remove dissolved metals and other constituents from the incoming water so the water can be used as combustion injection water in the gas turbine. Reverse osmosis is a process which removes dissolved solids from incoming water by applying hydrostatic pressure to force the incoming water through a semi-permeable membrane while a major portion of its impurities do not pass through the membrane. These impurities are then discharged as a concentrated waste to the sanitary sewer.

When in operation, the reverse osmosis unit produces 15 gpm of treated water and 15 gpm of concentrate waste water. This is a 1:1 product to waste ratio. Each of these rates is displayed on flow meters which are part of the reverse osmosis unit. Treated water is pumped to a holding tank and the concentrate wastewater is discharged to the sanitary sewer. The treated water holding tank is equipped with a level sensor control system which is programmed such that the reverse osmosis unit starts when the volume in the holding tank drops below 1,200 gallons, and shuts off when the volume in the holding tank exceeds 1,600 gallons. The gas turbine uses treated water at a lower rate than the treated water is produced. Therefore, the holding tank is necessary, and the reverse osmosis process is only needed intermittently.

According to several representatives of Solar Turbine, the turbine supplier, under most weather conditions, the gas turbine uses 7 gpm of treated water. However, if the ambient temperature is very cold, the gas turbine may use up to 8.5 gpm of the treated water. As a conservative estimate, the maximum amount of treated water used by the gas turbine is estimated at 9 gpm. If the gas turbine were to operate 24 hours per day, it would use 12,960 gpd of treated water. Based on the 1:1 product to waste ratio of the reverse osmosis unit explained above, the maximum volume of concentrate wastewater discharged from the reverse osmosis unit to the sanitary sewer is 12,960 gallons.

#### **4.0 SAMPLING PROCEDURES**

According to Section 4.(c)(2)(K)(ii) of the General Permit, the certification of existing discharges with a maximum flow of 5,000 gallons per day or greater must be based on the review of analyses of a minimum of three effluent samples, taken within the previous 12 months, at least one week apart. The certification of existing discharges with a maximum flow less than 5,000 gallons per day may be based on the review of analyses from one effluent sample. The maximum flow of Discharge 001, the gas turbine water softener regeneration discharge, is only 300 gallons per day and therefore, only requires one effluent sample to be analyzed. Discharges 002 through 006 were each required to have three effluent samples analyzed at least one week apart. Due to time constraints, the first and second sampling events for Discharge 002, the gas turbine reverse osmosis unit concentrate and Discharge 006, the Power Plant water softeners regeneration wastewater, were collected only six days apart. This is considered to meet the intent of the one week interval. All the other discharges were sampled as required by the General Permit.

Section 4(c)(2)(K)(ii) of the General Permit also states that the samples must be representative and are the type specified in Section 5(c)(5) of the General Permit. Section 5(c)(5) of the General Permit states that all samples must be grab samples. This section also states that for batch discharges, one sample of the discharge must be taken during the first 10 percent of the time the discharge is expected to continue, and one sample shall be taken during the last 10 percent of the time the discharge is expected to continue. This procedure was followed by HRP sampling personnel.

Section 5(b)(3) of the General Permit requires the analysis of each sample for pH, temperature, total settleable solids, total suspended solids, total residual chlorine, total aluminum, total copper, total manganese, total zinc, and total iron. The analysis for volatile organic is only required for discharges for which there is a reason to suspect their presence. According to Mr. Andrew Stackpole of SUBASENLON, volatile organic contamination is not an issue with the incoming water source. However, for screening purposes, volatile organic were measured in all Round 1 samples. This section of the General Permit sets effluent limitations for temperature, pH, and total volatile organic only, there are no effluent limitations for the other parameters that are required to be tested for by the General Permit. Table 1 lists the parameters monitored during each sampling round and the corresponding effluent limitations set forth by the General Permit and by the Town of Groton.

All of the samples for each discharge were taken by HRP personnel. The gas turbine reverse osmosis discharge was sampled from the port labelled MV-6. The samples were discharged directly into the properly labelled sampling container and placed in a cooler with ice. The neutralization tank discharge was sampled from the port located on the discharge pipe in the same manner. The carbon filter and mixed bed regeneration samples were collected in a clean plastic bucket which was rinsed with the discharge before the sample was taken. The samples were taken from a manhole south of the Power Plant outside the pure water room and were immediately poured into the properly labelled sample containers and placed in a cooler with ice. The gas turbine water softeners and the Power Plant water softeners samples were collected

**TABLE 1**  
**WATER TREATMENT WASTEWATER**  
**MONITORING PARAMETERS**

**SUBASENLON**  
**GROTON, CONNECTICUT**  
**HRP #NAV-0096.FE**

Parameter	General Permit Regulatory Level	Town of Groton Sewer Use Limits	Units
Temperature	150	150	°F
pH	5 < pH < 10	6.5 < pH < 8.5	S.U.
Total Daily Flow	---	---	gpd
Aluminum, total	---	---	mg/l
Copper, total	---	1.0	mg/l
Manganese, total	---	5.0	mg/l
Iron, total	---	---	mg/l
Zinc, total	---	1.0	mg/l
Total Settleable Solids	---	---	ml/l
Total Suspended Solids	---	200	mg/l
Total Residual Chlorine	---	---	mg/l
Volatile Organic, total	1.0	---	mg/l

## 5.0 SAMPLING RESULTS

All samples were analyzed by Connecticut Testing Laboratories, Inc. (CTL) located at 165 Gracey Avenue in Meriden, Connecticut. CTL is a State-certified laboratory. Results, as provided in Appendix D, are summarized by discharge source in the following tables.



## **6.0 FINDINGS**

Findings based on HRP's site inspections, interviews, document reviews and laboratory results are summarized below.

### **6.1 Gas Turbine Water Softeners**

As seen in Tables 2a, 2b and 2c, some discharges from the gas turbine water softeners did not meet the effluent limitations of either the General Permit or the Town of Groton due to a low pH in the first round of sampling. According to Mr. Barry Lewis of Nutmeg Technologies, Inc., the system supplier, nothing in the softening and regeneration processes should cause the pH to drop below 5.0 S.U. In Mr. Lewis' opinion, the effluent sample taken may not have been representative of actual use since the softening system was new and in its start-up phase. This was the first time the softeners were being regenerated and foreign material from manufacturing or installing the units may have affected the discharge.

Based on this assessment the three stages of the discharge were sampled a second time for pH and all samples met the effluent limitations set by the General Permit. This second round of sampling is considered more representative of the discharge because the units had been operating for a longer period of time.

The pH of the backwash stage exceeded the 8.5 S.U. maximum limit set forth by the Groton sewer use ordinance. The Town of Groton will be receiving all the information outlined in the POTW Certification Form required by the General Permit for discharges which were initiated

after the effective date of the permit (May 1, 1995) (Appendix F). The town will then determine whether the discharge is acceptable.

## **6.2 Gas Turbine Reverse Osmosis Unit**

The discharge from the gas turbine reverse osmosis unit met all conditions of eligibility and all effluent limitations of the General Permit as seen in Table 3. Five of six samples from this discharge also met the effluent limitations of the Groton sewer use ordinance. One sample was below the pH limit of 6.5 S.U. by 0.1 S.U. As with the gas turbine water softeners, the town of Groton will be asked to certify that this discharge is acceptable.

## **7.0 RECOMMENDATIONS**

### **7.1 Gas Turbine Water Softeners and Reverse Osmosis Unit**

HRP recommends that SUBASENLON do the following:

- a. Obtain approval to discharge these waste streams to the sanitary sewer from the appropriate POTW authority by submitting the information required by the POTW Certification Form.
- b. After obtaining approval from the POTW authority, submit the Permit Application Transmittal Form and the General Permit Registration form to the Connecticut Department of Environmental Protection (CT DEP).
- c. Abide by the treatment and control requirements listed in Section 5(a). Since all discharges are currently directed to the sanitary sewer, only 5(a)(1) is applicable. If the waste streams are redirected to a surface water or a ground water, Section 5(a) must be reviewed with respect to the applicability of other sections. Section 5(a)(1) states that WTW shall not be discharged to any open floor drain, floor trench, sump or drainage system which is designed or constructed to receive or which may receive chemical spillage or wastewaters not authorized by this general permit. SUBASENLON is in compliance with this requirement.
- d. Monitor the discharges in accordance with Section 5(c)(4)(C) of the General Permit by sampling the water softener discharge annually and the gas turbine discharge quarterly. Also, record the Total Daily Flow of each discharge once each month.
- e. Record the information required by Section 5(d)(2) of the General Permit each time the discharge occurs. The flow diagrams required by this section are included in Appendix G.
- f. Report any permit violations to the CT DEP and the Groton POTW as described in Section 5(e) of the General Permit.
- g. Keep all information, records and analytical results regarding these discharges on-site at all times as required by Section 5(d)(1) of the General Permit.

**APPENDIX A**

**GENERAL PERMIT FOR THE DISCHARGE  
OF WATER TREATMENT WASTEWATER**



STATE OF CONNECTICUT  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
GENERAL PERMIT FOR THE DISCHARGE OF  
WATER TREATMENT WASTEWATER



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# GENERAL PERMIT FOR THE DISCHARGE OF WATER TREATMENT WASTEWATER

## Section 1. Authority

This general permit is issued under the authority of section 22a-430b of the General Statutes.

## Section 2. Definitions

The definitions of terms used in this general permit shall be the same as the definitions contained in section 22a-423 of the General Statutes and section 22a-430-3(a) and section 19-13-B102(a) of the Regulations of Connecticut State Agencies. If any term has multiple definitions in such statutes and regulations, the definitions in section 22a-423 of the General Statutes, and section 22a-430-3 (a) of the Regulations of Connecticut State Agencies shall apply. In addition, the following definitions shall apply:

"Coastal waters" means those waters of Long Island Sound and its harbors, embayments, tidal rivers, streams and creeks which contain a salinity concentration of at least five hundred parts per million under low flow conditions.

"Filtration" means a process of reducing concentrations of sand, grit, iron, manganese, or turbidity by passing water through a straining media.

"Filter to waste" means the initial volume of filtrate produced following backwash of a filter, or following the initial construction, rebuilding or maintenance of a filter.

"Laboratory wastewaters" means laboratory utensil cleaning wastewaters with no chemical additives or reagents containing any of the substances listed in Appendix B, Tables II, III, and V, or Appendix D of section 22a-430-4 of the Regulations of Connecticut State Agencies. Laboratory wastewater covered under this general permit includes only that which is generated at a facility which treats water supplies for potable or industrial process use.

"Oxidation/filtration" means the process of converting an undesirable dissolved solid to a particulate which is then removed by the addition of ozone, oxygen, manganese dioxide or permanganate followed by filtration.

"Permittee" means any person who or municipality which initiates, creates, originates or maintains a discharge in accordance with Section 3 of this general permit.

"Point of entry water treatment device" means a device for the treatment of potable water which is located at the water service entry in a building.

"POTW Authority" means the chairperson, or duly authorized representative, of the Water Pollution Control Authority which owns or operates a Publicly Owned Treatment Works.

~~"Public Water System" as defined in section 19-13-B102(a) of the Regulations of Connecticut State Agencies.~~

"Raw water" means water withdrawn from a reservoir or well prior to any physical treatment of such water.

"Registrant" means a person who or municipality which submits a registration in accordance with Section 4 of this general permit.

"Registration" means a completed registration form and registration fee submitted to the Commissioner pursuant to Section 4 of this general permit.

"Site" means geographically contiguous land on which an authorized activity takes place under this general permit. Non-contiguous land owned by the same person and connected by a right-of-way which such person controls and to which the public does not have access shall be deemed the same site.

"Source Water" as defined in section 19-13-B102(a) of the regulations of Connecticut State Agencies.

"Water Quality Standards" means water quality standards as adopted by the Commissioner in accordance with section 22a-426 of the General Statutes.

"Water Treatment Facility" means any system, excluding a reservoir, used to treat water for potable or industrial process use, including but not limited to any industrial, municipal or private water treatment facility.

"Water Treatment Wastewaters or WTW" means wastewaters generated by a well or water treatment facility, used to produce water supplies for potable or industrial process use, including but not limited to wastewaters from the following:

- (a) clarifier tank sludge blowdown;
- (b) clarifier tank supernatant;
- (c) facility and equipment cleaning rinsewaters, excluding rinsewaters generated by the rinseout of containers used to store any chemical for which an effluent limitation is not specified in section 5(b) of this general permit;
- (d) activated carbon and filter media backwash, including filter to waste, and regeneration wastewaters;
- (e) raw or treated water from equipment leakage and bleed-off;
- (f) mechanical and non-mechanical sludge dewatering wastewaters;
- (g) infiltration bed and settling lagoon wastewaters;
- (h) raw or treated water from process sampling points and on-line process analytical instrumentation;

- (i) designed overflows from storage tanks and other WTW facilities resulting from emergency conditions and routine maintenance;
- (j) start-up wastewaters for water treatment plants, facilities or equipment which commenced operation after the date of issuance of this General Permit;
- (k) ion exchange regeneration wastewaters;
- (l) reverse osmosis brine; and
- (m) laboratory wastewaters.

WTW does not include wastewaters generated by any residential or commercial point of entry treatment device.

### Section 3. Authorization Under This General Permit

#### (a) Activities Authorized

This general permit authorizes discharges comprised solely of WTW, as defined above, provided:

- (1) The discharge is *not* authorized by a valid individual permit issued under section 22a-430 of the General Statutes.
- (2) For any discharge to a Publicly Owned Treatment Works (POTW) initiated after the effective date of this general permit, the information specified in Section 4(c)(2)(H) of this general permit has been submitted to the POTW authority and the POTW authority has approved the discharge.
- (3) The discharge of WTW within a coastal boundary as defined in section 22a-94 of the General Statutes is consistent with all applicable goals and policies of the Coastal Management Act specified in section 22a-92 of the General Statutes.
- (4) The discharge of WTW does not threaten the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat designated as essential to such species in accordance with section 26-310 of the General Statutes.
- (5) No categorical effluent limitation standard or guideline adopted by the U.S. Environmental Protection Agency under the federal Clean Water Act is applicable to the discharge.

Any discharge of water, substance or material into the waters of the state other than those specified in this subsection is not authorized by this general permit. Any person who or municipality which wishes to initiate, create, originate or maintain such other discharge shall first apply for and obtain an individual permit under section 22a-430 of the General Statutes.

(b) Geographic Area

This general permit applies throughout the State of Connecticut.

(c) Effective Date and Expiration Date

This permit is effective on May 1, 1995 and expires on May 1, 2000 for discharges of WTW to surface waters, and on May 1, 2005 for discharges of WTW to a POTW or to the groundwater.

(d) Effective Date of Authorization

The effective date of authorization under this general permit is the effective date of this general permit listed in subsection (c) of this Section or the date the discharge is initiated in accordance with the requirements of Section 3 (a) of this General Permit, whichever is later.

(e) Issuance of an Individual Permit

When the Commissioner issues an individual permit under section 22a-430 of the General Statutes authorizing a discharge previously authorized by this general permit, the applicability of this general permit as it applies to the individual permittee is automatically terminated on the effective date of the individual permit.

## Section 4. Registration Requirements

(a) Who Must Submit a Registration

Any person who or municipality which initiates, creates, originates or maintains a WTW discharge as defined in this general permit and in accordance with Section 3 of this general permit, with the exception of those discharges specified below, shall submit a completed registration form and fee. For any discharge of WTW which was initiated on or before the effective date of this general permit, such registration shall be submitted no later than 365 days after the effective date of this permit, unless the discharge is covered by an individual permit. Discharges which are authorized by an individual permit, and which otherwise would qualify for this general permit, shall register for coverage under this general permit at least 180 days prior to expiration of the individual permit. For any other discharge of WTW, the registration shall be submitted before such discharge is initiated. If the source or activity generating the discharge for which a registration is submitted under this general permit is owned by one person or municipality but is leased or in some other way the legal responsibility of another person or municipality (the operator), it is the operator's responsibility to submit the registration required by this general permit.

Any person initiating, creating, originating or maintaining any of the following discharges pursuant to this general permit need not submit a registration or fee:

- A discharge consisting only of raw water;
- Any discharge from pump leakage, sampling taps, or on-line analytical instrumentation which are not discharged directly to a surface water body;
- Any discharge generated from the backwash of filtration, oxidation/filtration, or ion exchange units designed to remove iron, manganese, sand, grit, or turbidity from wells used as a source of potable water supply provided the discharge is less than 500 gallons per day and directed to either a sanitary sewer or the groundwaters of the state.

(b) Scope of Registration

A registration shall only include discharges of WTW from a single site. All discharges of WTW occurring at a particular time for a single site shall be included in the same registration.

(c) Contents of Registration

(1) Fees

(A) A registration fee of \$250 for any person or \$125 for any municipality shall be submitted with a completed registration form. A registration shall not be deemed complete and no activity shall be authorized by this general permit unless the registration fee has been paid in full.

(B) The registration fee shall be paid by certified check or money order payable to the Department of Environmental Protection. The check shall state on its face, "Water Management Permit Fee".

(C) The registration fee is nonrefundable.

(2) Registration Form: A registration shall be submitted on a form prescribed by the Commissioner and shall include, without limitation, the following:

(A) Legal name, address, and telephone number of the person or municipality proposing to initiate, create, originate or maintain the discharge and of the person who or municipality which owns the activity or source generating the discharge. If any such person(s) is a corporation transacting business in Connecticut, include the exact name as registered with the Connecticut Secretary of the State.

(B) Legal name, address, and telephone number of the owner of the property on which the discharge is proposed to be located.

(C) Legal name, address, and telephone number of the registrant's attorney or other representative, if any.

- (D) Location address of the site of the discharge(s) for which the registration is submitted.
- (E) The maximum daily flow of all WTW discharges, in gallons per day, to be discharged at the site.
- (F) An estimate of when the discharge began or will begin and the estimated duration of the discharge.
- (G) For discharge(s) to surface water or to ground water, an 8 1/2" by 11" copy of applicable sections of a United States Geological Survey (USGS) quadrangle map, with a scale of 1:24,000, showing the exact location of the discharge, specifying the longitude and latitude of the discharge to within the closest 15 seconds, and including the name of the USGS map.
- (H) For discharges to a POTW initiated after the effective date of this general permit, the information listed below and a written certification from the registrant stating that 1) the information outlined below has been submitted to the appropriate POTW authority, and 2) the registrant has received written certification signed by the appropriate POTW authority that it has received and reviewed the information outlined below and has authorized the discharge to the POTW:
  - (i) an analysis of the impact of the discharge on the hydraulic capacity of the receiving POTW, including but not limited to the receiving sewerage system, force mains, pumping stations;
  - (ii) the rate, frequency, and time period that the WTW will be discharged to the POTW;
  - (iii) a detailed description of the characteristics of the WTW;
  - (iv) provisions for the controlled discharge of WTW to the receiving POTW, including but not limited to equalization, limiting hydraulic loading, or limiting the total suspended solids loading;
  - (v) an evaluation of the impact of the discharge of WTW on POTW sludge generation and handling, and any potential alteration of the character of the sludge which may render it unsuitable for further treatment by anaerobic/aerobic digestion, high temperature/pressure and chemical oxidation, sludge dewatering, and composting; or unsuitable for ultimate disposal by incineration, landfilling, or land application;
  - (vi) the ratio of flow of WTW in relation to total influent to the POTW; and

- (vii) any other information necessary to determine whether such discharge will adversely impact the performance of the POTW and cause any violation of their discharge permit, or render the sludge generated at the POTW unsuitable for landfilling, land application, or incineration.
- (I) For any discharge initiated on or before the effective date of this general permit, which does not comply with the treatment and control requirements contained in Section 5(a)(6) as of the effective date of this general permit, a report detailing all such conditions or terms which are not being complied with, and a schedule of modifications or facility upgrades required to meet any such term or condition.
- (J) A plan for minimizing the use of copper if the registrant utilizes a water supply reservoir and copper compounds are used, or intended to be used in the water supply reservoir. Such plan shall take into account, at a minimum, an assessment of nutrient loadings in the watershed, the amount of copper needed to control algae, intake levels, and opportunities for recycling the wastewater stream and shall include a plan for monitoring algae and using copper sulfate only when needed to control algae.
- (K) The following certification, signed by a professional engineer licensed to practice in Connecticut:
  - (i) For any WTW discharge which is required to be registered and which has not been initiated, created, originated or maintained as of the date the registration is submitted:

"I certify that in my professional judgement proper operation and maintenance of any systems installed to treat the discharge(s) which are the subject of this registration will ensure that all effluent limitations and other conditions in the general permit for the discharge of WTW issued on May 1, 1995 are met, or if there is no treatment system for such discharge(s), that the discharge(s) will meet all effluent limitations and conditions of such general permit without treatment. This certification is based on my review of engineering reports and plans and specifications describing (1) the proposed discharges and (2) any proposed treatment system for the wastewaters to be discharged. I am aware that there are significant penalties for false statements in this certification, including the possibility of fine and imprisonment for knowingly making false statements."
  - (ii) For any WTW discharge which exists on the date of issuance of this general permit and which is required to be registered:

"I certify that in my professional judgement all discharge(s) which are the subject of this registration comply with all conditions of the general permit for the discharge of WTW issued on May 1, 1995, including but not limited to all effluent limitations in Section 5(b) of such general permit,

and proper operation and maintenance of any systems installed to treat such discharge(s) will ensure that all effluent limitations and other conditions in such general permit are met, or if there is no treatment system for such discharge(s), that the discharge(s) will meet all effluent limitations and conditions of such general permit without treatment. This certification is based in part on my review of analyses of a minimum of three effluent samples collected, preserved, handled and analyzed in accordance with 40 CFR Part 136, which samples were representative of the discharge(s) during standard operating conditions, were taken within the previous 12 months, at least one week apart, and were of the type(s) specified in Section 5(c)(5) of the general permit for WTW discharges issued on May 1, 1995, and were analyzed for the parameters specified in Section 5(b) of such general permit. In the case of discharges of WTW less than 5000 gallons per day maximum daily flow, this certification may be based on review of analyses from one effluent sample collected, preserved, handled, and analyzed as specified in the previous sentence. I am aware that there are significant penalties for false statements in this certification, including the possibility of fine and imprisonment for knowingly making false statements."

(iii) In addition, for a discharge to a POTW:

"I certify that in my professional judgement all the requirements for discharges to a POTW in Sections 4 and 5 of this general permit have been met and the registrant is authorized to discharge to the POTW."

(L) Any person who or municipality which submits a registration under this general permit shall sign the registration and shall make the following certification:

"I certify under penalty of law that I have read and understand all conditions of the general permit for WTW discharges issued on May 1, 1995, that all requirements for authorization under this general permit are met for all discharges which are the subject of this registration, and all terms and conditions of this general permit are being met for all discharges which have been initiated and are the subject of this registration. This document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure 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 contained in this registration 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 knowingly making false statements."

(d) Where to Submit a Registration

A registration shall be submitted to the following address:

CENTRAL PERMIT PROCESSING UNIT  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
79 ELM STREET  
HARTFORD CT 06106-5127

For any discharge to a POTW, a certified copy of the registration shall also be sent to the POTW authority which will receive the discharge.

For any discharge to a surface water body within a coastal boundary, as defined in section 22a-94 of the General Statutes of Connecticut, a certified copy of the registration shall also be sent to the Department of Agriculture, Aquaculture Division, P.O. Box 97, Milford, CT 06460.

(e) Correction of Inaccuracies

Within fifteen days after the date the registrant or permittee becomes aware of a change in any information in the registration or in any material provided in support thereof, or becomes aware that any such information is inaccurate or misleading, or that any relevant information has been omitted, such registrant or permittee shall correct the inaccurate or misleading information, or supply the omitted information in writing to the Commissioner.

(f) False Statements

Any false statement in any information submitted in a registration or in support of a registration may be punishable as a criminal offense, under section 22a-438 of the General Statutes or, in accordance with section 22a-6, under section 53a-157 of the General Statutes.

(g) Additional Information

The Commissioner may require a registrant to submit additional information which the Commissioner deems necessary to evaluate the consistency of the discharge of WTW with the criteria for authorization under this general permit.

(h) Disapproval of Registration

(1) The Commissioner may disapprove a registration for the same reasons for which he may, under section 22a-430, require an individual permit. Disapproval of a registration under this subdivision shall constitute notice that an individual permit must be obtained under section 22a-430 and, as applicable, under section 22a-32 of the General Statutes, before conducting any activity proposed in such registration.

(2) The Commissioner may disapprove a registration if he determines that (a) said registration is insufficient, (b) more than thirty (30) days have elapsed since the Commissioner requested that the registrant submit additional information or the required

registration fee, and (c) the registrant has not submitted such information or fee. A registration resubmitted after disapproval pursuant to this subdivision shall be accompanied by the registration fee required under Section 4(c)(1) of this general permit.

(i) Transfer of Authorization

Any authorization under this general permit shall be non-transferable.

## Section 5. Permit Terms and Conditions

(a) Treatment and Control Requirements: BMPs: Other Special Conditions

- (1) WTW shall not be discharged to any open floor drain, floor trench, sump or drainage system which is designed or constructed to receive or which may receive chemical spillage or wastewaters not authorized by this general permit.
- (2) Lagoons used to treat or convey WTW shall be inspected weekly during operation of the treatment system for visible oil sheen, hydrocarbon odor, and chemical spills due to discharges other than WTW.
- (3) For any lagoon used to treat or convey WTW that is constructed after the effective date of this general permit, the minimum elevation of the top of the berm of the lagoon shall be constructed and maintained above the 100 year base flood elevation.
- (4) The following types of WTW shall *not* be discharged to a surface water:
  - (A) Facility and equipment cleaning rinsewaters containing detergents or surfactants;
  - (B) Laboratory wastewaters;
  - (C) Start-up wastewaters for WTW facilities or equipment containing detergents or surfactants initiated after the effective date of this General Permit.
- (5) WTW generated by the treatment of water supplies for industrial use shall not be discharged to the groundwaters of the state, unless such WTW is generated by the treatment of water from a public water supply.
- (6) For any discharge of WTW which has been initiated on or before the effective date of this general permit, the permittee shall comply with the following conditions as soon as possible, but in no event later than three years after the effective date of this general permit. For all other discharges of WTW, the permittee shall comply with the following conditions no later than the date the discharge is initiated.
  - (A) ~~The following types of WTW shall be discharged *only* to a POTW and shall not be discharged to any surface water or to the ground water:~~

- (i) Regeneration and backwash wastewaters from sodium chloride ion exchange units.
  - (ii) Activated carbon backwash and regeneration wastewaters for filters which treat for volatile organic compounds, except that initial start-up backwash conducted for the removal of loose carbon fines may be discharged to any surface water or groundwater provided such initial start-up backwash has been pretreated to remove solids in accordance with section 5(b) of this general permit.
  - (iii) Other WTW's containing chemical additives which contain any substances identified in Appendix B, Tables II, and V, and Appendix D of section 22a-430-4 of the Regulations of Connecticut State Agencies, except those WTW discharges which do not exceed: (a) all effluent limits specified in sections 5.(b)(1) and 5.(b)(2) of this general permit; or (b) if no such limit is specified in said sections 5.(b)(1) or 5.(b)(2), the most restrictive aquatic life or human health criteria listed in Appendix D of the Water Quality Standards .
- (B) The following types of WTW shall not be discharged to a surface water without treatment or best management practices to ensure compliance with effluent limitations specified in Section 5(b)(1) and numerical water quality criteria for chemical substances listed in Appendix D of the Water Quality Standards:
- (i) Facility and equipment cleaning rinsewaters containing *no* detergents or surfactants;
  - (ii) Water discharged from on-line analytical instruments;
  - (iii) Start-up wastewaters for new facilities or equipment containing *no* detergents or surfactants;
  - (iv) Designed emergency overflows of water, other than raw water, from any water treatment plant, unless best management practices have been implemented to minimize this type of discharge such as high level alarms, solenoid shut-off valves, or containment. For any existing water treatment plant with a designed emergency overflow to a surface water, the permittee shall submit a report to the Commissioner within one year of permit issuance detailing existing or proposed best management practices. Such report shall be submitted to the following address:

INDUSTRIAL PERMIT SECTION  
 WATER MANAGEMENT BUREAU/PERD  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 79 ELM STREET  
 HARTFORD CT 06106-5127

- (C) The following types of WTW may be discharged directly to a POTW without treatment; and shall be discharged to the surface water or ground water *only* after treatment for solids removal to meet the effluent limitations specified in Section 5(b)(1)(F) for total suspended solids:
- (i) Clarifier tank sludge blowdown;
  - (ii) Green sand filter ion exchange regeneration wastewaters;
  - (iii) filter media backwash and regeneration wastewaters.
- (D) Clarifier tank sludge blowdown shall not be discharged to subsurface disposal systems.
- (E) For discharges to a surface water or to the ground water for which a registration is required to be submitted by section 4(a) of this general permit except discharges which contains no chemicals, including but not limited to treatment chemicals used for taste/odor control, coagulants, corrosion control or disinfection, and except discharges from emergency overflows, the maximum daily flow of all discharges of WTW generated by a registrant on one site shall not exceed 1,000,000 gallons per day.
- (F) For discharges to a subsurface disposal system, the maximum daily flow of all discharges of WTW generated by a registrant on one site shall not exceed 50,000 gallons per day.
- (G) All lagoons used to treat or convey WTW and inlet and outlet structures, gates, valves, motors, pumps, and controls associated with such lagoons shall be designed and constructed to minimize short-circuiting of flow, vandalism and tampering.
- (H) Stormwater runoff shall not be discharged to any lagoons and beds which are used for the treatment of WTW, but may be discharged to lagoons or beds used to treat stormwater run-off and which are also used to hold emergency overflows of WTW.
- (I) Lagoon and beds used to treat WTW, and areas adjacent to such lagoons and beds, shall be graded to prevent stormwater runoff from discharging into them.
- (J) For all discharges of WTW to groundwater except those for which no registration is required to be submitted pursuant to section 4(a) of this general permit, those WTW discharges to the groundwater which require submission of a registration, the following minimum separating distances shall be maintained between any point of a disposal system and any potable water supply well which is not downgradient and also not associated with this discharge:

- (i) for potable water supply wells yielding less than 10 gallons per minute - 75 feet;
  - (ii) for potable water supply wells yielding 10 or more gallons per minute but less than 50 gallons per minute - 150 feet;
  - (iii) for potable water supply wells yielding more than 50 gallons per minute - 200 feet.
- (K) For discharges of WTW to the ground water which require submission of a registration, the minimum separating distance between any point of the disposal system and any downgradient potable water supply well shall be 1,000 feet, unless a ground water monitoring program has been approved in writing by the Commissioner. The minimum separating distance between a disposal system and downgradient potable water supply well, if a ground water monitoring program has been approved in writing by the Commissioner, shall be 200 feet. For the purpose of this subparagraph, Downgradient refers to groundwater gradient if it is known, or if no data indicating groundwater gradient is known, topographic gradient.
- (L) For discharges of WTW to the ground water, there shall be a minimum depth of 2 feet between the bottom of any lagoon or bed used to treat or convey WTW and any underlying bedrock surface, and for any lagoon constructed after the effective date of this general permit, at least 2 feet separation between the bottom of any such lagoon or bed and the seasonal high ground water table.
- (M) Discharges of WTW to the ground water shall not interfere with another subsurface disposal system and its treatment of wastewater, or render a drainfield or subsurface disposal system incapable of infiltration, or cause such drainfield or subsurface system to exceed its hydraulic capacity.

(b) Effluent Limitations

- (1) For discharges to a surface water:

(A) Temperature

The temperature of the discharge shall not increase the temperature of the receiving water above 85°F for freshwaters, and 83°F for marine waters, nor shall the discharge raise the temperature of the receiving stream more than 4°F at any time, except for marine waters during the months of July, August, and September, during which time the discharge shall not raise the temperature of the receiving waters more than 1.5°F.

(B) Salinity

Discharges of WTW to coastal waters shall not lower the salinity of the receiving water by more than 5 percent.

(C) pH

The pH of the discharge shall not be less than 5.0 nor greater than 9.0 standard units at any time.

(D) Appearance

Discharges of WTW shall not contain a visible oil sheen, visible discoloration, or foaming, or cause any such condition in the receiving water body.

(E) Chemical Limitations

Discharges of WTW to any surface water shall be analyzed for Total Copper, Total Zinc, Total Residual Chlorine and any additional substances, including but not limited to *inorganic chemicals, pesticides, organic chemicals* which have been detected within the previous twelve months in any sample analyzed in accordance with section 19-13-B102 of the Regulations of Connecticut State Agencies, except any substance added to the finished water which substance is not used in treating the raw water or otherwise introduced directly or indirectly into the WTW, including but not limited to disinfectant, fluoride, and corrosion control chemicals. Discharges of WTW to any surface water shall also be analyzed for any substance the permittee has reason to believe could be present within the raw water supply at a concentration exceeding a Maximum Contaminant Level (MCL) as defined in Section 19-13-B102 of the Regulations of Connecticut State Agencies. No discharge of WTW to any surface water shall contain such substance in excess of any MCL. Samples shall be collected in accordance with the sample requirements set forth in Section 5(c)(5) of this general permit.

- (F) In addition, for all discharges to a surface water, the following parameters shall also be monitored and the concentration of such substances in the discharge shall not exceed the maximum concentrations listed in table 1:

TABLE 1

<u>Pollutant Parameter</u>	<u>Maximum Concentration</u>
Total Aluminum	1.5 mg/l
Total Manganese	3.0 mg/l
Total Iron	3.0 mg/l
Total Dissolved Solids	1500.0 mg/l
Total Suspended Solids	20.0 mg/l
Total Settleable Solids	--- mg/l (no limit)

All discharges of WTW to surface water initiated after the effective date of this general permit shall not exceed the limits specified in Table II. Any WTW discharge initiated on or before the effective date of this general permit, the limits specified in table II shall be met no later than three years after the issuance date of this permit.

TABLE II

<u>Parameter</u>	<u>Instream Waste Concentration<sup>(1)</sup></u>			
	<u>Reservoir</u>	<u>&lt;1%</u>	<u>1% - 10%</u>	<u>&gt;10%</u>
Copper	0.217 mg/l	1.09 mg/l	0.11 mg/l	10.9 ug/l
Total Chlorine Residual	0.262 mg/l	0.90 mg/l	0.09 mg/l	9.0 ug/l
Zinc	0.557 mg/l	2.0 mg/l	0.28 mg/l	27.8 ug/l
Toxicity	LC <sub>50</sub> > 100%	LC <sub>50</sub> > 100%	LC <sub>50</sub> > 100%	NOAEL = 100%

<sup>(1)</sup>The Instream Waste Concentration shall be calculated by dividing the maximum daily flow of the discharge by the sum of the maximum daily flow of the discharge and the seven day ten year low flow of the receiving stream and multiplying the result by 100.

(2) For discharges to ground water:

(A) Temperature

No temperature limitation.

(B) pH

The pH of the discharge shall not be less than 5.0 nor greater than 9.0 standard units at any time.

(C) Chemical Limitations

Discharges of WTW to any ground water shall be analyzed for those substances including, but not limited to: *inorganic chemicals, pesticides, organic chemicals* which have been detected within the last twelve month period as a result of sampling required under section 19-13-B102 of the Public Health Code of the State of Connecticut as amended. Discharges of WTW to any ground water shall also be analyzed for any substance which can reasonably be expected to be present within the raw water supply at concentrations above any MCL. ~~No discharge of WTW to ground water shall contain such inorganic chemicals, pesticides, organic chemicals in concentrations in excess of any~~

<u>Pollutant Parameter</u>	<u>Maximum Concentration</u>
Total Settleable Solids	--- mg/l
Total Suspended Solids	--- mg/l
Total Residual Chlorine	--- mg/l
Total Aluminum	--- mg/l
Total Copper	--- mg/l
Total Manganese	--- mg/l
Total Zinc	--- mg/l
Total Iron	--- mg/l
*Total Volatile Organics	1.0 mg/l

\*Testing for total volatile organics shall be required for only those discharges for which there is reason to suspect their presence, such as activated carbon backwash and regeneration wastewaters for those filters which treat for volatile organic compounds.

(c) Monitoring Requirements

(1) Aquatic toxicity: Samples collected for determination of aquatic toxicity shall be tested using the NOAEL protocol specified in section 22a-430-3(j)(7)(a) of the Regulations of Connecticut State Agencies. The following additional specifications apply:

- (A) Toxicity tests shall be initiated within 36 hours of sample collection.
- (B) Toxicity tests shall employ neonatal (less than 24 hours old) *Daphnia pulex* and juvenile (30 +/- 5 days old) *Pimephales promelas* as test species.
- (C) Toxicity tests shall be 48 hours in duration.
- (D) The permittee shall retain, for the period of time required by section 22a-430-3(j)(9)(B) of the Regulations of Connecticut State Agencies, records of information necessary to verify the validity of aquatic toxicity test procedures, including but not limited to all records of organism mortality and environmental conditions noted during these tests.
- (E) Samples collected for determination of aquatic toxicity analysis shall also be analyzed for the chemical parameters listed in Section 5(b)(1), the results of which may be used to fulfill the requirement for chemical monitoring of effluent quality under this general permit.

(2) Chemical Analysis:

- (A) Chemical analysis to determine compliance with surface water effluent limits and conditions established in this general permit shall be performed using methods which have been approved by the U.S. Environmental Protection Agency in accordance with 40 CFR 136 and are capable of quantification of the parameter

at the concentration present in the sample without sample concentration. Failure to use an analytical method capable of achieving the minimum analytical quantification levels specified during analysis of effluent samples shall constitute a permit violation.

<u>Pollutant Parameter</u>	<u>Minimum Analytical Quantification Level</u>
Total Copper	5.0 ug/l
Total Lead	5.0 ug/l
Total Nickel	5.0 ug/l
Total Zinc	5.0 ug/l
Total Aluminum	100.0 ug/l

- (B) Chemical analysis to determine compliance with effluent limits and conditions for discharges to the groundwater or to a POTW shall be performed using the methods approved in accordance with 40 CFR 136 which are capable of achieving a limit of detection below the level established as an effluent limitation in Section 5(b) of this general permit.
- (C) For those discharges required to be tested for total volatile organics, the analysis required by this subsection shall be performed using EPA methods 8010 and 8020.
- (D) For discharges to ground water only, samples collected shall be prepared by settling of solids and filtration through a 0.45 uM filter prior to analysis.

(3) Monitoring Location

All wastewater samples shall be composed solely of WTW, prior to combination with wastewaters of any other type or with the receiving waters. For discharges to ground waters, samples shall be collected at the influent to the treatment system which directs the WTW into the ground waters, including but not limited to a lagoon or a subsurface drainfield.

(4) Monitoring Frequency

Monitoring to verify compliance with effluent limitations in Section 5(b) of this general permit shall be performed according to the following schedule:

- (D) period of noncompliance including exact dates and times;
- (E) if the noncompliance has not been corrected, the anticipated time it is expected to continue, and, upon correction, the date and time of correction;
- (F) steps taken and planned to reduce, eliminate and prevent a recurrence of the noncompliance, and the dates such steps are executed; and
- (G) the name and title of the person recording the information and the date and time of such recording.

(2) The permittee shall comply with the following requirements within the time frame specified, unless an alternative time frame is approved in writing by the Commissioner, if analytical results, monitoring data or other information indicate (a) three simultaneous or consecutive violations of the same or different conditions applicable to any single discharge covered by this general permit (e.g. three effluent limitation violations involving the same effluent limitation, or one effluent limitation violation, one flow violation, and one recording violation of the same discharge), (b) four violations of the same or different conditions of this general permit in any consecutive twelve month period, or (c) the exceedance of any effluent limitation, other than that for pH, by more than two hundred percent, and for pH, by more than one standard unit:

- (A) Within twenty days after the third simultaneous or consecutive violation of a specific discharge effluent limitation, or fourth annual violation, as applicable, or within ten days after the exceedance of any effluent limitation, other than that for pH, by more than two hundred percent, and for pH by more than one standard unit, the permittee shall submit to the Commissioner a report prepared by a professional engineer licensed to practice in Connecticut. Such report shall contain at least the information required to be recorded under paragraph (1) of this subsection for each of the violations which led to the requirement for such report, and for each subsequent violation which occurred prior to the date the report was completed. Such report shall be submitted to the following address:

ENFORCEMENT SECTION  
WATER MANAGEMENT BUREAU/PERD  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
79 ELM STREET  
HARTFORD CT 06106-5127

- (B) Within sixty days after the deadline for submitting the report specified in the preceding paragraph, the permittee shall submit to the Commissioner the following certification signed by a professional engineer licensed to practice in Connecticut:

"I certify that in my professional judgement all discharge(s) which are maintained at the facility referenced herein, and which are authorized by the general permit for WTWs issued on May 1, 1995 comply with all conditions of said permit,

including but not limited to all effluent limitations in Section 5(b) of such general permit, and proper operation and maintenance of any systems installed to treat such discharge(s) will insure that all effluent limitations and other conditions in such general permit are met, or if there is no treatment system for such discharge(s), that the discharge(s) will meet all effluent limitations and conditions of such general permit without treatment. This certification is based in part on my review of analyses of a minimum of three effluent samples collected, preserved, handled and analyzed in accordance with 40 CFR 136, which samples were representative of the discharge(s) during standard operating conditions, were taken within the previous 12 months, at least one week apart, and were of the type(s) specified in Section 5(c)(5) of said general permit, and were analyzed for the parameters specified in Section 5(c)(1) and (2) of said general permit. I am aware that there are significant penalties for false statements in this certification, including the possibility of fine and imprisonment for knowingly making false statements."

- (C) For any discharge to a POTW, the Permittee shall notify the POTW authority of each violation and a copy of any report required to be submitted under this subsection shall also be sent to the POTW which receives the discharge.

## Section 6. General Conditions

- (a) The permittee shall comply with the following Regulations of Connecticut State Agencies which are hereby incorporated into this general permit, as if fully set forth herein:

- (1) Section 22a-430-3:

Subsection (b) General - subparagraph (1)(D) and subdivisions (2), (3),(4) and (5)  
Subsection (c) Inspection and Entry  
Subsection (d) Effect of a Permit - subdivisions (1) and (4)  
Subsection (e) Duty to Comply  
Subsection (f) Proper Operation and Maintenance  
Subsection (g) Sludge Disposal  
Subsection (h) Duty to Mitigate  
Subsection (i) Facility Modifications, Notification - subdivisions (1) and (4)  
Subsection (j) Monitoring, Records and Reporting Requirements -  
subdivisions (1), (6), (7), (8), (9) and (11) (except subparagraphs (9)(A)(2), and  
(9)(C))  
Subsection (k) Bypass  
Subsection (m) Effluent Limitation Violations  
Subsection (n) Enforcement  
Subsection (o) Resource Conservation  
Subsection (p) Spill Prevention and Control  
Subsection (q) Instrumentation, Alarms, Flow Recorders  
Subsection (r) Equalization

(2) Section 22a-430-4:

Subsection (t) - Prohibitions

Subsection (p) - Revocation, Denial, Modification

Appendices

(b) The permittee shall comply with the following additional terms and conditions:

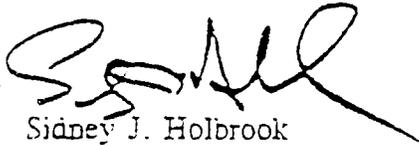
- (1) The permittee is authorized to discharge (a) pollutants in quantities and concentrations as specified in this general permit; and (b) any substances resulting from the processes or activities described in this general permit in concentrations and quantities which the Commissioner determines cannot reasonably be expected to cause pollution and will not adversely affect surface waters, ground waters, or the operation of a POTW. The Commissioner may seek an injunction or issue an order to prevent or abate pollution, and may seek criminal penalties against a permittee who willfully or with criminal negligence causes or threatens pollution.
- (2) Discharge of any substance which does not result from the processes or activities authorized by this general permit shall be considered a violation of this general permit unless it is authorized by an individual permit issued under section 22a-430 of the General Statutes or another General Permit issued under section 22a-430b of the General Statutes.
- (3) The permittee shall at all times continue to comply with the conditions for authorization set forth in Section 3 of this general permit.
- (4) Nothing in this general permit shall relieve the registrant of other obligations under applicable federal, state and local law.
- (5) Any document, including but not limited to any notice, which is required to be submitted to the Commissioner under this general permit by the permittee shall be signed by the permittee and by the individual or individuals responsible for actually preparing such document, each of whom shall certify in writing as follows:

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in the submitted information may be punishable as a criminal offense, in accordance with section 22a-6 of the General Statutes, pursuant to section 53a-157 of the General Statutes, and in accordance with any other applicable statute."

- (6) The Commissioner reserves the right to make appropriate revisions to this general permit, in accordance with applicable law, in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which may be necessary to adequately protect human health and the environment.
- (7) The Commissioner may order summary suspension of this general permit in accordance with section 4-182 of the General Statutes.

## Section 7. Unauthorized Activities

Any person who or municipality which initiates, creates, originates or maintains a discharge of WTW into the waters of the state without authorization under this general permit, except those authorized by an individual permit issued under section 22a-430 of the General Statutes, or an authorization as authorized by Public Act No. 95-428 of the General Statutes, is in violation of the General Statutes and is subject to injunction and penalties of up to \$25,000 per day per violation under Chapter 446k of the General Statutes.



Sidney J. Holbrook  
Commissioner

Dated: May 1, 1995



# General Permit Registration Form for Water Treatment Wastewater

Please complete this form in accordance with the instructions in order to ensure the proper handling of your registration. Print or type unless otherwise noted. You must submit the permit application transmittal form and the registration fee along with this form.

DEP USE ONLY
Application No. _____
Permit No. _____
Facility I.D. _____

## Part I: Registration Type

Enter a check mark in the appropriate box identifying the registration type.

A new general permit;

A discharge previously authorized by an individual State or NPDES permit;  
Provide Permit No. \_\_\_\_\_

## Part II: Registrant Information

Please provide the applicant/registrant's name as indicated on the transmittal form

Applicant/Registrant: \_\_\_\_\_

When a facility or activity is owned by one person or municipality but is leased or in some other way the legal responsibility of another person or municipality (the operator) it is the operator's responsibility to submit any applications required under this section. (Section 22a-430-4-(a)(3)).

Operator: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City/Town: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Business Phone: ( ) \_\_\_\_\_ ext. \_\_\_\_\_ Fax: ( ) \_\_\_\_\_

Contact: \_\_\_\_\_ Title: \_\_\_\_\_

Facility or Site Owner: \_\_\_\_\_ Mailing Address: \_\_\_\_\_ City/Town: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_ Business Phone: ( ) \_\_\_\_\_ ext. \_\_\_\_\_ Fax: ( ) \_\_\_\_\_ Contact: \_\_\_\_\_ Title: \_\_\_\_\_

Part II: Registrant Information (continued)

List primary contact for departmental correspondence and inquiries. (If other than the applicant.)

Name: \_\_\_\_\_ Mailing  
Address: \_\_\_\_\_  
City/Town: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Business Phone: ( ) \_\_\_\_\_ ext. \_\_\_\_\_ Fax: ( ) \_\_\_\_\_  
Contact: \_\_\_\_\_ Title: \_\_\_\_\_

List attorney or other representative if applicable.

Name: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
City/Town: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Business Phone: ( ) \_\_\_\_\_ ext. \_\_\_\_\_ Fax: ( ) \_\_\_\_\_  
Contact: \_\_\_\_\_ Title: \_\_\_\_\_

List any engineer(s) or other consultant(s) employed or retained to assist in preparing the registration or to design, construct or operate the water treatment wastewater activity. Please enter a check mark if additional sheets are attached.

Name: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
City/Town: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Business Phone: ( ) \_\_\_\_\_ ext. \_\_\_\_\_ Fax: ( ) \_\_\_\_\_  
Contact: \_\_\_\_\_ Title: \_\_\_\_\_  
Service Provided: \_\_\_\_\_

Part III: Site Information

1. Name of facility, if applicable \_\_\_\_\_  
Street Address and/or Geographical Description \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
City or Town \_\_\_\_\_

Part IV: Activity Information

1. Discharge Serial Number \_\_\_\_\_

Average Daily Flow \_\_\_\_\_ gpd Maximum Daily Flow \_\_\_\_\_ gpd

Design Flow \_\_\_\_\_

Date Discharge Began or Will Begin \_\_\_\_\_

Average Number of hours per day or per event of the discharge \_\_\_\_\_

Maximum Number of hours per day or per event of the discharge \_\_\_\_\_

2. For batch, intermittent, or seasonal discharges, indicate the duration and frequency of the discharge.

\_\_\_\_\_  
\_\_\_\_\_

3. Description of each specific activity or each process generating the discharge.

\_\_\_\_\_  
\_\_\_\_\_

4. Identification of all types of wastes generated by each process producing a discharge.

\_\_\_\_\_  
\_\_\_\_\_

5. For discharges to a POTW

a. Name and location of POTW \_\_\_\_\_ Design Flow of POTW \_\_\_\_\_

6. For discharges to a surface water body: Name of receiving stream \_\_\_\_\_

7. A detailed description of the type of treatment system installed to treat the discharge.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

8. A brief description of the BMP's to be implemented by the permittee to minimize the adverse environmental affects of activities covered under this general permit.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Part V: Certification

The registrant and the individual(s) responsible for actually preparing the registration must sign this part. A registration will be considered incomplete unless all signatures asked for are provided. If the registrant is the preparer, please mark N/A in the spaces provided for the preparer.

"I certify under penalty of law that I have read and understand all conditions of the general permit for Water Treatment Wastewater (WTW) discharges issued on May 1, 1995, that all requirements for authorization under this general permit are met for all discharges which are the subject of this registration, and all terms and conditions of this general permit are being met for all discharges which have been initiated and are the subject of this registration. This document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure 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 contained in this registration 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 knowingly making false statements."

_____ Signature of Registrant	_____ Date
_____ Name of Registrant (print or type)	_____ Title (if applicable)
_____ Signature of Preparer	_____ Date
_____ Name of Preparer (print or type)	_____ Title (if applicable)

Please enter a check mark if additional signature blocks are attached.

## Part VI: Supporting Documents

The supporting documents outlined below must be submitted with the registration form.

1. Plan of the site showing at least the boundaries of the site, the exact location of any drinking water wells on the site, the location of discharges covered under this general permit, the monitoring locations, the treatment systems and the location of wetlands and watercourses as defined by sections 22a-28 and 22a-38 of the General Statutes.
2. For discharge(s) to surface water or ground water, an 8 1/2" by 11" copy of applicable sections of a United States Geological Survey (USGS) quadrangle map, with a scale of 1:24,000, showing the exact location of the discharge, specifying the longitude and latitude of the discharge to within the closest 15 seconds, and including the name of the USGS map.
3. For discharges to a POTW initiated after the effective date of the Water Treatment Wastewater General Permit, the attached POTW certification.
4. The attached Professional Engineer Certification.
5. For any discharge initiated on or before the effective date of this general permit, which does not comply with the treatment and control requirements contained in Section 5(a)(6) as of the effective date of the general permit for Water treatment Wastewater, a report detailing all such conditions or terms which are not being complied with, and a schedule of modifications or facility upgrades required to meet any such term or condition.
6. A plan for minimizing the use of copper if the registrant utilizes a water supply reservoir and copper compounds are used, or intended to be used in the water supply reservoir. Such plan shall take into account, at a minimum, an assessment of nutrient loadings in the watershed, the amount of copper needed to control algae, intake levels, and opportunities for recycling the wastewater stream and shall include a plan for monitoring algae and using copper sulfate only when needed to control algae.

POTW Certification

For discharges to a POTW initiated after the effective date of the Water Treatment Wastewater General Permit, the following certification is required from the registrant:

"I certify that (1) the information outlined below has been submitted to the appropriate POTW authority, and 2) the registrant has received written certification signed by the appropriate POTW authority that it has received and reviewed the information outlined below and has authorized the discharge to the POTW, and 3) such information and written certification has been submitted with this registration;

- (i) an analysis of the impact of the discharge on the hydraulic capacity of the receiving POTW, including but not limited to the receiving sewerage system, force mains, pumping stations;
- (ii) the rate, frequency, and time period that the WTW will be discharged to the POTW;
- (iii) wastewater characteristics;
- (iv) provisions for the controlled discharge of WTW to the receiving POTW, including but not limited to equalization, limiting hydraulic loading, or limiting the total suspended solids loading;
- (v) the impact of the discharge of WTW on POTW sludge generation and handling, and any potential alteration of the character of the sludge which may render it unsuitable for further treatment by anaerobic/aerobic digestion, high temperature/pressure and chemical oxidation, sludge dewatering, and composting; or unsuitable for ultimate disposal by incineration, landfilling, or land application;
- (vi) the ratio of flow of WTW in relation to total influent to the POTW; and
- (vii) any other information necessary to ensure that such discharge will not adversely impact the performance of the POTW and cause any violation of their discharge permit, or render the sludge generated at the POTW unsuitable for landfilling, land application, or incineration.

\_\_\_\_\_  
Signature of Registrant

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name of Registrant (print or type)

\_\_\_\_\_  
Title (if applicable)

PROFESSIONAL ENGINEER CERTIFICATION

The following certification, signed by a professional engineer licensed to practice in Connecticut :

- (i) For any discharge which has not been initiated, created, or maintained as of the date of the registration is submitted:

" I certify that in my professional judgement proper operation and maintenance of any systems installed to treat the discharge(s) which are the subject of this registration will ensure that all effluent limitations and other conditions in the general permit for the discharge of WTW issued on May 1, 1995 are met, or if there is no treatment system for such discharge(s), that the discharge(s) will meet all effluent limitations and conditions of such general permit without treatment. This certification is based on my review of engineering reports and plans and specifications describing (1) the proposed discharges and (2) any proposed treatment system for the wastewaters to be discharged. I am aware that there are significant penalties for false statements in this certification, including the possibility of fine and imprisonment for knowingly making false statements."

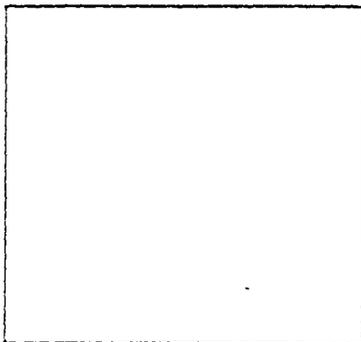
\_\_\_\_\_  
Signature of Professional Engineer

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name of Professional Engineer

\_\_\_\_\_  
P.E. Number

Affix P.E. Stamp here



- (iii) For any discharge other than those specified in paragraph (i) above:

"I certify that in my professional judgement all discharge(s) which are the subject of this registration ~~comply with all conditions of the general permit for the discharge of WTW issued on May 1, 1995, including but not limited to all effluent limitations in Section 5(b) of such general permit~~ and proper operation and maintenance of any systems installed to treat such discharge(s) will ensure that all effluent limitations and other conditions in such general permit are met, or if there is no treatment system for such discharge(s), that the discharge(s) will meet all effluent limitations and conditions of such general permit without treatment. This certification is based in part on my review of analyses of a minimum of three effluent samples collected, preserved, handled and analyzed in accordance with 40 CFR Part 136, which ~~samples were representative of~~

(PROFESSIONAL ENGINEER CERTIFICATION continued)

the discharge(s) during standard operating conditions, were taken within the previous 12 months, at least one week apart, and were of the type(s) specified in Section 5(c)(5) of the general permit for WTW discharges issued on May 1, 1995, and were analyzed for the parameters specified in Section 5(c) of such general permit. In the case of discharges of WTW less than 5000 gallons per day maximum daily flow, this certification may be based on review of analyses from one effluent sample collected, preserved, handled, and analyzed as specified in the previous sentence. I am aware that there are significant penalties for false statements in this certification, including the possibility of fine and imprisonment for knowingly making false statements."

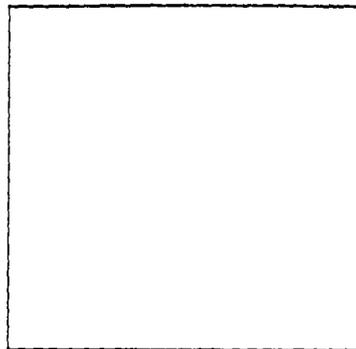
\_\_\_\_\_  
Signature of Professional Engineer

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name of Professional Engineer

\_\_\_\_\_  
P.E. Number

Affix P.E. Stamp here



(PROFESSIONAL ENGINEER CERTIFICATION continued)

(iii) In addition, for a discharge to a POTW:

"I certify that in my professional judgement all the requirements for discharges to a POTW in Sections 4 and 5 of the General Permit for Water Treatment Wastewater have been met and the registrant is authorized to discharge to the POTW."

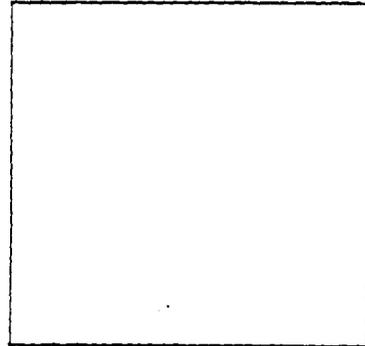
\_\_\_\_\_  
Signature of Professional Engineer

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name of Professional Engineer

\_\_\_\_\_  
P.E. Number

Affix P.E. Stamp here



**APPENDIX B**  
**MEETING MINUTES**

December 27, 1996

Commanding Officer  
Northern Division  
Naval Facilities Engineering Command  
10 Industrial Highway, Mail Stop #82  
Lester, PA 19113-2090

Attention: Lew Riess, Code 1813

**RE: NSB NEW LONDON, GENERAL PERMIT COMPLIANCE  
(HRP #NAV-0096.FE)**

Dear Mr. Riess:

Following are the minutes of our December 9, 1996, Project initiation Meeting.

Date: December 9, 1996  
Time: 1230-1700  
Meeting: Project Initiation  
Project: General Permit Compliance  
Location: NSB New London, Office of Keith Chrisman, Building 166  
Attendees: Lew Riess, NORTHDIV  
Keith Chrisman, NSB New London  
Charles Leonard, HRP  
Michael Errickson, HRP  
Joseph Magdol, HRP  
Herb Cummings, NSB  
Bob Hoen, NSSF (for Larry King)  
John Dalluge, NSSF  
Gregg Collier, NSSF  
Janet Bennett, NSSF  
(sign-in sheet is attached)

The meeting was originally scheduled for 1230 but was postponed to 1330 because Lew Riess' plane was delayed in Philadelphia for deicing. Because Herb Cummings would not be available at 1330, a preliminary meeting was held with Keith Chrisman, Herb Cummings and the three representatives of HRP.

At the 1230 meeting the Water Treatment Wastewater Sources listed in the Scope of Work and located in Building 29 were discussed. One (of several potential) contacts at Building 29 is Lenny Slater. A tentative schedule for sampling at Building 29 was established as follows. All sampling days to begin at 0730.

<u>Round</u>	<u>Date</u>
#1	Tuesday, December 10, 1996
#2	Tuesday, December 17, 1996
#3	Monday, December 23, 1996

Of particular note were the following points.

- Production is far below capacity which may mean that backwashes and associated rinses will be worst-case quality. On the other hand, backwashing and rinsing more frequently than is warranted for purposes of permitting may result in atypically good water quality.
- Flowrates may be verifiable by determining pumping rates during backwash/rinse operations.
- The two Power Plant water softeners are identical but one requires regeneration approximately every 12 hours and the other, every 72 hours.
- The Gas Turbine system is still in the start-up mode and will not be turned over to the Navy until December 20, 1996. The company and contact of the supplier are Nutmeg Technologies, Barry Lewis, (203) 777-7691.
- An O&M Manual for the Pure Water Facility will be provided to HRP. (As of the date of issuing these minutes, the manual has been provided).

At the 1330 meeting the operations and discharges in the NSSF shops were discussed with the NSSF representatives present. A tentative schedule for sampling the Buildings 88, 89 & 456 discharges was established as follows. All sampling days to begin at 0730.

<u>Round</u>	<u>Date</u>
#1	Wednesday, December 11, 1996
#2	Wednesday, December 18, 1996
#3	Friday, December 27, 1996

The following specific information was provided.

- The Battery Flash Arrestor wash/rinse operation in Building 456 is typically run approximately 3 times per month. Currently, all wastewater is hauled off-site as either CT Regulated Waste or as Hazardous Waste. Each cycle runs for 40-60 minutes. A Point-of-Contact (P.O.C.) for this operation is Chief Chandler at (860) 449-4083.
- The Ventilation Filter Cleaning Unit (VFCU) in Building 89 is used approximately once per week. The Hot Soap Tank solution is quite dirty and has not been emptied for over a year. The steam cleaning tank is also very oily and dirty and did not appear to have been cleaned recently. NSSF personnel indicated that they were not aware of any prescribed cleaning interval. The VFCU discharge leads to a floor drain that possibly discharges to the Thames River. HRP will attempt to obtain building drawings so that this can either be verified or refuted. Submarine crews clean their own filters at the VFCU. One sample shall be taken of the existing hot soap and steam cleaning tanks (dirty) and two samples shall be taken from the tanks after they are cleaned. An NSSF P.O.C. is PO Pincin at (860) 449-3920.
- The Ultrasonic Parts Cleaner, in Building 88, has electrical power supply and can be operated. A supply of trisodium phosphate (TSP) is needed and, since the Navy can not procure this within the short time frame of this project, HRP agreed to supply it. No adjustment of the project budget is necessary. At the time of issuing these minutes, the TSP has been provided. A P.O.C. is PO Carter at (860) 449-4236.

A number of project administrative items were discussed as summarized below.

- Delivery of final documents using EXCEL and WORDPERFECT (rather than Microsoft Word), will be acceptable.
- Reports (draft and final) will include DEP registration forms as appendices. the final registration forms will also be provided as separate documents for submittal to DEP.
- Number of document copies needed:

Mr. Lew Riess, Code 1813  
Page 4  
December 27, 1996

Draft

NORTHDIV (Report) - 1 copy  
NSB New London (Report) - 2 copies

Final

NORTHDIV (Report) - 2 copies  
NSB New London (Report) - 2 copies  
NSB New London (DEP Registrations) - 3 copies

- HRP will verify with DEP that one registration (listing multiple discharges) is appropriate for NSB New London.
- Minutes from the Project Initiation Meeting will be prepared by HRP.
- Weekly verbal Progress Reports will be provided to Lew Riess by Joe Magdol.

The meeting ended with a tour of all operations to be sampled. The Building 29 operations tour was led by Bob Loiselle, NSB New London Public Works. The Buildings 88, 89 and 456 operations tour was led by Bob Hoen, NSSF.

Please review these minutes and contact me if you have suggested revisions. Do not hesitate to contact me if you have questions at (860) 793-6899, ext. 126.

Sincerely yours,

HRP ASSOCIATES, INC.



Joseph Magdol, P.E.  
Senior Project Manager

JM/db

cc: Commanding Officer  
NSB New London, Box 39  
Environmental Department  
Groton, CT 06349-5039  
Attention: Keith Chrisman, Code 1602/KC

**APPENDIX C**  
**INTERVIEW LOGS**

**WATER TREATMENT WASTEWATER SAMPLING**

***INTERVIEW LOG***

HRP Job #: NAV-0096.FE  
Date: 12/7/96  
Subject: General Permit Testing for Volatile Organic  
Interviewer(s): J. Magdol  
Interviewee(s): Andy Stackpole, SUBASENLON

Summary:

Mr. Stackpole informed HRP that Groton's water supply does not have a volatile organic problem and that the Pure Water Facility was installed to remove metals and iron.

  
\_\_\_\_\_  
Interviewer's Signature

**WATER TREATMENT WASTEWATER SAMPLING**

***INTERVIEW LOG***

HRP Job #: NAV-0096.FE  
Date: 1/7/97  
Subject: General Permit Sampling and Registration  
Interviewer(s): C. Leonard  
Interviewee(s): David Cherico, CT DEP

**Summary:**

Mr. Cherico informed HRP that each process is considered one discharge. The sampling should be conducted at the first and last 10% of time of the entire process unless there is any reason to suspect that other sampling is necessary.



Interviewers Signature

## WATER TREATMENT WASTEWATER SAMPLING

### *INTERVIEW LOG*

HRP Job #: NAV-0096.FE  
Date: 12/10/96, 12/12/96, 12/30/96, 1/8/97  
Subject: Gas Turbine Water Softeners and Reserve Osmosis Unit Information  
Interviewer(s): C. Leonard  
Interviewee(s): Barry Lewis, Nutmeg Technology

#### Summary:

Mr. Lewis provided explanations of the two units and assisted in starting the units for sampling. Mr. Lewis was also asked if there was any reason for the pH of the water softener discharges to be below 5. Mr. Lewis could not think of any reason. Mr. Lewis also provided HRP with much of the information for the activity information necessary for the General Permit Registration for the two units.



Interviewers Signature

## WATER TREATMENT WASTEWATER SAMPLING

### *INTERVIEW LOG*

HRP Job #: NAV-0096.FE  
Date: 1/14/97  
Subject: Groton WPFC Information  
Interviewer(s): C. Leonard  
Interviewee(s): Carl Almquist, Groton WPCF

#### Summary:

Mr. Almquist informed HRP that the design flow of the Groton WPCF is 5 mgd and that the town currently treats 3.3 mgd. Mr. Almquist also stated that the additional gas turbine discharges will not affect the sanitary sewer system, but he could not determine the effect of the discharges on the WPCF sludge without reviewing lab results.



Interviewers Signature

## WATER TREATMENT WASTEWATER SAMPLING

### *INTERVIEW LOG*

HRP Job #: NAV-0096.FE

Date: 2/13/97

Subject: Water Use by the Gas Turbine

Interviewer(s): C. Leonard

Interviewee(s): Sharzed Jetareh, Leon Coffey, Patrick Sparkman, and Dave Autemoro

#### Summary:

Each of the Solar Turbine employees listed above stated that the gas turbine uses an average of 7 gpm of treated water depending on weather conditions. Each person stated that if the ambient temperature is very cold and gas turbine will use more treated water. Patrick Sparkman of Solar Turbine's New York office stated that the maximum amount of treated water used by the gas turbine would be 8.5 gpm.

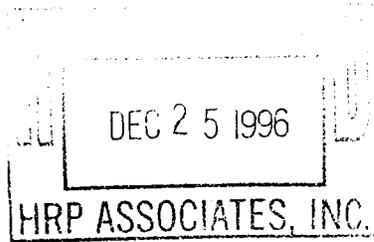


Interviewers Signature

**APPENDIX D**  
**LABORATORY REPORTS**

December 18, 1996

HRP Associates Inc.  
167 New Britain Ave  
Plainville, CT 06062



Attn: Ms. Pat Terwilliger

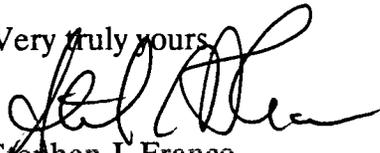
Please find attached laboratory report(s) for the samples submitted on :  
December 10, 1996

All pertinent information for this analysis is located on the report. Should it be necessary to contact us regarding billing and or the test results, please have the following information readily available :

LAB No. : 126139  
PO/JOB No. : NAV0096.FE  
INVOICE No. : 62957  
ORDER No. : 43083  
CUSTOMER No.: 350

Please feel free to contact us if you have any questions.

Very truly yours,



Stephen J. Franco  
Laboratory Director  
PH-0547



STEPHEN J. FRANCO  
Laboratory Director  
PHONE ■ 203/634-3731

165 GRACEY AVENUE ■ MERIDEN, CT ■ 06451

Date Samples Received : 12-10-96

Client Name: **HRP Associates Inc.**  
 Report Date: 12-17-96

CTL Lab. No. 126139  
 PO/Job No. NAV0096.FE

**RESULTS OF ANALYSIS****Total Metals**

Matrix Type	W	W	W	W
CTL Sample No.	13866	13867	13868	13869
Field Id	1A	1B	2A	2B
pH	6.7	6.5	6.2	6.0
Aluminum-mg/L	200	1.9	0.1	0.2
Copper-mg/L	0.17	ND<0.01	ND<0.01	ND<0.01
Iron-mg/L	190	1.96	0.10	0.15
Manganese-mg/L	16.4	0.17	ND<0.01	ND<0.01
Zinc-mg/L	6.72	0.12	ND<0.05	0.20
Tot. Suspended Solids-mg/L	1,221	17	2	4
Tot. Sett. Solids-ml/L/hr.	373	ND<0.2	ND<0.2	ND<0.2
Total Res. Chlorine-mg/L	ND<0.05	ND<0.05	ND<0.05	ND<0.05

Matrix Types : W = Water/Aqueous  
 S = Soil/Solid  
 O = Oil/Hydrocarbons

**CONNECTICUT TESTING LABORATORIES, INC.**  
 165 Gracey Avenue / Meriden, CT 06451-2268  
 (203) 634-3731

Connecticut Certification No. PH-0547

Date Samples Received : 12-10-96

Client Name: **HRP Associates Inc.**  
 Report Date: 12-17-96

CTL Lab. No. 126139  
 PO/Job No. NAV0096.FE

**RESULTS OF ANALYSIS****Total Metals**

Matrix Type	W	W	W	W
CTL Sample No.	13870	13871	13872	13873
Field Id	3A	3B	4A	4B

pH	5.0	5.0	7.7	7.7
Aluminum-mg/L	ND<0.1	0.1	0.5	0.5
Copper-mg/L	ND<0.01	ND<0.01	ND<0.01	ND<0.01
Iron-mg/L	0.14	0.08	0.31	0.25
Manganese-mg/L	ND<0.01	ND<0.01	ND<0.01	ND<0.01
Zinc-mg/L	0.18	0.18	0.22	0.16
Tot. Suspended Solids-mg/L	3	3	9	10
Tot. Sett. Solids-ml/L/hr.	ND<0.2	ND<0.2	ND<0.2	ND<0.2
Total Res. Chlorine-mg/L	ND<0.05	ND<0.05	ND<0.05	ND<0.05

Matrix Types : W = Water/Aqueous  
 S = Soil/Solid  
 O = Oil/Hydrocarbons

**CONNECTICUT TESTING LABORATORIES, INC.**  
 165 Gracey Avenue / Meriden, CT 06451-2268  
 (203)-634-3731

Connecticut Certification No. PH-0547

Date Samples Received : 12-10-96

Client Name: HRP Associates Inc.  
Report Date: 12-17-96CTL Lab. No. 126139  
PO/Job No. NAV0096.FE**RESULTS OF ANALYSIS****Total Metals**

Matrix Type	W	W	W
CTL Sample No.	13874	13875	13876
Field Id	Flash Arrest Wash	Flash Arrest Rinse	Motor Cleaning
pH	2.0	3.2	6.4
Silver-mg/L	ND<0.01	ND<0.01	ND<0.01
Barium-mg/L	ND<0.5	ND<0.5	ND<0.5
Cadmium-mg/L	0.020	ND<0.005	ND<0.005
Chromium, Total-mg/L	ND<0.05	ND<0.05	ND<0.05
Copper-mg/L	8.91	0.93	0.13
Nickel-mg/L	0.38	0.23	ND<0.05
Lead-mg/L	1.41	0.151	ND<0.010
Selenium-mg/L	ND<0.01	ND<0.01	ND<0.01
Zinc-mg/L	1.53	0.38	0.45
Beryllium-mg/L	ND<0.004	ND<0.004	ND<0.004
Zirconium-mg/L	ND<0.5	ND<0.5	ND<0.5
Molybdenum-mg/L	ND<0.5	ND<0.5	ND<0.5
Boron-mg/L	ND<1.0	ND<1.0	ND<1.0
Cobalt-mg/L	ND<0.1	ND<0.1	ND<0.1
Antimony-mg/L	0.065	ND<0.006	ND<0.006
Vanadium-mg/L	ND<0.1	ND<0.1	ND<0.1
Tin-mg/L	ND<0.5	ND<0.5	ND<0.5
Titanium-mg/L	ND<0.5	ND<0.5	ND<0.5
Thallium-mg/L	ND<0.002	ND<0.002	ND<0.002
Strontium-mg/L	ND<0.5	ND<0.5	ND<0.5
Total Oil & Grease-mg/L	1.2	ND<0.5	12
Settleable Solids-ml/L/hr.	ND<0.2	ND<0.2	ND<0.2

Matrix Types : W = Water/Aqueous  
S = Soil/Solid  
O = Oil/Hydrocarbons

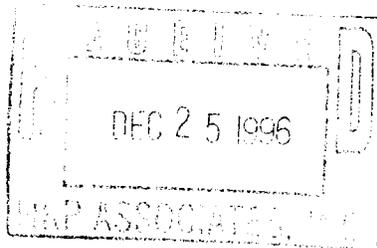
**CONNECTICUT TESTING LABORATORIES, INC.**  
165 Gracey Avenue / Meriden, CT 06451-2268  
(203)-634-3731

Connecticut Certification No. PH-0547

December 17, 1996

HRP Associates Inc.  
167 New Britain Ave  
Plainville, CT 06062

Attn: Ms. Pat Terwilliger



Please find attached laboratory report(s) for the samples submitted on :  
**December 10, 1996**

All pertinent information for this analysis is located on the report. Should it be necessary to contact us regarding billing and or the test results, please have the following information readily available :

LAB No. : 126140  
PO/JOB No. : NAV0096.FE  
INVOICE No. : 62913  
ORDER No. : 43039  
CUSTOMER No. : 350

Please feel free to contact us if you have any questions.

Very truly yours,

Stephen J. Franco  
Laboratory Director  
PH-0547



STEPHEN J. FRANCO  
Laboratory Director  
PHONE ■ 203/634-3731

165 GRACEY AVENUE ■ MERIDEN, CT ■ 06451

Client : HRP Associates Inc.	Date Tested : 12-13-96
Lab No. : 126140	Analyst : RS
PO No. : NAV0096.FE	
Rep. Date : 12-17-96	

**EPA METHOD 601/8010**

Date Samples Rec'd: 12-10-96

Matrix Type :	W	W	W	W	
Field ID :	1A	1B	2A	2B	
	MDL				
Chloromethane	2	BDL	BDL	BDL	BDL
Bromomethane	2	BDL	BDL	BDL	BDL
Vinylchloride	2	BDL	BDL	BDL	BDL
Chloroethane	2	BDL	BDL	BDL	BDL
Methylenechloride	1	BDL	BDL	BDL	BDL
Trichlorofluoromethane	1	BDL	BDL	BDL	BDL
11-Dichloroethylene	1	BDL	BDL	BDL	BDL
11-Dichloroethane	1	BDL	BDL	BDL	BDL
t12-Dichloroethylene	1	BDL	BDL	BDL	BDL
<b>Chloroform</b>	1	20.0	16.0	18.0	20.0
12-Dichloroethane	1	BDL	BDL	BDL	BDL
111-Trichloroethane	1	BDL	BDL	BDL	BDL
Carbontetrachloride	1	BDL	BDL	BDL	BDL
<b>Bromodichloromethane</b>	1	6.0	4.0	3.0	3.0
12-Dichloropropane	1	BDL	BDL	BDL	BDL
T13-Dichloropropylene	1	BDL	BDL	BDL	BDL
Trichloroethylene	1	BDL	BDL	BDL	BDL
Dibromochloromethane	1	BDL	BDL	BDL	BDL
112-Trichloroethane	1	BDL	BDL	BDL	BDL
Cis13-Dichloropropylene	1	BDL	BDL	BDL	BDL
2-Chlorethylvinylether	1	BDL	BDL	BDL	BDL
Bromoform	1	BDL	BDL	BDL	BDL
1122-Tetrachloroethane	1	BDL	BDL	BDL	BDL
Tetrachloroethylene	1	BDL	BDL	BDL	BDL
Chlorobenzene	1	BDL	BDL	BDL	BDL
Benzyl Chloride	10	BDL	BDL	BDL	BDL
Bis(2-chlorethoxy)methane	10	BDL	BDL	BDL	BDL
Bis(2-chloroisopropyl)eth	10	BDL	BDL	BDL	BDL
Bromobenzene	1	BDL	BDL	BDL	BDL
Chloroacetaldehyde	10	BDL	BDL	BDL	BDL
1-Chlorohexane	1	BDL	BDL	BDL	BDL
Chloromethyl methyl ether	10	BDL	BDL	BDL	BDL
Chlorotoluene	1	BDL	BDL	BDL	BDL
Dibromomethane	1	BDL	BDL	BDL	BDL
12-Dichlorobenzene	1	BDL	BDL	BDL	BDL
13-Dichlorobenzene	1	BDL	BDL	BDL	BDL
14-Dichlorobenzene	1	BDL	BDL	BDL	BDL
Trichloropropane	1	BDL	BDL	BDL	BDL
c12-Dichloroethylene	1	BDL	BDL	BDL	BDL

**MDL=** Minimum Detectable Level/**BDL=** Below Detection Level/**UNITS=** PPB

**Matrix Type :** W= Water/Aqueous S= Soil/Solid O= Oil/Hydrocarbons

**CONNECTICUT TESTING LABORATORIES, INC.**

165 Gracey Avenue / Meriden, CT 06451-2268

(203)-634-3731

Connecticut Certification No. PH-0547

Client : HRP Associates Inc.	Date Tested : 12-13-96
Lab No. : 126140	Analyst : RS
PO No. : NAV0096.FE	
Rep. Date : 12-17-96	

**EPA METHOD 601/8010**

Date Samples Rec'd: 12-10-96

Matrix Type :	W	W	W	W	
Field ID :	3A	3B	4A	4B	
	MDL				
Chloromethane	2	BDL	BDL	BDL	BDL
Bromomethane	2	BDL	BDL	BDL	BDL
Vinylchloride	2	BDL	BDL	BDL	BDL
Chloroethane	2	BDL	BDL	BDL	BDL
Methylenechloride	1	BDL	BDL	BDL	BDL
Trichlorofluoromethane	1	BDL	BDL	BDL	BDL
11-Dichloroethylene	1	BDL	BDL	BDL	BDL
11-Dichloroethane	1	BDL	BDL	BDL	BDL
t12-Dichloroethylene	1	BDL	BDL	BDL	BDL
<b>Chloroform</b>	1	15.0	20.0	12.0	12.0
12-Dichloroethane	1	BDL	BDL	BDL	BDL
111-Trichloroethane	1	BDL	BDL	BDL	BDL
Carbontetrachloride	1	BDL	BDL	BDL	BDL
<b>Bromodichloromethane</b>	1	BDL	3.0	BDL	BDL
12-Dichloropropane	1	BDL	BDL	BDL	BDL
T13-Dichloropropylene	1	BDL	BDL	BDL	BDL
Trichloroethylene	1	BDL	BDL	BDL	BDL
Dibromochloromethane	1	BDL	BDL	BDL	BDL
112-Trichloroethane	1	BDL	BDL	BDL	BDL
Cis13-Dichloropropylene	1	BDL	BDL	BDL	BDL
2-Chlorethylvinylether	1	BDL	BDL	BDL	BDL
Bromoform	1	BDL	BDL	BDL	BDL
1122-Tetrachloroethane	1	BDL	BDL	BDL	BDL
Tetrachloroethylene	1	BDL	BDL	BDL	BDL
Chlorobenzene	1	BDL	BDL	BDL	BDL
Benzyl Chloride	10	BDL	BDL	BDL	BDL
Bis(2-chlorethoxy)methane	10	BDL	BDL	BDL	BDL
Bis(2-chloroisopropyl)eth	10	BDL	BDL	BDL	BDL
Bromobenzene	1	BDL	BDL	BDL	BDL
Chloroacetaldehyde	10	BDL	BDL	BDL	BDL
1-Chlorohexane	1	BDL	BDL	BDL	BDL
Chloromethyl methyl ether	10	BDL	BDL	BDL	BDL
Chlorotoluene	1	BDL	BDL	BDL	BDL
Dibromomethane	1	BDL	BDL	BDL	BDL
12-Dichlorobenzene	1	BDL	BDL	BDL	BDL
13-Dichlorobenzene	1	BDL	BDL	BDL	BDL
14-Dichlorobenzene	1	BDL	BDL	BDL	BDL
Trichloropropane	1	BDL	BDL	BDL	BDL
c12-Dichloroethylene	1	BDL	BDL	BDL	BDL

**MDL**= Minimum Detectable Level/**BDL**= Below Detection Level/**UNITS**= PPB

**Matrix Type** : W= Water/Aqueous S= Soil/Solid O= Oil/Hydrocarbons

**CONNECTICUT TESTING LABORATORIES, INC.**  
 165 Gracey Avenue / Meriden, CT 06451-2268  
 (203)-634-3731  
 Connecticut Certification No. PH-0547

Client	: HRP Associates Inc.	Date Tested	: 12-13-96
Lab No.	: 126140	Analyst	: RS
PO No.	: NAV0096.FE		
Rep. Date	: 12-17-96		

**EPA METHOD 602/8020**

Date Samples Rec'd: 12-10-96

Matrix Type :		W	W	W	W
Field ID :		1A	1B	2A	2B
	MDL				
Benzene	1	BDL	BDL	BDL	BDL
Toluene	1	BDL	BDL	BDL	BDL
Chlorobenzene	1	BDL	BDL	BDL	BDL
Ethyl Benzene	1	BDL	BDL	BDL	BDL
P & M Xylene	1	BDL	BDL	BDL	BDL
O- Xylene	1	BDL	BDL	BDL	BDL
1,4-Dichlorobenzene	1	BDL	BDL	BDL	BDL
1,3-Dichlorobenzene	1	BDL	BDL	BDL	BDL
1,2-Dichlorobenzene	1	BDL	BDL	BDL	BDL

**MDL** = Minimum Detectable Level/ **BDL** = Below Detection Level/ **UNITS**= **PPB**

**Matrix Type: W**= Water/Aqueous **S**= Soil/Solid **O**= Oil/Hydrocarbons

Client : HRP Associates Inc.	Date Tested : 12-13-96
Lab No. : 126140	Analyst : RS
PO No. : NAV0096.FE	
Rep. Date : 12-17-96	

**EPA METHOD 602/8020**

Date Samples Rec'd: 12-10-96

Matrix Type :	W	W	W	W
Field ID :	3A	3B	4A	4B
	MDL			
Benzene	1	BDL	BDL	BDL
Toluene	1	1.0	BDL	BDL
Chlorobenzene	1	BDL	BDL	BDL
Ethyl Benzene	1	BDL	BDL	BDL
P & M Xylene	1	BDL	BDL	BDL
O- Xylene	1	BDL	BDL	BDL
1,4-Dichlorobenzene	1	BDL	BDL	BDL
1,3-Dichlorobenzene	1	BDL	BDL	BDL
1,2-Dichlorobenzene	1	BDL	BDL	BDL

**MDL = Minimum Detectable Level/ BDL = Below Detection Level/ UNITS= PPB**

**Matrix Type: W= Water/Aqueous S= Soil/Solid O= Oil/Hydrocarbons**

126157

<b>HRP Associates, Inc.</b> 167 New Britain Avenue Plainville, CT 06062 Phone: 860-793-6899 Fax: 860-793-6871	<h1 style="margin:0;">HRP</h1> <h2 style="margin:0;">CHAIN OF CUSTODY</h2>	Sheet <u>1</u> of <u>2</u> Job Number <u>NAU00961FE</u> Project Manager <u>JM</u>
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Place & Address of Collection <u>US Naval Subbase Groton, CT</u>	Samplers Name (Signature) <u>Charles Leonard</u>
	Assistant (Witness)(Signature) <u>Michael D. Grice</u>

Sample Number	Sample Location	Container Type	Total Volume	Preservative	Date	Time	Sample Type				Remarks
							Water	Soil	Air	Waste	
1A	CARBON FILTER BW	P, V	2080ml	cool, HCl	12/10/96	9:02am	X				Temp 48°F
1B	CARBON FILTER BW	P, V	2080ml	cool, HCl	12/10/96	9:42am	X				48°F
2A	mixed media BW	P, V	2080ml	cool, HCl	12/10/96	10:03 am	X				49°F
2B	mixed media BW	P, V	2080ml	cool, HCl	12/10/96	10:19am	X				49°F
3A	mixed media Final Rinse	P, V	2080ml	cool, HCl	12/10/96	12:50pm	X				44°F

Relinquished By (Signature) <u>Charles Leonard</u>	Received By (Signature) <u>M. McMahon</u>	Date <u>12/10/96</u>	Time <u>4:45</u>
Relinquished By (Signature)	Received By (Signature)	Date	Time

Name & Address of Laboratory CTL, Meriden CT

**LABORATORY SAMPLE PREPARATION REQUIRED**

None  Filter  Adjust pH to \_\_\_\_\_ Priority  1 week turnaround per Steve Franco

Other \_\_\_\_\_

**ANALYSES REQUIRED**

Parameters	Sample Number					Parameters	Sample Number				
	1A	1B	2A	2B	3A		1A	1B	2A	2B	3A
pH	X	X	X	X	X	TPH 418.1					
Ag						TSS	X	X	X	X	X
Al - T	X	X	X	X	X	TRC	X	X	X	X	X
As						STD Water					
Ba						Total Coliform					
Cd						Fluoride					
CN-A						Chloride					
CN-T						8010/601	X	X	X	X	X
Cr <sup>6+</sup>						8015					
Cr-T						8020/602	X	X	X	X	X
Cu - T	X	X	X	X	X	8020 + MTBE					
Fe - T	X	X	X	X	X	8080					
Hg						8100					
Na						8 TCLP Metals					
Ni						Total settleable solids	X	X	X	X	X
Pb											
Mn - T	X	X	X	X	X						
Sp. Cond.											
TDS											
Zn - T	X	X	X	X	X						

Remarks: 1 week turnaround per Steve Franco

HRP Associates, Inc.  
 167 New Britain Avenue  
 Plainville, CT 06062  
 Phone: 860-793-6899  
 Fax: 860-793-6871

# HRP

Sheet 2 of 3  
 Job Number NAV 0096 FE  
 Project Manager JM

## CHAIN OF CUSTODY

Place & Address of Collection US Naval Sub base  
Groton, CT

Samplers Name (Signature) Charles Leonard  
 Assistant (Witness)(Signature) Michael D. Emmer

Sample Number	Sample Location	Container Type	Total Volume	Preservative	Date	Time	Sample Type				Remarks
							Water	Soil	Air	Waste	
3B	Mixed Med. Final Rinse	P, V	2080ml	cool, HCl	12/10/96	1:14pm	X				Temp. 51°F
4A	Neutral Tank	P, V	2080ml	cool, HCl	12/10/96	2:31pm	X				71°F
4B	Neutral Tank	P, V	2080ml	cool, HCl	12/10/96	2:42pm	X				70°F
<del>1C</del>	<del>Neutral Tank</del>	<del>P, V</del>	<del>2080ml</del>	<del>cool, HCl</del>	<del>12/10/96</del>	<del>2:42pm</del>	<del>X</del>				<del>Temp. 48°F</del>

Relinquished By (Signature) Charles Leonard Received By (Signature) M. McCallahan Date 12/10/96 Time 4:45  
 Relinquished By (Signature) \_\_\_\_\_ Received By (Signature) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Name & Address of Laboratory CTL, Grassy Ave. Meriden, CT  
**LABORATORY SAMPLE PREPARATION REQUIRED**

None  Filter  Adjust pH to \_\_\_\_\_ Priority  1 week  
 Other Turnaround per Steve Franco

### ANALYSES REQUIRED

Parameters	Sample Number				Parameters	Sample Number			
	3B	4A	4B	<del>1C</del>		3B	4A	4B	<del>1C</del>
pH	X	X	X	X	TPH 418.1				
Ag					TSS	X	X	X	X
Al -T	X	X	X	X	TRC	X	X	X	X
As					STD Water				
Ba					Total Coliform				
Cd					Fluoride				
CN-A					Chloride				
CN-T					8010/601	X	X	X	X
Cr <sup>6</sup>					8015				
Cr-T					8020/602	X	X	X	X
Cu -T	X	X	X	X	8020 + MTBE				
Fe <sup>2+</sup> -T	X	X	X	X	8080				
Hg					8100				
Na					8 TCLP Metals				
Ni					Total Settleable Solids	X	X	X	X
Pb									
Mn -T	X	X	X	X					
Sp. Cond.									
TDS									
Zn -T	X	X	X	X					

1 week turnaround per Steve Franco

HRP Associates, Inc.  
 167 New Britain Avenue  
 Plainville, CT 06062  
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# HRP

Sheet 3 of 3  
 Job Number NAV0096.FE  
 Project Manager JM

## CHAIN OF CUSTODY

Place & Address of Collection US NAVY SUBBASE - GROTON, CT Samplers Name (Signature) Michael D. Gindler  
 Assistant (Witness)(Signature) Charles Leonard

Sample Number	Sample Location	Container Type	Total Volume	Preservative	Date	Time	Sample Type				Remarks
							Water	Soil	Air	Waste	
1	FLASH AIRCRAFT WASH	P, G	3L	COOL	12/10/96	11:00 am	X				TEMP = 92°F
2	FLASH AIRCRAFT WASH	P, G	3L	COOL	12/10/96	2:10pm	X				TEMP = 68°F
3	MOTOR CLEANING	P, G	3L	COOL	12/10/96	2:15pm	X				TEMP = 146°F
<del>4</del>	<del></del>	<del>P, G</del>	<del>3L</del>	<del>COOL</del>	<del></del>	<del></del>	<del>X</del>				<del>TEMP</del>
<del>5</del>	<del></del>	<del>P, G</del>	<del>3L</del>	<del>COOL</del>	<del></del>	<del></del>	<del>X</del>				<del>TEMP</del>

Relinquished By (Signature) Michael D. Gindler Received By (Signature) M. McMahon Date 12/10/96 Time 4:45  
 Relinquished By (Signature) \_\_\_\_\_ Received By (Signature) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Name & Address of Laboratory CTL - GRACEY AVE, MERIDEN, CT  
**LABORATORY SAMPLE PREPARATION REQUIRED**

None  Filter  Adjust pH to \_\_\_\_\_ Priority  1 WEEK  
 Other TURN AROUND PER STEVE FRANCO

### ANALYSES REQUIRED

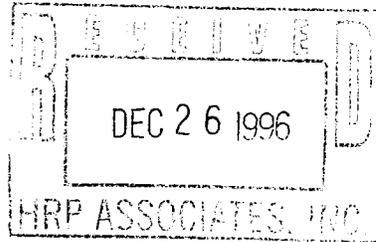
Parameters	Sample Number					Parameters	Sample Number				
	1	2	3	4	5		1	2	3	4	5
pH	X	X	X	X	X	TPH <del>413.1</del>	X	X	X	X	X
Ag -T ✓	X	X	X	X	X	TOC					
Al						TOX					
As						STD Water					
Ba -T ✓	X	X	X	X	X	Total Solids Be-T ✓	X	X	X	X	X
Cd -T ✓	X	X	X	X	X	Zn -T ✓	X	X	X	X	X
CN-A						Mn -T ✓	X	X	X	X	X
CN-T						B -T ✓	X	X	X	X	X
Cr <sup>+6</sup>						Ca -T ✓	X	X	X	X	X
Cr-T ✓	X	X	X	X	X	Sb -T ✓	X	X	X	X	X
Cu -T	X	X	X	X	X	8020 + MTBE					
Fe-D						8080					
Hg						8100					
Na						8 TCLP Metals					
Ni -T ✓	X	X	X	X	X	SETTLABLE SOLIDS	X	X	X	X	X
Pb -T ✓	X	X	X	X	X	V-T ✓	X	X	X	X	X
Se -T ✓	X	X	X	X	X	Sm -T ✓	X	X	X	X	X
Sp. Cond.						Ti -T ✓	X	X	X	X	X
TDS						TR -T ✓	X	X	X	X	X
Zn -T	X	X	X	X	X	Sr -T ✓	X	X	X	X	X

Remarks 1 WEEK TURN AROUND PER STEVE FRANCO

December 23, 1996

HRP Associates Inc.  
167 New Britain Ave  
Plainville, CT 06062

Attn: Ms. Pat Terwilliger



Please find attached laboratory report(s) for the samples submitted on :  
**December 11, 1996**

All pertinent information for this analysis is located on the report. Should it be necessary to contact us regarding billing and or the test results, please have the following information readily available :

LAB No. : 126154  
PO/JOB No. : NAV0096.FE  
INVOICE No. : 63007  
ORDER No. : 43133  
CUSTOMER No.: 350

Please feel free to contact us if you have any questions.

Very truly yours,

Stephen J. Franco  
Laboratory Director  
PH-0547



STEPHEN J. FRANCO  
Laboratory Director

PHONE ■ 203/634-3731

165 GRACEY AVENUE ■ MERIDEN, CT ■ 06451

Date Samples Received : 12-11-96

Client Name: **HRP Associates Inc.**  
Report Date: 12-19-96CTL Lab. No. 126154  
PO/Job No. NAV0096.FE**RESULTS OF ANALYSIS****Total Metals**Matrix Type  
CTL Sample No.  
Field IdW  
13914  
#4  
W  
13915  
#5

pH	8.7	7.5		
Silver-mg/L	0.28	ND<0.01		
Barium-mg/L	ND<0.5	2.4		
Cadmium-mg/L	0.836	0.593		
Copper-mg/L	90.0	14.5		
Nickel-mg/L	8.08	1.46		
Lead-mg/L	0.709	0.542		
Selenium-mg/L	ND<0.01	ND<0.01		
Zinc-mg/L	72.6	23.8		
Chromium, Total-mg/L	1.87	0.40		
Beryllium-mg/L	ND<0.004	ND<0.004		
Zirconium-mg/L	ND<0.5	ND<0.5		
Molybdenum-mg/L	2.4	ND<0.5		
Boron-mg/L	20.0	2.2		
Cobalt-mg/L	0.2	ND<0.1		
Antimony-mg/L	0.9	ND<0.006		
Vanadium-mg/L	ND<0.1	ND<0.1		
Tin-mg/L	ND<0.5	ND<0.5		
Titanium-mg/L	ND<0.5	ND<0.5		
Thallium-mg/L	ND<0.002	ND<0.002		
Strontium-mg/L	0.5	ND<0.5		
Total Oil & Grease-mg/L	254	248		
Settleable Solids-ml/L/hr.	3.5	2.4		

Matrix Types : W = Water/Aqueous  
S = Soil/Solid  
O = Oil/Hydrocarbons**CONNECTICUT TESTING LABORATORIES, INC.**  
165 Gracey Avenue / Meriden, CT 06451-2268  
(203)-634-3731

Connecticut Certification No. PH-0547

Date Samples Received : 12-11-96

Client Name: **HRP Associates Inc.**  
 Report Date: 12-19-96

CTL Lab. No. 126154  
 PO/Job No. NAV0096.FE

**RESULTS OF ANALYSIS****Total Metals**

Matrix Type	W	W	W	W
CTL Sample No.	13916	13917	13918	13919
Field Id	8A	8B	9A	9B
pH	6.6	6.7	6.6	4.9
Aluminum-mg/L	1.8	0.3	0.3	1.5
Copper-mg/L	ND<0.01	ND<0.01	ND<0.01	0.01
Iron-mg/L	0.68	0.08	0.24	0.16
Manganese-mg/L	0.18	0.02	0.02	0.08
Zinc-mg/L	0.16	0.12	0.14	3.36
Tot. Suspended Solids-mg/L	11	ND<1	1	2
Tot. Sett. Solids-ml/L/hr.	ND<0.2	ND<0.2	ND<0.2	ND<0.2
Tot. Residual Chlorine-mg/L	1.77	1.82	1.67	0.39

Matrix Type	W	W	W	W
CTL Sample No.	13920	13921	13922	13923
Field Id	10A	10B	11A	11B
pH	5.9	6.9	7.0	7.0
Aluminum-mg/L	0.8	0.4	0.5	0.5
Copper-mg/L	ND<0.01	ND<0.01	ND<0.01	ND<0.01
Iron-mg/L	0.18	0.18	0.20	0.12
Manganese-mg/L	0.03	0.02	0.02	0.02
Zinc-mg/L	0.86	ND<0.05	ND<0.05	ND<0.05
Tot. Suspended Solids-mg/L	3	4	4	5
Tot. Sett. Solids-ml/L/hr.	ND<0.2	ND<0.2	ND<0.2	ND<0.2
Tot. Residual Chlorine-mg/L	0.84	2.14	1.36	2.04

Matrix Types : W = Water/Aqueous  
 S = Soil/Solid  
 O = Oil/Hydrocarbons

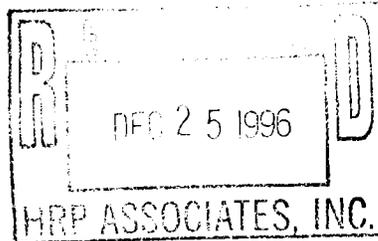
**CONNECTICUT TESTING LABORATORIES, INC.**  
 165 Gracey Avenue / Meriden, CT 06451-2268  
 (203)-634-3731

Connecticut Certification No. PH-0547

December 16, 1996

HRP Associates Inc.  
167 New Britain Ave  
Plainville, CT 06062

Attn: Ms. Pat Terwilliger



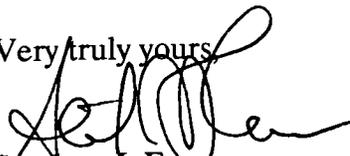
Please find attached laboratory report(s) for the samples submitted on :  
December 11, 1996

All pertinent information for this analysis is located on the report. Should it be necessary to contact us regarding billing and or the test results, please have the following information readily available :

LAB No. : 126155  
PO/JOB No. : NAV0096.FE  
INVOICE No. : 62899  
ORDER No. : 43025  
CUSTOMER No.: 350

Please feel free to contact us if you have any questions.

Very truly yours,



Stephen J. Franco  
Laboratory Director  
PH-0547



**connecticut  
testing  
laboratories inc.**  
WATER ■ SOIL ■ AIR

STEPHEN J. FRANCO  
Laboratory Director  
PHONE ■ 203/634-3731

165 GRACEY AVENUE ■ MERIDEN, CT ■ 06451

Client	: HRP Associates Inc.	Date Tested	: 12-12-96
Lab No.	: 126155	Analyst	: RS
PO No.	: NAV0096.FE		
Rep. Date	: 12-16-96		

**EPA METHOD 601/8010**

Date Samples Rec'd: 12-11-96

Matrix Type :		W	W	W	W
Field ID :		8A	8B	9A	9B
	MDL				
Chloromethane	2	BDL	BDL	BDL	BDL
Bromomethane	2	BDL	BDL	BDL	BDL
Vinylchloride	2	BDL	BDL	BDL	BDL
Chloroethane	2	BDL	BDL	BDL	BDL
Methylenechloride	1	BDL	BDL	BDL	BDL
Trichlorofluoromethane	1	BDL	BDL	BDL	BDL
11-Dichloroethylene	1	BDL	BDL	BDL	BDL
11-Dichloroethane	1	BDL	BDL	BDL	BDL
t12-Dichloroethylene	1	BDL	BDL	BDL	BDL
Chloroform	1	6.0	6.0	5.0	3.0
12-Dichloroethane	1	BDL	BDL	BDL	BDL
111-Trichloroethane	1	BDL	BDL	BDL	BDL
Carbontetrachloride	1	BDL	BDL	BDL	BDL
Bromodichloromethane	1	2.0	2.0	2.0	1.0
12-Dichloropropane	1	BDL	BDL	BDL	BDL
T13-Dichloropropylene	1	BDL	BDL	BDL	BDL
Trichloroethylene	1	BDL	BDL	BDL	BDL
Dibromochloromethane	1	BDL	BDL	BDL	BDL
112-Trichloroethane	1	BDL	BDL	BDL	BDL
Cis13-Dichloropropylene	1	BDL	BDL	BDL	BDL
2-Chlorethylvinylether	1	BDL	BDL	BDL	BDL
Bromoform	1	BDL	BDL	BDL	BDL
1122-Tetrachloroethane	1	BDL	BDL	BDL	BDL
Tetrachloroethylene	1	BDL	BDL	BDL	BDL
Chlorobenzene	1	BDL	BDL	BDL	BDL
Benzyl Chloride	10	BDL	BDL	BDL	BDL
Bis(2-chlorethoxy)methane	10	BDL	BDL	BDL	BDL
Bis(2-chloroisopropyl)eth	10	BDL	BDL	BDL	BDL
Bromobenzene	1	BDL	BDL	BDL	BDL
Chloroacetaldehyde	10	BDL	BDL	BDL	BDL
1-Chlorohexane	1	BDL	BDL	BDL	BDL
Chloromethyl methyl ether	10	BDL	BDL	BDL	BDL
Chlorotoluene	1	BDL	BDL	BDL	BDL
Dibromomethane	1	BDL	BDL	BDL	BDL
12-Dichlorobenzene	1	BDL	BDL	BDL	BDL
13-Dichlorobenzene	1	BDL	BDL	BDL	BDL
14-Dichlorobenzene	1	BDL	BDL	BDL	BDL
Trichloropropane	1	BDL	BDL	BDL	BDL
c12-Dichloroethylene	1	BDL	BDL	BDL	BDL

**MDL** = Minimum Detectable Level/**BDL** = Below Detection Level/**UNITS** = PPB

**Matrix Type** : W = Water/Aqueous S = Soil/Solid O = Oil/Hydrocarbons

Client : HRP Associates Inc.	Date Tested : 12-12-96
Lab No. : 126155	Analyst : RS
PO No. : NAV0096.FE	
Rep. Date : 12-16-96	

**EPA METHOD 601/8010**

Date Samples Rec'd: 12-11-96

Matrix Type :	W	W	W	W	
Field ID :	10A	10B	11A	11B	
	MDL				
Chloromethane	2	BDL	BDL	BDL	BDL
Bromomethane	2	BDL	BDL	BDL	BDL
Vinylchloride	2	BDL	BDL	BDL	BDL
Chloroethane	2	BDL	BDL	BDL	BDL
Methylenechloride	1	BDL	BDL	BDL	BDL
Trichlorofluoromethane	1	BDL	BDL	BDL	BDL
11-Dichloroethylene	1	BDL	BDL	BDL	BDL
11-Dichloroethane	1	BDL	BDL	BDL	BDL
t12-Dichloroethylene	1	BDL	BDL	BDL	BDL
<b>Chloroform</b>	1	7.0	7.0	7.0	7.0
12-Dichloroethane	1	BDL	BDL	BDL	BDL
111-Trichloroethane	1	BDL	BDL	BDL	BDL
Carbontetrachloride	1	BDL	BDL	BDL	BDL
<b>Bromodichloromethane</b>	1	3.0	3.0	3.0	3.0
12-Dichloropropane	1	BDL	BDL	BDL	BDL
T13-Dichloropropylene	1	BDL	BDL	BDL	BDL
Trichloroethylene	1	BDL	BDL	BDL	BDL
<b>Dibromochloromethane</b>	1	1.0	BDL	BDL	BDL
112-Trichloroethane	1	BDL	BDL	BDL	BDL
Cis13-Dichloropropylene	1	BDL	BDL	BDL	BDL
2-Chlorethylvinylether	1	BDL	BDL	BDL	BDL
<b>Bromoform</b>	1	4.0	BDL	BDL	BDL
1122-Tetrachloroethane	1	BDL	BDL	BDL	BDL
Tetrachloroethylene	1	BDL	BDL	BDL	BDL
Chlorobenzene	1	BDL	BDL	BDL	BDL
Benzyl Chloride	10	BDL	BDL	BDL	BDL
Bis(2-chlorethoxy)methane	10	BDL	BDL	BDL	BDL
Bis(2-chloroisopropyl)eth	10	BDL	BDL	BDL	BDL
Bromobenzene	1	BDL	BDL	BDL	BDL
Chloroacetaldehyde	10	BDL	BDL	BDL	BDL
1-Chlorohexane	1	BDL	BDL	BDL	BDL
Chloromethyl methyl ether	10	BDL	BDL	BDL	BDL
Chlorotoluene	1	BDL	BDL	BDL	BDL
Dibromomethane	1	BDL	BDL	BDL	BDL
12-Dichlorobenzene	1	BDL	BDL	BDL	BDL
13-Dichlorobenzene	1	BDL	BDL	BDL	BDL
14-Dichlorobenzene	1	BDL	BDL	BDL	BDL
Trichloropropane	1	BDL	BDL	BDL	BDL
c12-Dichloroethylene	1	BDL	BDL	BDL	BDL

MDL= Minimum Detectable Level/BDL= Below Detection Level/UNITS= PPB

Matrix Type : W= Water/Aqueous S= Soil/Solid O= Oil/Hydrocarbons

CONNECTICUT TESTING LABORATORIES, INC.  
165 Gracey Avenue / Meriden, CT 06451-2268  
(203)-634-3731  
Connecticut Certification No. PH-0547

Client	: HRP Associates Inc.	Date Tested	: 12-12-96
Lab No.	: 126155	Analyst	: RS
PO No.	: NAV0096.FE		
Rep. Date	: 12-16-96		

**EPA METHOD 602/8020**

Date Samples Rec'd: 12-11-96

Matrix Type :	W	W	W	W	
Field ID :	8A	8B	9A	9B	
	MDL				
Benzene	1	BDL	BDL	BDL	BDL
Toluene	1	BDL	BDL	BDL	BDL
Chlorobenzene	1	BDL	BDL	BDL	BDL
Ethyl Benzene	1	BDL	BDL	BDL	BDL
P & M Xylene	1	BDL	BDL	BDL	BDL
O- Xylene	1	BDL	BDL	BDL	BDL
1,4-Dichlorobenzene	1	BDL	BDL	BDL	BDL
1,3-Dichlorobenzene	1	BDL	BDL	BDL	BDL
1,2-Dichlorobenzene	1	BDL	BDL	BDL	BDL

**MDL = Minimum Detectable Level/ BDL = Below Detection Level/ UNITS= PPB**

**Matrix Type: W= Water/Aqueous S= Soil/Solid O= Oil/Hydrocarbons**

Client : HRP Associates Inc.	Date Tested : 12-12-96
Lab No. : 126155	Analyst : RS
PO No. : NAV0096.FE	
Rep. Date : 12-16-96	

**EPA METHOD 602/8020**

Date Samples Rec'd: 12-11-96

Matrix Type :	W	W	W	W	
Field ID :	10A	10B	11A	11B	
	MDL				
Benzene	1	BDL	BDL	BDL	BDL
Toluene	1	BDL	BDL	BDL	BDL
Chlorobenzene	1	BDL	BDL	BDL	BDL
Ethyl Benzene	1	BDL	BDL	BDL	BDL
P & M Xylene	1	BDL	BDL	BDL	BDL
O-Xylene	1	BDL	BDL	BDL	BDL
1,4-Dichlorobenzene	1	BDL	BDL	BDL	BDL
1,3-Dichlorobenzene	1	BDL	BDL	BDL	BDL
1,2-Dichlorobenzene	1	BDL	BDL	BDL	BDL

**MDL = Minimum Detectable Level/ BDL = Below Detection Level/ UNITS = PPB**

**Matrix Type: W= Water/Aqueous S= Soil/Solid O= Oil/Hydrocarbons**

126154

HRP Associates, Inc.  
 167 New Britain Avenue  
 Plainville, CT 06062  
 Phone: 860-793-6899  
 Fax: 860-793-6871

**HRP**

**CHAIN OF CUSTODY**

Sheet 1 of 3  
 Job Number NAV0096, FE  
 Project Manager JM

Place & Address of Collection US NAVY SUBBASE - GROTON, CT Samplers Name (Signature) Michael P. Guidon  
 Assistant (Witness)(Signature) Charles Leonard

Sample Number	Sample Location	Container Type	Total Volume	Preservative	Date	Time	Sample Type				Remarks
							Water	Soil	Air	Waste	
<del>04</del> 04	VFCU WASTEWATER SCARP	P, G	3L	CCCL	12/11/96	10:05 AM	X				TEMP = 15.2°F
05	VFCU STEAM	P, G	3L	CCCL	12/11/96	10 AM	X				TEMP = 10.6°F

Relinquished By (Signature) Michael P. Guidon Received By (Signature) M. McMahon Date 12/11/96 Time 3:00  
 Relinquished By (Signature) \_\_\_\_\_ Received By (Signature) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Name & Address of Laboratory CTL - GRACEY AVE, MERIDEN CT

**LABORATORY SAMPLE PREPARATION REQUIRED**

None  Filter  Adjust pH to \_\_\_\_\_ Priority  1 WEEK  
 Other TURN AROUND PER STEVE FRANCO

**ANALYSES REQUIRED**

Parameters	Sample Number					Parameters	Sample Number				
	4	5	6	7	8		4	5	6	7	8
pH	X	X				TPH 413.1	X	X			
Ag	-T X	X				TOC					
Al						TOX					
As						STD Water					
Ba	-T X	X				Total Cadmium	Ba-T X	X			
Cd	-T X	X				Zn	-T X	X			
CN-A						Chloride	Mo -T X	X			
CN-T						Boronic	B -T X	X			
Cr <sup>6</sup>						Co	-T X	X			
Cr-T						Sb	-T X	X			
Cu	-T X	X				8020 + MTBE					
Fe-D						8080					
Hg						8100					
Na						8 TCLP Metals					
Ni	-T X	X				SETTLABLE SOLIDS	X	X			
Pb	-T X	X				V-T	X	X			
Se	-T X	X				Sm-T	X	X			
Sp. Cond.						Ti-T	X	X			
TDS						TR-T	X	X			
Zn	-T X	X				Sn-T	X	X			

Remarks 1 WEEK TURN AROUND PER STEVE FRANCO

HRP Associates, Inc.  
 167 New Britain Avenue  
 Plainville, CT 06062  
 Phone: 860-793-6899  
 Fax: 860-793-6871

# HRP

## CHAIN OF CUSTODY

Sheet ~~12~~ of ~~12~~ **3**  
 Job Number NAV 0096.FE  
 Project Manager JM

Place & Address of Collection US Navy ~~Base~~ Sub Base  
Groton, CT

Samplers Name (Signature) Charles Leonard  
 Assistant (Witness)(Signature) Michael D. Enech

Sample Number	Sample Location	Container Type	Total Volume	Preservative	Date	Time	Sample Type				Remarks
							Water	Soil	Air	Waste	
8A	softener Bio/Flush	P, V	2080ml	cool, HCl	12/11/96	10:49am	X				Temp. 50°F
8B	softener Bio/Flush	P, V	2080ml	cool, HCl	12/11/96	10:21am	X				49°F
9A	softener Bio/Flush	P, V	2080ml	cool, HCl	12/11/96	11:28am	X				49°F
9B	softener Prime Slow rise	P, V	2080ML	cool, HCl	12/11/96	11:52am	X				54°F
10A	softener Fast flush	P, V	2080ml	cool, HCl	12/11/96	11:57am	X				53°F

Relinquished By (Signature) Charles Leonard Received By (Signature) M. McMahon Date 12/11/96 Time 3:00  
 Relinquished By (Signature) \_\_\_\_\_ Received By (Signature) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Name & Address of Laboratory CTL, Gracey Ave, Meriden, CT  
**LABORATORY SAMPLE PREPARATION REQUIRED**

None  Filter  Adjust pH to \_\_\_\_\_ Priority  1 week  
 Other turnaround per Steve Franco

### ANALYSES REQUIRED

Parameters	Sample Number					Parameters	Sample Number				
	8A	8B	9A	9B	10A		8A	8B	9A	9B	10A
pH	X	X	X	X	X	TPH 418.1					
Ag						<del>TSS</del> TSS	✓ X	X	X	X	X
Al -T	✓ X	X	X	X	X	TRC	✓ X	X	X	X	X
As						STD Water					
Ba						Total Coliform					
Cd						Fluoride					
CN-A						Chloride					
CN-T						8010/601	✓ X	X	X	X	X
Cr <sup>6</sup>						8015					
Cr-T						8020/602	✓ X	X	X	X	X
Cu -T	X	X	X	X	X	8020 + MTBE					
Fe -T	✓ X	X	X	X	X	8080					
Hg						8100					
Na						8 TCLP Metals					
Ni						Total Settleable Solids	✓ X	X	X	X	X
Pb											
Mn -T	✓ X	X	X	X	X						
Sp. Cond.											
TDS											
Zn -T	X	X	X	X	X						

Remarks 1 week turnaround per Steve Franco

HRP Associates, Inc.  
 167 New Britain Avenue  
 Plainville, CT 06062  
 Phone: 860-793-6899  
 Fax: 860-793-6871

# HRP

Sheet 3 of 3  
 Job Number NAV 0096.FE  
 Project Manager JM

## CHAIN OF CUSTODY

Place & Address of Collection US Naval Sub Base  
Groton CT

Samplers Name (Signature) Charles Leonard  
 Assistant (Witness)(Signature) Michael P. Quinn

Sample Number	Sample Location	Container Type	Total Volume (uL)	Preservative	Date	Time	Sample Type				Remarks
							Water	Soil	Air	Waste	
10B	softener fast flush	P, V	2080	HCl, cool	12/11/96	12:33	X				Temp 49°F
11A	softener final rinse	P, V	2080	HCl, cool	12/11/96	12:37	X				50°F
11B	softener final rinse	P, V	2080	HCl, cool	12/11/96	12:53	X				50°F

Relinquished By (Signature) Charles Leonard Received By (Signature) W. McMahon Date 12/11/96 Time 3:00  
 Relinquished By (Signature) \_\_\_\_\_ Received By (Signature) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Name & Address of Laboratory CTL, Gracey Ave, Meriden CT

### LABORATORY SAMPLE PREPARATION REQUIRED

None  Filter  Adjust pH to \_\_\_\_\_ Priority X 1 week per Steve Franco  
 Other \_\_\_\_\_

### ANALYSES REQUIRED

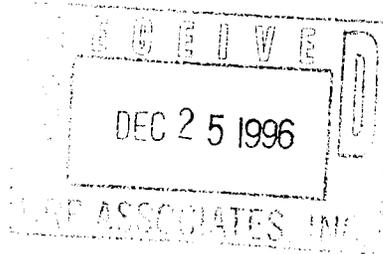
Parameters	Sample Number			Parameters	Sample Number		
	10B	11A	11B		10B	11A	11B
pH	X	X	X	TPH 418.1			
Ag				<del>Ag</del> TSS	X	X	X
Al -T	X	X	X	<del>Al</del> TRC	X	X	X
As				STD Water			
Ba				Total Coliform			
Cd				Fluoride			
CN-A				Chloride			
CN-T				8010/601	X	X	X
Cr <sup>6+</sup>				8015			
Cr-T				8020/602	X	X	X
Cu -T	X	X	X	8020 + MTBE			
Fe -T	X	X	X	8080			
Hg				8100			
Na				8 TCLP Metals			
Ni				total settleable solids	X	X	X
Pb							
Mn -T	X	X	X				
Sp. Cond.							
TDS							
Zn -T	X	X	X				

Remarks 1 week turnaround per Steve Franco

December 20, 1996

HRP Associates Inc.  
167 New Britain Ave  
Plainville, CT 06062

Attn: Ms. Pat Terwilliger



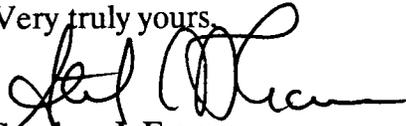
Please find attached laboratory report(s) for the samples submitted on :  
**December 12, 1996**

All pertinent information for this analysis is located on the report. Should it be necessary to contact us regarding billing and or the test results, please have the following information readily available :

LAB No. : 126184  
PO/JOB No. : NAV0096.FE  
INVOICE No. : 62992  
ORDER No. : 43118  
CUSTOMER No.: 350

Please feel free to contact us if you have any questions.

Very truly yours,



Stephen J. Franco  
Laboratory Director  
PH-0547



STEPHEN J. FRANCO  
Laboratory Director  
PHONE ■ 203/634-3731

165 GRACEY AVENUE ■ MERIDEN, CT ■ 06451

Date Samples Received : 12-12-96

Client Name: **HRP Associates Inc.**  
 Report Date: 12-20-96

CTL Lab. No. 126184  
 PO/Job No. NAV0096.FE

**RESULTS OF ANALYSIS****Total Metals**

Matrix Type	W	W	W	W
CTL Sample No.	14011	14012	14013	14014
Field Id	12A	12B	5A	5B
pH	6.9	6.7	6.5	3.2
Aluminum-mg/L	0.2	0.3	0.3	0.2
Copper-mg/L	ND<0.01	ND<0.01	0.05	0.04
Iron-mg/L	ND<0.05	0.06	0.42	0.32
Manganese-mg/L	0.02	0.01	0.03	0.02
Zinc-mg/L	0.06	0.06	0.06	0.06
Tot. Suspended Solids-mg/L	3	4	11	4
Tot. Sett. Solids-ml/L/Hr.	ND<0.2	ND<0.2	ND<0.2	ND<0.2
Tot. Residual Chlorine-mg/L	ND<0.05	ND<0.05	ND<0.05	ND<0.05

**Total Metals**

Matrix Type	W	W	W	W
CTL Sample No.	14015	14016	14017	14018
Field Id	6A	6B	7A	7B
pH	6.2	6.1	6.3	4.1
Aluminum-mg/L	0.3	0.2	0.2	0.2
Copper-mg/L	ND<0.01	0.02	ND<0.01	0.04
Iron-mg/L	0.38	0.20	0.16	0.22
Manganese-mg/L	0.03	0.02	0.01	0.02
Zinc-mg/L	ND<0.05	ND<0.05	ND<0.05	ND<0.05
Tot. Suspended Solids-mg/L	2	1	1	1
Tot. Sett. Solids-ml/L/Hr.	ND<0.2	ND<0.2	ND<0.2	ND<0.2
Tot. Residual Chlorine-mg/L	ND<0.05	ND<0.05	ND<0.05	0.08

Matrix Types : W = Water/Aqueous  
 S = Soil/Solid  
 O = Oil/Hydrocarbons

**CONNECTICUT TESTING LABORATORIES, INC.**

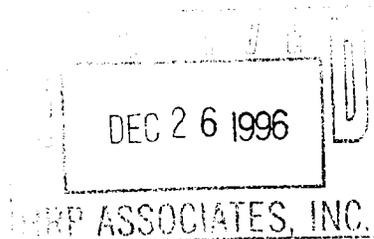
165 Gracey Avenue / Meriden, CT 06451-2268  
 (203)-634-3731

Connecticut Certification No. PH-0547

December 24, 1996

HRP Associates Inc.  
167 New Britain Ave  
Plainville, CT 06062

Attn: Ms. Pat Terwilliger



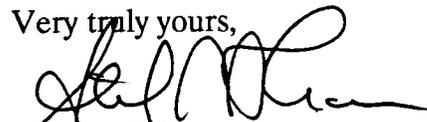
Please find attached laboratory report(s) for the samples submitted on :  
**December 12, 1996**

All pertinent information for this analysis is located on the report. Should it be necessary to contact us regarding billing and or the test results, please have the following information readily available :

LAB No. : 126184  
PO/JOB No. : NAV0096.FE  
INVOICE No. : 63041  
ORDER No. : 43168  
CUSTOMER No.: 350

Please feel free to contact us if you have any questions.

Very truly yours,



Stephen J. Franco  
Laboratory Director  
PH-0547



STEPHEN J. FRANCO  
Laboratory Director  
PHONE ■ 203/634-3731

165 GRACEY AVENUE ■ MERIDEN, CT ■ 06451

Date Samples Received : 12-12-96

Client Name: **HRP Associates Inc.**  
 Report Date: 12-20-96

CTL Lab. No. 126184  
 PO/Job No. NAV0096.FE

**RESULTS OF ANALYSIS****Total Metals**

Matrix Type	W	W	W	W
CTL Sample No.	14011	14012	14013	14014
Field Id	12A	12B	5A	5B
pH	6.9	6.7	6.5	3.2
Aluminum-mg/L	0.2	0.3	0.3	0.2
Copper-mg/L	ND<0.01	ND<0.01	0.05	0.04
Iron-mg/L	ND<0.05	0.06	0.42	0.32
Manganese-mg/L	0.02	0.01	0.03	0.02
Zinc-mg/L	0.06	0.06	0.06	0.06
Tot. Suspended Solids-mg/L	3	4	11	4
Tot. Sett. Solids-ml/L/Hr.	ND<0.2	ND<0.2	ND<0.2	ND<0.2
Tot. Residual Chlorine-mg/L	ND<0.05	ND<0.05	ND<0.05	ND<0.05
Hardness-mg/L	---	---	6	ND<2

**Total Metals**

Matrix Type	W	W	W	W
CTL Sample No.	14015	14016	14017	14018
Field Id	6A	6B	7A	7B
pH	6.2	6.1	6.3	4.1
Aluminum-mg/L	0.3	0.2	0.2	0.2
Copper-mg/L	ND<0.01	0.02	ND<0.01	0.04
Iron-mg/L	0.38	0.20	0.16	0.22
Manganese-mg/L	0.03	0.02	0.01	0.02
Zinc-mg/L	ND<0.05	ND<0.05	ND<0.05	ND<0.05
Tot. Suspended Solids-mg/L	2	1	1	1
Tot. Sett. Solids-ml/L/Hr.	ND<0.2	ND<0.2	ND<0.2	ND<0.2
Tot. Residual Chlorine-mg/L	ND<0.05	ND<0.05	ND<0.05	0.08
Hardness-mg/L	ND<2	ND<2	ND<2	ND<2

Matrix Types : W = Water/Aqueous  
 S = Soil/Solid  
 O = Oil/Hydrocarbons

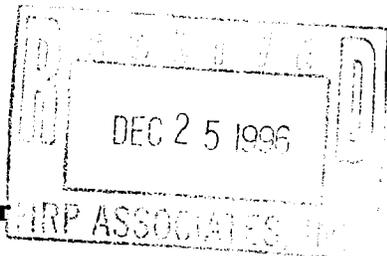
**CONNECTICUT TESTING LABORATORIES, INC.**  
 165 Gracey Avenue / Meriden, CT 06451-2268  
 (203) 634-3731

Connecticut Certification No. PH-0547

December 17, 1996

HRP Associates Inc.  
167 New Britain Ave  
Plainville, CT 06062

Attn: Ms. Pat Terwilliger



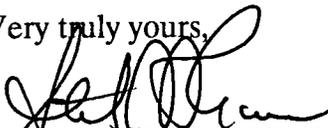
Please find attached laboratory report(s) for the samples submitted on :  
December 12, 1996

All pertinent information for this analysis is located on the report. Should it be necessary to contact us regarding billing and or the test results, please have the following information readily available :

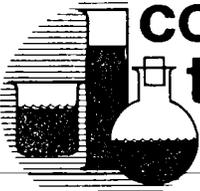
LAB No. : 126185  
PO/JOB No. : NAV0096.FE  
INVOICE No. : 62914  
ORDER No. : 43040  
CUSTOMER No.: 350

Please feel free to contact us if you have any questions.

Very truly yours,



Stephen J. Franco  
Laboratory Director  
PH-0547



**connecticut  
testing  
laboratories inc.**  
WATER ■ SOIL ■ AIR

STEPHEN J. FRANCO  
Laboratory Director  
PHONE ■ 203/634-3731

165 GRACEY AVENUE ■ MERIDEN, CT ■ 06451

Client : HRP Associates Inc.	Date Tested : 12-13-96
Lab No. : 126185	Analyst : RS
PO No. : NAV0096.FE	
Rep. Date : 12-17-96	

**EPA METHOD 601/8010**

Date Samples Rec'd: 12-12-96

Matrix Type :	W	W	W	W	
Field ID :	12A	12B	5A	5B	
	MDL				
Chloromethane	2	7.0	7.0	3.0	BDL
Bromomethane	2	BDL	BDL	BDL	BDL
Vinylchloride	2	BDL	BDL	BDL	BDL
Chloroethane	2	BDL	BDL	BDL	BDL
Methylenechloride	1	BDL	BDL	BDL	BDL
Trichlorofluoromethane	1	BDL	BDL	BDL	BDL
11-Dichloroethylene	1	BDL	BDL	BDL	BDL
11-Dichloroethane	1	BDL	BDL	BDL	BDL
t12-Dichloroethylene	1	BDL	BDL	BDL	BDL
Chloroform	1	BDL	BDL	9.0	6.0
12-Dichloroethane	1	BDL	BDL	BDL	BDL
111-Trichloroethane	1	BDL	BDL	BDL	BDL
Carbontetrachloride	1	BDL	BDL	BDL	BDL
Bromodichloromethane	1	BDL	BDL	4.0	3.0
12-Dichloropropane	1	BDL	BDL	BDL	BDL
T13-Dichloropropylene	1	BDL	BDL	BDL	BDL
Trichloroethylene	1	BDL	BDL	BDL	BDL
Dibromochloromethane	1	BDL	BDL	BDL	BDL
112-Trichloroethane	1	BDL	BDL	BDL	BDL
Cis13-Dichloropropylene	1	BDL	BDL	BDL	BDL
2-Chlorethylvinylether	1	BDL	BDL	BDL	BDL
Bromoform	1	BDL	BDL	BDL	BDL
1122-Tetrachloroethane	1	BDL	BDL	BDL	BDL
Tetrachloroethylene	1	BDL	BDL	BDL	BDL
Chlorobenzene	1	BDL	BDL	BDL	BDL
Benzyl Chloride	10	BDL	BDL	BDL	BDL
Bis(2-chlorethoxy)methane	10	BDL	BDL	BDL	BDL
Bis(2-chloroisopropyl)eth	10	BDL	BDL	BDL	BDL
Bromobenzene	1	BDL	BDL	BDL	BDL
Chloroacetaldehyde	10	BDL	BDL	BDL	BDL
1-Chlorohexane	1	BDL	BDL	BDL	BDL
Chloromethyl methyl ether	10	BDL	BDL	BDL	BDL
Chlorotoluene	1	BDL	BDL	BDL	BDL
Dibromomethane	1	BDL	BDL	BDL	BDL
12-Dichlorobenzene	1	BDL	BDL	BDL	BDL
13-Dichlorobenzene	1	BDL	BDL	BDL	BDL
14-Dichlorobenzene	1	BDL	BDL	BDL	BDL
Trichloropropane	1	BDL	BDL	BDL	BDL
c12-Dichloroethylene	1	BDL	BDL	BDL	BDL

MDL= Minimum Detectable Level/BDL= Below Detection Level/UNITS= PPB

Matrix Type : W= Water/Aqueous S= Soil/Solid O= Oil/Hydrocarbons

CONNECTICUT TESTING LABORATORIES, INC.

165 Gracey Avenue / Meriden, CT 06451-2268

(203)-634-3731

Connecticut Certification No. PH-0547

Client	: HRP Associates Inc.	Date Tested	: 12-13-96
Lab No.	: 126185	Analyst	: RS
PO No.	: NAV0096.FE		
Rep. Date	: 12-17-96		

**EPA METHOD 601/8010**

Date Samples Rec'd: 12-12-96

Matrix Type :

W

W

W

W

Field ID :

6A

6B

7A

7B

	MDL	6A	6B	7A	7B
Chloromethane	2	2.0	2.0	BDL	BDL
Bromomethane	2	BDL	BDL	BDL	BDL
Vinylchloride	2	BDL	BDL	BDL	BDL
Chloroethane	2	BDL	BDL	BDL	BDL
Methylenechloride	1	BDL	BDL	BDL	BDL
Trichlorofluoromethane	1	BDL	BDL	BDL	BDL
11-Dichloroethylene	1	BDL	BDL	BDL	BDL
11-Dichloroethane	1	BDL	BDL	BDL	BDL
t12-Dichloroethylene	1	BDL	BDL	BDL	BDL
Chloroform	1	8.0	10.0	6.0	7.0
12-Dichloroethane	1	BDL	BDL	BDL	BDL
111-Trichloroethane	1	BDL	BDL	BDL	BDL
Carbontetrachloride	1	BDL	BDL	BDL	BDL
Bromodichloromethane	1	3.0	4.0	3.0	3.0
12-Dichloropropane	1	BDL	1.0	BDL	BDL
T13-Dichloropropylene	1	BDL	BDL	BDL	BDL
Trichloroethylene	1	BDL	BDL	BDL	BDL
Dibromochloromethane	1	BDL	BDL	BDL	BDL
112-Trichloroethane	1	BDL	BDL	BDL	BDL
Cis13-Dichloropropylene	1	BDL	BDL	BDL	BDL
2-Chlorethylvinylether	1	BDL	BDL	BDL	BDL
Bromoform	1	BDL	BDL	BDL	BDL
1122-Tetrachloroethane	1	BDL	BDL	BDL	BDL
Tetrachloroethylene	1	BDL	BDL	BDL	BDL
Chlorobenzene	1	BDL	BDL	BDL	BDL
Benzyl Chloride	10	BDL	BDL	BDL	BDL
Bis(2-chlorethoxy)methane	10	BDL	BDL	BDL	BDL
Bis(2-chloroisopropyl)eth	10	BDL	BDL	BDL	BDL
Bromobenzene	1	BDL	BDL	BDL	BDL
Chloroacetaldehyde	10	BDL	BDL	BDL	BDL
1-Chlorohexane	1	BDL	BDL	BDL	BDL
Chloromethyl methyl ether	10	BDL	BDL	BDL	BDL
Chlorotoluene	1	BDL	BDL	BDL	BDL
Dibromomethane	1	BDL	BDL	BDL	BDL
12-Dichlorobenzene	1	BDL	BDL	BDL	BDL
13-Dichlorobenzene	1	BDL	BDL	BDL	BDL
14-Dichlorobenzene	1	BDL	BDL	BDL	BDL
Trichloropropane	1	BDL	BDL	BDL	BDL
c12-Dichloroethylene	1	BDL	BDL	BDL	BDL

MDL= Minimum Detectable Level/BDL= Below Detection Level/UNITS= PPB

Matrix Type : W= Water/Aqueous S= Soil/Solid O= Oil/Hydrocarbons

CONNECTICUT TESTING LABORATORIES, INC.

165 Gracey Avenue / Meriden, CT 06451-2268

(203)-634-3731

Connecticut Certification No. PH-0547

HRP Associates, Inc.  
 167 New Britain Avenue  
 Plainville, CT 06062  
 Phone: 860-793-6899  
 Fax: 860-793-6871

# HRP

## CHAIN OF CUSTODY

Sheet 2 of 2  
 Job Number NAVCO 961FE  
 Project Manager JM

Place & Address of Collection US Naval Sub Base Groton, CT  
 Samplers Name (Signature) Charles Leonard  
 Assistant (Witness)(Signature)

Sample Number	Sample Location	Container Type	Total Volume	Preservative	Date	Time	Sample Type				Remarks
							Water	Soil	Air	Waste	
6B	GT S&T B-ring	P, V	2080	HCl, Cool	12/12/96	2:25	X				50°F
7A	GT S&T Fish Ring	P, V	2080	HCl, Cool	12/12/96	2:28	X				49°F
7B	GT S&T Fish Ring	P, V	2080	HCl, Cool	12/12/96	2:33	X				50°F

Relinquished By (Signature) Charles Leonard Received By (Signature) M. McMahon Date 12/12/96 Time 3:50  
 Relinquished By (Signature) Received By (Signature) Date Time

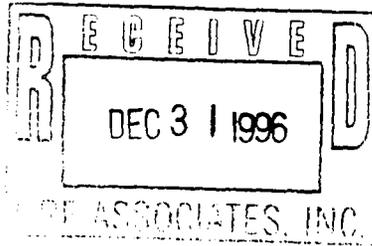
Name & Address of Laboratory CTL, Meriden, CT  
**LABORATORY SAMPLE PREPARATION REQUIRED**  
 None  Filter  Adjust pH to \_\_\_\_\_ Priority  1 week per Steve Franco  
 Other

### ANALYSES REQUIRED

Parameters	Sample Number			Parameters	Sample Number		
	6B	7A	7B		6B	7A	7B
pH	X	X	X	TPH 418.1			
Ag				<del>STSS</del>	X	X	X
Al - T	X	X	X	<del>TRC</del>	X	X	X
As				STD Water			
Ba				Total Coliform			
Cd				Fluoride			
CN-A				Chloride			
CN-T				8010/601	X	X	X
Cr <sup>6+</sup>				8015			
Cr-T				8020/602	X	X	X
Cu - T	X	X	X	8020 + MTBE			
Fe - T	X	X	X	8080			
Hg				8100			
Ni				8 TCLP Metals			
Pb				Tot. settleable Solids	X	X	X
<del>Al - T</del>	X	X	X				
Sp. Cond.							
TDS							
Zn - T	X	X	X				

Remarks 1 week priority per Steve Franco

December 27, 1996



HRP Associates Inc.  
167 New Britain Ave  
Plainville, CT 06062

Attn: Ms. Pat Terwilliger

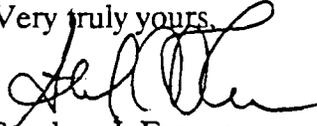
Please find attached laboratory report(s) for the samples submitted on :  
December 17, 1996

All pertinent information for this analysis is located on the report. Should it be necessary to contact us regarding billing and or the test results, please have the following information readily available :

LAB No. : 126245  
PO/JOB No. : NAV0096.FE  
INVOICE No. : 63095  
ORDER No. : 43222  
CUSTOMER No.: 350

Please feel free to contact us if you have any questions.

Very truly yours,

  
Stephen J. Franco  
Laboratory Director  
PH-0547

**connecticut  
testing  
laboratories inc.**  
WATER ■ SOIL ■ AIR

STEPHEN J. FRANCO  
Laboratory Director

PHONE ■ 203/634-3731

165 GRACEY AVENUE ■ MERIDEN, CT ■ 06451

Date Samples Received : 12-17-96

Client Name: **HRP Associates Inc.**  
 Report Date: 12-24-96

CTL Lab. No. 126245  
 PO/Job No. NAV0096.FE

**RESULTS OF ANALYSIS****Total Metals**

Matrix Type	W	W	W	W
CTL Sample No.	14135	14136	14137	14138
Field Id	4A	4B	8A	8B
pH	6.6	6.6	6.8	6.7
Aluminum-mg/L	0.3	0.3	0.2	0.4
Copper-mg/L	ND<0.01	ND<0.01	ND<0.01	ND<0.01
Iron-mg/L	0.55	0.45	0.08	0.23
Manganese-mg/L	0.03	0.02	0.02	0.04
Zinc-mg/L	0.11	0.09	0.06	ND<0.05
Tot. Suspended Solids-mg/L	5	4	2	3
Tot. Sett. Solids-ml/L/hr.	ND<0.2	ND<0.2	ND<0.2	ND<0.2
Tot. Residual Chlorine-mg/L	ND<0.05	ND<0.05	0.30	0.73
Sodium-mg/L	---	---	9.1	21.6
Chloride-mg/L	---	---	16	15
Hardness-mg/L	---	---	40	22

Matrix Types : W = Water/Aqueous  
 S = Soil/Solid  
 O = Oil/Hydrocarbons

**CONNECTICUT TESTING LABORATORIES, INC.**  
 165 Gracey Avenue / Meriden, CT 06451-2268  
 (203)-634-3731

Connecticut Certification No. PH-0547

Date Samples Received : 12-17-96

Client Name: **HRP Associates Inc.**  
 Report Date: 12-24-96

CTL Lab. No. 126245  
 PO/Job No. NAV0096.FE

**RESULTS OF ANALYSIS****Total Metals**

Matrix Type	W	W	W	W
CTL Sample No.	14145	14146	14147	14148
Field Id	Ultra Sonic Wash/ Rinse	Flash Arrest Wash	Flash Arrest Rinse	Motor Clean
pH	11.2	2.6	2.8	6.9
Silver-mg/L	ND<0.01	ND<0.01	ND<0.01	ND<0.01
Barium-mg/L	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Cadmium-mg/L	0.005	0.010	0.006	ND<0.005
Copper-mg/L	0.15	3.73	3.31	0.11
Nickel-mg/L	ND<0.05	0.08	ND<0.05	ND<0.05
Lead-mg/L	0.050	1.42	0.825	0.011
Selenium-mg/L	ND<0.01	ND<0.01	ND<0.01	ND<0.01
Zinc-mg/L	3.75	0.81	0.75	0.17
Chromium, Total-mg/L	ND<0.05	ND<0.05	ND<0.05	ND<0.05
Beryllium-mg/L	ND<0.004	ND<0.004	ND<0.004	ND<0.004
Zirconium-mg/L	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Molybdenum-mg/L	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Boron-mg/L	ND<1	ND<1	ND<1	ND<1
Cobalt-mg/L	ND<0.1	ND<0.1	ND<0.1	ND<0.1
Antimony-mg/L	ND<0.006	0.049	0.030	ND<0.006
Vanadium-mg/L	ND<0.1	ND<0.1	ND<0.1	ND<0.1
Tin-mg/L	1.2	ND<0.5	ND<0.5	ND<0.5
Titanium-mg/L	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Thallium-mg/L	ND<0.002	ND<0.002	ND<0.002	ND<0.002
Strontium-mg/L	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Tot. Oil & Grease-mg/L	9	ND<0.5	ND<0.5	18
Settleable Solids-mg/L/hr.	ND<0.2	ND<0.2	ND<0.2	ND<0.2

Matrix Types : W = Water/Aqueous  
 S = Soil/Solid  
 O = Oil/Hydrocarbons

**CONNECTICUT TESTING LABORATORIES, INC.**  
 165 Gracey Avenue / Meriden, CT 06451-2268  
 (203)-634-3731

Connecticut Certification No. PH-0547

Date Samples Received : 12-17-96

Client Name: **HRP Associates Inc.**  
 Report Date: 12-24-96

CTL Lab. No. 126245  
 PO/Job No. NAV0096.FE

**RESULTS OF ANALYSIS**

**Total Metals**

Matrix Type  
 CTL Sample No.  
 Field Id

<b>W</b>	<b>W</b>
<b>14143</b>	<b>14144</b>
<b>11A</b>	<b>11B</b>

	W	W		
pH	7.0	6.7		
Aluminum-mg/L	0.2	0.1		
Copper-mg/L	ND<0.01	ND<0.01		
Iron-mg/L	0.07	0.07		
Manganese-mg/L	0.01	0.01		
Zinc-mg/L	ND<0.05	ND<0.05		
Tot. Suspended Solids-mg/L	ND<1	1		
Tot. Sett. Solids-ml/L/hr.	ND<0.2	ND<0.2		
Tot. Residual Chlorine-mg/L	0.70	0.70		
Sodium-mg/L	64	28.6		
Chloride-mg/L	71	17		
Hardness-mg/L	12	ND<2		

Matrix Types : W = Water/Aqueous  
 S = Soil/Solid  
 O = Oil/Hydrocarbons

**CONNECTICUT TESTING LABORATORIES, INC.**  
 165 Gracey Avenue / Meriden, CT 06451-2268  
 (203)-634-3731

Connecticut Certification No. PH-0547

126245

HRP Associates, Inc.  
167 New Britain Avenue  
Plainville, CT 06062  
Phone: 860-793-6899  
Fax: 860-793-6871

# HRP

Sheet 1 of 4  
Job Number NAU0096.FE  
Project Manager JM

## CHAIN OF CUSTODY

Place & Address of Collection US Naval Sub Base  
Groton, CT  
Samplers Name (Signature) Charles Leonard  
Assistant (Witness)(Signature)

Sample Number	Sample Location	Container Type	Total Volume	Preservative	Date	Time	Sample Type				Remarks
							Water	Soil	Air	Waste	
<del>3B</del>	<del>Neutralization Tank</del>	<del>P.V.</del>	<del>2080ml</del>	<del>cool, HCl</del>	<del>12/17/96</del>	<del>10:36</del>	<del>X</del>				<del>Temp</del>
4A	Neutralization Tank	P.V.	2080ml	cool, HCl	12/17/96	10:36	X				72°F
4B	Neutralization Tank	P.V.	2080ml	cool, HCl	12/17/96	10:49	X				72°F

Relinquished By (Signature) Charles Leonard Received By (Signature) mmemahon Date 12/17/96 Time 4:20

Relinquished By (Signature) \_\_\_\_\_ Received By (Signature) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Name & Address of Laboratory CTL, Gracey Ave, Meriden, CT

### LABORATORY SAMPLE PREPARATION REQUIRED

None  Filter  Adjust pH to \_\_\_\_\_ Priority  1 week per Steve Franco

### ANALYSES REQUIRED

Parameters	Sample Number			Parameters	Sample Number		
	3B	4A	4B		3B	4A	4B
pH	<del>X</del>	X	X	TPH 418.1	<del>X</del>	X	X
sg	<del>X</del>	X	X	TPH TSS ✓	<del>X</del>	X	X
-T ✓	<del>X</del>	X	X	TPH TRC ✓	<del>X</del>	X	X
u	<del>X</del>	X	X	STD Water	<del>X</del>	X	X
u	<del>X</del>	X	X	Total Coliform	<del>X</del>	X	X
d	<del>X</del>	X	X	Fluoride	<del>X</del>	X	X
HA	<del>X</del>	X	X	Chloride	<del>X</del>	X	X
NT	<del>X</del>	X	X	8010/601	<del>X</del>	X	X
u	<del>X</del>	X	X	8015	<del>X</del>	X	X
-T	<del>X</del>	X	X	8020/602	<del>X</del>	X	X
-T ✓	<del>X</del>	X	X	8020 + MTBE	<del>X</del>	X	X
-T ✓	<del>X</del>	X	X	8080	<del>X</del>	X	X
7	<del>X</del>	X	X	8100	<del>X</del>	X	X
	<del>X</del>	X	X	8 TCLP Metals	<del>X</del>	X	X
	<del>X</del>	X	X	Total settleable solids	<del>X</del>	X	X
HA-T ✓	<del>X</del>	X	X		<del>X</del>	X	X
Cond.	<del>X</del>	X	X		<del>X</del>	X	X
3	<del>X</del>	X	X		<del>X</del>	X	X
-T ✓	<del>X</del>	X	X		<del>X</del>	X	X

1 week priority per Steve Franco



HRP Associates, Inc.  
 167 New Britain Avenue  
 Plainville, CT 06062  
 Phone: 860-793-6899  
 Fax: 860-793-6871

# HRP

## CHAIN OF CUSTODY

Sheet 3 of 4  
 Job Number NAV0096.FE  
 Project Manager JM

Place & Address of Collection <u>US Naval Sub Base</u> <u>Groton, CT</u>					Samplers Name (Signature) <u>Charles Leonard</u>						
					Assistant (Witness)(Signature)						
Sample Number	Sample Location	Container Type	Total Volume	Preservative	Date	Time	Sample Type				Remarks
							Water	Soil	Air	Waste	
10A	Softener Past Flush	P, V	2080 ml	cool, HCl	12/17/96	11:48	X				Temp 50°F
10B	Softener Past Flush					12:23	X				50°F
11A	Softener Final Rinse					12:27	X				50°F
11B	Softener Final Rinse					2:43	X				50°F
12A	<del>OT Rinse</del>										
Relinquished By (Signature) <u>Charles Leonard</u>					Received By (Signature) <u>MM McMahon</u>		Date <u>12/17/96</u>		Time <u>4:20</u>		
Relinquished By (Signature)					Received By (Signature)		Date		Time		
Name & Address of Laboratory <u>CTL Gracey Ave, Meriden, CT</u>											
<b>LABORATORY SAMPLE PREPARATION REQUIRED</b>											
None <input type="checkbox"/>			Filter <input type="checkbox"/>			Adjust pH to _____			Priority <u>1 week per Steve Franco</u>		
Other											

### ANALYSES REQUIRED

Parameters	Sample Number					Parameters	Sample Number				
	10A	10B	11A	11B	12A		10A	10B	11A	11B	12A
pH	X	X	X	X	X	TPH 418.1					
Ag						<del>TRC</del> TRC ✓	X	X	X	X	X
Al - T ✓	X	X	X	X	X	<del>TRC</del> TSS ✓	X	X	X	X	X
As						STD Water					
Ba						Total Coliform					
Cd						Fluoride					
CN-A						Chloride					
CN-T						B010/601	X	X	X	X	X
Cu						B015					
Cu - T ✓	X	X	X	X	X	B020/602	X	X	X	X	X
Fe - T ✓	X	X	X	X	X	B020 + MTBE					
Hg						B080					
Mn						B100					
Mn - T ✓	X	X	X	X	X	8 TCLP Metals					
Cond.						<del>8 TCLP Metals</del>					
S						Total Settling Solids	X	X	X	X	X
S - T ✓	X	X	X	X	X						

1 week priority per Steve Franco

HRP Associates, Inc.  
 167 New Britain Avenue  
 Plainville, CT 06062  
 Phone: 860-793-6899  
 Fax: 860-793-6871

# HRP

Sheet 4 of 4  
 Job Number NAV0096.FE

## CHAIN OF CUSTODY

Project Manager JM

Place & Address of Collection US NAVY SUBBASE - GROTON, CT Sampler Name (Signature) Michael D. Erickson  
 Assistant (Witness)(Signature) Charles Leonard

Sample Number	Sample Location	Container Type	Total Volume	Preservative	Date	Time	Sample Type				Remarks
							Water	Soil	Air	Waste	
6	ULTRASONIC WASH/RINSE	P,G	3L	COOL	12/17/96	10:20 AM	X				TEMP=142°F
1	FLASK WASH	P,G	3L	COOL	12/17/96	11:40 AM	X				TEMP=80°F
2	FLASK WASH/RINSE	P,G	3L	COOL	12/17/96	2 PM	X				TEMP=72°F
3	FLASK CLEAN	P,G	3L	COOL	12/17/96	1:46 PM	X				TEMP=146°F

Relinquished By (Signature) Michael D. Erickson Received By (Signature) M. Erickson Date 12/17/96 Time 4:20  
 Relinquished By (Signature) \_\_\_\_\_ Received By (Signature) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Name & Address of Laboratory CTL - GROVEY AVE, MERIDEN, CT

### LABORATORY SAMPLE PREPARATION REQUIRED

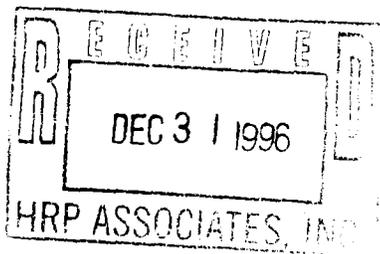
None  Filter  Adjust pH to \_\_\_\_\_ Priority  1 WEEK  
 Other TURN AROUND PER STEVE FRANCO

### ANALYSES REQUIRED

Parameters	Sample Number				Parameters	Sample Number			
	6	1	2	3		6	1	2	3
pH ✓	X	X	X	X	TPH <u>413.1</u> ✓	X	X	X	X
Ag -T ✓	X	X	X	X	TOC				
Al					TOX				
As					STD Water				
Be -T ✓	X	X	X	X	<del>Iron</del> Be -T ✓	X	X	X	X
Cd -T ✓	X	X	X	X	<del>Fluoride</del> Zn -T ✓	X	X	X	X
CN-A					<del>Chloride</del> Mo -T ✓	X	X	X	X
CN-T					<del>Barium</del> B -T ✓	X	X	X	X
Cr <sup>6+</sup>					<del>Barium</del> Co -T ✓	X	X	X	X
Cr-T ✓	X	X	X	X	<del>Barium</del> Sb -T ✓	X	X	X	X
Cu -T ✓	X	X	X	X	B020 + MTBE				
Fe-D					B080				
Hg					B100				
Na					8 TCLP Metals				
Ni -T ✓	X	X	X	X	SETTLABLE SOLIDS ✓	X	X	X	X
Pb -T ✓	X	X	X	X	V-T ✓	X	X	X	X
Se -T ✓	X	X	X	X	SM -T ✓	X	X	X	X
Sp. Cond.					Ti -T ✓	X	X	X	X
TDS					<del>Barium</del> TL -T ✓	X	X	X	X
Zn -T ✓	X	X	X	X	SA -T ✓	X	X	X	X

Remarks 1 WEEK TURN AROUND PER STEVE FRANCO

December 27, 1996



HRP Associates Inc.  
167 New Britain Ave  
Plainville, CT 06062

**Attn: Ms. Pat Terwilliger**

Please find attached laboratory report(s) for the samples submitted on :  
**December 18, 1996**

All pertinent information for this analysis is located on the report. Should it be necessary to contact us regarding billing and or the test results, please have the following information readily available :

**LAB No.** : 126263  
**PO/JOB No.** : NAV0096.FE  
**INVOICE No.** : 63077  
**ORDER No.** : 43204  
**CUSTOMER No.:** 350

Please feel free to contact us if you have any questions.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Stephen J. Franco".

Stephen J. Franco  
Laboratory Director  
PH-0547



**connecticut  
testing  
laboratories inc.**

WATER ■ SOIL ■ AIR

**STEPHEN J. FRANCO**  
Laboratory Director

**PHONE ■ 203/634-3731**

**165 GRACEY AVENUE ■ MERIDEN, CT ■ 06451**

Date Samples Received : 12-18-96

Client Name: <b>HRP Associates Inc.</b>	CTL Lab. No. 126263
Report Date: 12-26-96	PO/Job No. NAV0096.FE

**RESULTS OF ANALYSIS**

**Total Metals**

Matrix Type	W	W	W	W
CTL Sample No.	14199	14200	14201	14202
Field Id	1A	1B	2A	2B
pH	6.5	6.5	6.7	11.6
0.1 Aluminum-mg/L	313	2.3	ND<0.1	ND<0.1
0.05 Copper-mg/L	0.23	ND<0.01	ND<0.01	ND<0.01
0.01 Iron-mg/L	330	2.70	0.07	0.14
0.05 Manganese-mg/L	27.0	0.21	ND<0.01	ND<0.01
0.01 Zinc-mg/L	10.4	0.13	ND<0.05	ND<0.05
0.05 Tot. Suspended Solids-mg/L	2,510	20	1	2
0.05 Tot. Residual Chlorine-mg/L	ND<0.05	0.22	ND<0.05	ND<0.05
0.2 Tot Sett. Solids-ml/L/hr.	518	ND<0.2	ND<0.2	ND<0.2

**Total Metals**

Matrix Type	W	W	W	W
CTL Sample No.	14203	14204	14205	14206
Field Id	3A	3B	12A	12B
pH	3.8	4.4	6.6	6.6
Aluminum-mg/L	ND<0.1	ND<0.1	ND<0.1	ND<0.1
Copper-mg/L	ND<0.01	ND<0.01	ND<0.01	ND<0.01
Iron-mg/L	ND<0.05	ND<0.05	ND<0.05	ND<0.05
Manganese-mg/L	ND<0.01	ND<0.01	0.02	0.01
Zinc-mg/L	ND<0.05	ND<0.05	ND<0.05	ND<0.05
Tot. Suspended Solids-mg/L	ND<1	1	ND<1	ND<1
Tot. Residual Chlorine-mg/L	ND<0.05	ND<0.05	ND<0.05	ND<0.05
Tot Sett. Solids-ml/L/hr.	ND<0.2	ND<0.2	ND<0.2	ND<0.2

Matrix Types : W = Water/Aqueous  
 S = Soil/Solid  
 O = Oil/Hydrocarbons

**CONNECTICUT TESTING LABORATORIES, INC.**  
 165 Gracey Avenue / Meriden, CT 06451-2268  
 (203)-634-3731

Connecticut Certification No. PH-0547

126263

HRP Associates, Inc.  
167 New Britain Avenue  
Plainville, CT 06062  
Phone: 860-793-6899  
Fax: 860-793-6871

# HRP

## CHAIN OF CUSTODY

Sheet 1 of 2  
Job Number NAV 0096.FE  
Project Manager JM

Place & Address of Collection US Naval Sub Base

Samplers Name (Signature) Charles Leonard

Groton, CT

Assistant (Witness)(Signature)

Sample Number	Sample Location	Container Type	Total Volume	Preservative	Date	Time	Sample Type				Remarks
							Water	Soil	Air	Waste	
1A	Carbon Filter BW	P, V	2080ml	cool, <del>HA</del>	12/18/96	7:57	X				Temp: 52°F
1B	Carbon Filter BW	P, V	2080ml	cool, <del>HA</del>	12/18/96	8:19	X				51°F
2A	Mixed Media BW	P, V	2080ml	cool, <del>HA</del>	12/18/96	8:32	X				66°F
2B	Mixed Media BW	P, V	2080ml	cool, <del>HA</del>	12/18/96	8:48	X				58°F
3A	Mixed Media Final Rinse	P, V	2080ml	cool, <del>HA</del>	12/18/96	12:05	X				65°F

Relinquished By (Signature) Charles Leonard

Received By (Signature) M. McMahon

Date 12/18/96

Time 2:40

Relinquished By (Signature)

Received By (Signature)

Date

Time

Name & Address of Laboratory CTL, Gracey Ave, Meriden, CT

### LABORATORY SAMPLE PREPARATION REQUIRED

None  Filter  Adjust pH to \_\_\_\_\_ Priority  1 week per Steve Franco

### ANALYSES REQUIRED

Parameters	Sample Number					Parameters	Sample Number				
	1A	1B	2A	2B	3A		1A	1B	2A	2B	3A
pH	X	X	X	X	X	TPH 418.1					
Ag						<del>Ag</del> TSS	X	X	X	X	X
Al -T	X	X	X	X	X	<del>Al</del> TRC	X	X	X	X	X
As						STD Water					
Ba						Total Coliform					
Cd						Fluoride					
CN-A						Chloride					
CN-T						<del>8010</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>
Cu						<del>8015</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>
Cu -T	X	X	X	X	X	<del>8020 + MTBE</del>					
Fe -T	X	X	X	X	X	8080					
Hg						8100					
Va						8 TCLP Metals					
Ni						Total settleable solids	X	X	X	X	X
Mn -T	X	X	X	X	X						
Sp. Cond.											
DS											
n -T	X	X	X	X	X						

Remarks 1 week priority Per Steve Franco

HRP Associates, Inc.  
 167 New Britain Avenue  
 Plainville, CT 06062  
 Phone: 860-793-6899  
 Fax: 860-793-6871

# HRP

Sheet 2 of 2  
 Job Number NA10096FE  
 Project Manager JM

## CHAIN OF CUSTODY

Place & Address of Collection US Naval Sub Base Samplers Name (Signature) Charles Leonard  
Gorton, CT Assistant (Witness)(Signature)

Sample Number	Sample Location	Container Type	Total Volume	Preservative	Date	Time	Sample Type				Remarks
							Water	Soil	Air	Waste	
<del>1ZB</del>	<del>Gr Reverse</del>	<del>P, U</del>	<del>2080ml</del>	<del>cool, <del>WV</del></del>	<del>12/18/96</del>	<del>10:52</del>	<del>X</del>				<del>Temp</del>
1ZB	Gr Reverse	P, U	2080ml	cool, <del>WV</del>	12/18/96	10:52	X				53°F
1ZB	"	"	"	"	12/18/96	11:19	X				52°F
3B	Mixed Media Final Rise	"	"	"	12/18/96	12:31	X				51°F
<del>1ZB</del>											

Relinquished By (Signature) Charles Leonard Received By (Signature) M. Mahon Date 12/18/96 Time 2:40  
 Relinquished By (Signature) Received By (Signature) Date Time

Name & Address of Laboratory CTL, Gracey Ave, Meriden, CT  
**LABORATORY SAMPLE PREPARATION REQUIRED**

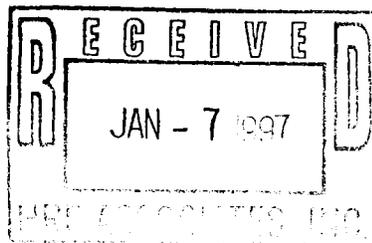
None  Filter  Adjust pH to \_\_\_\_\_ Priority  1 week per Steve Franco  
 Other \_\_\_\_\_

### ANALYSES REQUIRED

Parameters	Sample Number			Parameters	Sample Number		
	1ZB	1ZB	3B		1ZB	1ZB	3B
pH ✓	X	X	X	TPH 418.1			
Ag				<del>TRC</del> ✓	X	X	X
Al - T ✓	X	X	X	<del>TSS</del> ✓	X	X	X
As				STD Water			
Ba				Total Coliform			
Cd				Fluoride			
CN-A				Chloride			
CN-T				8010/601			
Cr <sup>6</sup>				8015			
Cr-T				8020/602			
Cu - T ✓	X	X	X	8020 + MTBE			
Fe - T ✓	X	X	X	8080			
Hg				8100			
Na				8 TCLP Metals			
Ni				Total Settleable Solids	X	X	X
Pb							
Mn - T ✓	X	X	X				
Sp. Cond.							
TDS							
Zn - T ✓	X	X	X				

Remarks 1 week turnaround per Steve Franco

January 3, 1997



HRP Associates Inc.  
167 New Britain Ave  
Plainville, CT 06062

Attn: Ms. Pat Terwilliger

Please find attached laboratory report(s) for the samples submitted on :  
December 26, 1996

All pertinent information for this analysis is located on the report. Should it be necessary to contact us regarding billing and or the test results, please have the following information readily available :

LAB No. : 126393  
PO/JOB No. : NAV0096.FE  
INVOICE No. : 63204  
ORDER No. : 43331  
CUSTOMER No.: 350

Please feel free to contact us if you have any questions.

Very truly yours,

A handwritten signature in black ink, appearing to read "Stephen J. Franco".

Stephen J. Franco  
Laboratory Director  
PH-0547



STEPHEN J. FRANCO  
Laboratory Director

PHONE ■ 203/634-3731

165 GRACEY AVENUE ■ MERIDEN, CT ■ 06451

Date Samples Received : 12-26-96

Client Name: **HRP Associates Inc.**  
 Report Date: 1-3-97

CTL Lab. No. 126393  
 PO/Job No. NAV0096.FE

**RESULTS OF ANALYSIS****Total Metals**

Matrix Type	W	W	W	W
CTL Sample No.	14560	14561	14562	14563
Field Id	1A	1B	8A	8B
pH	6.3	6.5	6.4	6.8
Aluminum-mg/L	14.3	0.6	0.2	0.1
Copper-mg/L	0.07	ND<0.01	ND<0.01	ND<0.01
Iron-mg/L	17.8	0.61	0.49	0.08
Manganese-mg/L	1.74	0.06	0.03	ND<0.01
Zinc-mg/L	0.59	0.06	ND<0.05	ND<0.05
Tot. Sett. Solids-ml/L/Hr.	0.3	ND<0.2	ND<0.2	ND<0.2
Tot. Suspended Solids-mg/L	125	2	ND<1	ND<1
Tot. Residual Chlorine-mg/L	ND<0.05	0.22	0.38	1.17

Matrix Types : W = Water/Aqueous  
 S = Soil/Solid  
 O = Oil/Hydrocarbons

**CONNECTICUT TESTING LABORATORIES, INC.**  
 165 Gracey Avenue / Meriden, CT 06451-2268  
 (203)-634-3731

Connecticut Certification No. PH-0547

Date Samples Received : 12-26-96

Client Name: **HRP Associates Inc.**  
 Report Date: 1-3-97

CTL Lab. No. 126393  
 PO/Job No. NAV0096.FE

**RESULTS OF ANALYSIS**

**Total Metals**

Matrix Type	W	W	W	W
CTL Sample No.	14564	14565	14566	14567
Field Id	9A	9B	10A	10B
pH	6.5	5.5	5.7	6.8
Aluminum-mg/L	0.1	0.3	0.4	0.1
Copper-mg/L	ND<0.01	ND<0.01	ND<0.01	ND<0.01
Iron-mg/L	0.12	ND<0.05	ND<0.05	ND<0.05
Manganese-mg/L	0.01	ND<0.01	ND<0.01	ND<0.01
Zinc-mg/L	ND<0.05	0.33	0.21	ND<0.05
Tot. Sett. Solids-ml/L/Hr.	ND<0.2	ND<0.2	ND<0.2	ND<0.2
Tot. Suspended Solids-mg/L	2	6	5	ND<1
Tot. Residual Chlorine-mg/L	1.22	ND<0.05	0.38	1.38

Matrix Types : W = Water/Aqueous  
 S = Soil/Solid  
 O = Oil/Hydrocarbons

Date Samples Received : 12-26-96

Client Name: **HRP Associates Inc.**  
 Report Date: 1-3-97

CTL Lab. No. 126393  
 PO/Job No. NAV0096.FE

**RESULTS OF ANALYSIS**

**Total Metals**

<b>Matrix Type</b>	<b>W</b>	<b>W</b>
<b>CTL Sample No.</b>	<b>14568</b>	<b>14569</b>
<b>Field Id</b>	<b>11A</b>	<b>11B</b>

	W	W		
pH	6.7	6.6		
Aluminum-mg/L	0.1	0.1		
Copper-mg/L	ND<0.01	ND<0.01		
Iron-mg/L	0.06	0.07		
Manganese-mg/L	ND<0.01	ND<0.01		
Zinc-mg/L	ND<0.05	ND<0.05		
Tot. Sett. Solids-ml/L/Hr.	ND<0.2	ND<0.2		
Tot. Suspended Solids-mg/L	ND<1	3		
Tot. Residual Chlorine-mg/L	1.42	0.70		

Matrix Types : W = Water/Aqueous  
 S = Soil/Solid  
 O = Oil/Hydrocarbons

**CONNECTICUT TESTING LABORATORIES, INC.**

165 Gracey Avenue / Meriden, CT 06451-2268

(203)-634-3731

Connecticut Certification No. PH-0547

HRP Associates, Inc.  
 167 New Britain Avenue  
 Plainville, CT 06062  
 Phone: 860-793-6899  
 Fax: 860-793-6871

# HRP

## CHAIN OF CUSTODY

Sheet 1 of 2  
 Job Number NAV 0096, FE  
 Project Manager JM

Place & Address of Collection US Naval Sub Base  
Groton, CT

Samplers Name (Signature) Charles Leonard  
 Assistant (Witness)(Signature)

Sample Number	Sample Location	Container Type	Total Volume	Preservative	Date	Time	Sample Type				Remarks
							Water	Soil	Air	Waste	
1A	Carbon Filter B/W	plastic	2000ml	cool	12/26/96	12:30	X				Temp. 68°F
1B	"	"	"	"	"	12:51	X				50°F
<del>2A</del>	<del>Carbon Filter B/W</del>	"	"	"	"	8:57	X				47°F
<del>2B</del>	"	"	"	"	"	9:30	X				48°F
<del>3A</del>	<del>Carbon Filter B/W</del>	"	"	"	"	9:35	X				51°F

Relinquished By (Signature) Charles Leonard Received By (Signature) John F. [unclear] Date 1/14/97 Time 3pm  
 Relinquished By (Signature) Received By (Signature) Date Time

Name & Address of Laboratory CTL, Gracey Ave, Meriden, CT

### LABORATORY SAMPLE PREPARATION REQUIRED

None  Filter  Adjust pH to \_\_\_\_\_ Priority  1 week per Steve  
 Other \_\_\_\_\_

### ANALYSES REQUIRED

Parameters	Sample Number					Parameters	Sample Number				
	1A	<del>1B</del>	<del>2A</del>	<del>2B</del>	<del>3A</del>		1A	1B	<del>2A</del>	<del>2B</del>	<del>3A</del>
pH ✓	X	X	X	X	X	TPH 418.1					
Ag						<del>TRC</del> ✓	X	X	X	X	X
Al - T ✓	X	X	X	X	X	<del>TSS</del> ✓	X	X	X	X	X
As						STD Water					
Ba						Total Coliform					
Cd						Fluoride					
CN-A						Chloride			X	X	X
CN-T						8010/601					
Cr <sup>6+</sup>						8015					
Cr-T						8020/602					
Cu - T ✓	X	X	X	X	X	8020 + MTBE					
Fe - T ✓	X	X	X	X	X	8080					
Hg						8100					
Na			X	X	X	8 TCLP Metals					
Ni						total settleable Solids	X	X	X	X	X
Pb						hardness			X	X	X
<del>Mn-T</del> ✓	X	X	X	X	X						
Sp. Cond.											
TDS											
Zn - T ✓	X	X	X	X	X						

Remarks 1 week priority per Steve Franco

HRP Associates, Inc.  
 167 New Britain Avenue  
 Plainville, CT 06062  
 Phone: 860-793-6899  
 Fax: 860-793-6871

# HRP

Sheet 2 of 2  
 Job Number NAU0096.FE  
 Project Manager JM

## CHAIN OF CUSTODY

Place & Address of Collection US Naval Sub Base Groton, CT  
 Samplers Name (Signature) Charles Leonard  
 Assistant (Witness)(Signature)

Sample Number	Sample Location	Container Type	Total Volume	Preservative	Date	Time	Sample Type				Remarks
							Water	Soil	Air	Waste	
9B	<del>Softener</del> <u>Brine</u>	<u>plastic</u>	<u>2L</u>	<u>Cool</u>	<u>12/26/96</u>	<u>11:02</u>	X				<u>Temp 53°F</u>
10A	<del>Softener</del> <u>Flush</u>	↓	↓	↓	↓	<u>11:08</u>	X				<u>53°F</u>
10B	<u>  </u>	↓	↓	↓	↓	<u>11:42</u>	X				<u>51°F</u>
11A	<del>Softener</del> <u>Final rinse</u>	↓	↓	↓	↓	<u>11:47</u>	X				<u>50°F</u>
11B	<u>  </u>	↓	↓	↓	↓	<u>12:01</u>	X				<u>49°F</u>

Relinquished By (Signature) Charles Leonard Received By (Signature) Steve Franco Date 12/16/96 Time 3:24 PM  
 Relinquished By (Signature) \_\_\_\_\_ Received By (Signature) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Name & Address of Laboratory CTL, Gracey Ave, Meriden, CT  
**LABORATORY SAMPLE PREPARATION REQUIRED**

None  Filter  Adjust pH to \_\_\_\_\_ Priority  1 week per Steve Franco  
 Other \_\_\_\_\_

### ANALYSES REQUIRED

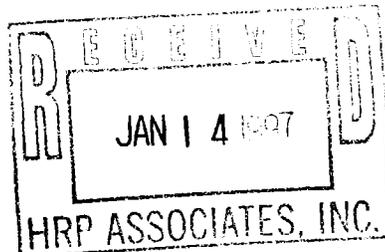
Parameters	Sample Number					Parameters	Sample Number				
	9B	10A	10B	11A	11B		9B	10A	10B	11A	11B
pH ✓	X	X	X	X	X	TPH 418.1					
Ag						<del>TRC</del> ✓	X	X	X	X	X
Al -TV	X	X	X	X	X	<del>TSS</del> ✓	X	X	X	X	X
As						STD Water					
Ba						Total Coliform					
Cd						Fluoride					
CN-A						Chloride	X	X	X	X	X
CN-T						8010/601					
Cr <sup>6</sup>						8015					
Cr-T						8020/602					
Cu -TV ✓	X	X	X	X	X	8020 + MTBE					
Fe -TV ✓	X	X	X	X	X	8080					
Hg						8100					
Na	X	X	X	X	X	8 TCLP Metals					
Ni						<u>Total Suspended Solids</u>	X	X	X	X	X
Pb						<u>hardness</u>	X	X	X	X	X
Mn -TV ✓	X	X	X	X	X						
Sp. Cond.											
TDS											
Zn -TV ✓	X	X	X	X	X						

Remarks 1 week priority per Steve Franco

January 8, 1997

HRP Associates Inc.  
167 New Britain Ave  
Plainville, CT 06062

Attn: Ms. Pat Terwilliger



Please find attached laboratory report(s) for the samples submitted on :  
**December 27, 1996**

All pertinent information for this analysis is located on the report. Should it be necessary to contact us regarding billing and or the test results, please have the following information readily available :

LAB No. : 126412  
PO/JOB No. : NAV0096.FE  
INVOICE No. : 63298  
ORDER No. : 43425  
CUSTOMER No.: 350

Please feel free to contact us if you have any questions.

Very truly yours,

A handwritten signature in black ink, appearing to read "Stephen J. Franco".

Stephen J. Franco  
Laboratory Director  
PH-0547



STEPHEN J. FRANCO  
Laboratory Director

PHONE ■ 203/634-3731

165 GRACEY AVENUE ■ MERIDEN, CT ■ 06451

Date Samples Received : 12-27-96

Client Name: HRP Associates Inc.  
Report Date: 1-7-97CTL Lab. No. 126412  
PO/Job No. NAV0096.FE**RESULTS OF ANALYSIS****Total Metals**

Matrix Type	W	W	W
CTL Sample No.	14611	14612	14613
Field Id	Flash Arrest Wash	Flash Arrest Rinse	Motor Clean
pH	2.1	2.7	6.4
Silver-mg/L	0.02	ND<0.01	ND<0.01
Barium-mg/L	ND<0.5	ND<0.5	ND<0.5
Cadmium-mg/L	0.028	0.010	ND<0.005
Chromium, Total-mg/L	ND<0.05	ND<0.05	ND<0.05
Copper-mg/L	19.8	16.7	0.15
Nickel-mg/L	0.26	0.12	ND<0.05
Lead-mg/L	2.10	2.09	ND<0.010
Selenium-mg/L	ND<0.05	ND<0.05	ND<0.05
Zinc-mg/L	1.74	1.62	0.10
Beryllium-mg/L	ND<0.004	ND<0.004	ND<0.004
Zirconium-mg/L	ND<0.5	ND<0.5	ND<0.5
Molybdenum-mg/L	ND<0.5	ND<0.5	ND<0.5
Boron-mg/L	ND<1	ND<1	ND<1
Cobalt-mg/L	ND<0.1	ND<0.1	ND<0.1
Antimony-mg/L	0.104	0.095	ND<0.006
Vanadium-mg/L	ND<0.05	ND<0.05	ND<0.05
Tin-mg/L	ND<0.5	ND<0.5	ND<0.5
Titanium-mg/L	ND<0.5	ND<0.5	ND<0.5
Thallium-mg/L	ND<0.002	ND<0.002	ND<0.002
Strontium-mg/L	ND<0.5	ND<0.5	ND<0.5
Tot. Oil & Grease-mg/L	ND<0.5	ND<0.5	0.7
Settleable Solids-ml/L/Hr.	ND<0.2	ND<0.2	ND<0.2

Matrix Types : W = Water/Aqueous  
S = Soil/Solid  
O = Oil/Hydrocarbons

**CONNECTICUT TESTING LABORATORIES, INC.**  
165 Gracey Avenue / Meriden, CT 06451-2268  
(203)-634-3731

Connecticut Certification No. PH-0547

Date Samples Received : 12-27-96

Client Name: **HRP Associates Inc.**  
 Report Date: 1-7-97

CTL Lab. No. 126412  
 PO/Job No. NAV0096.FE

**RESULTS OF ANALYSIS**

**Total Metals**

<b>Matrix Type</b>	<b>W</b>	<b>W</b>
<b>CTL Sample No.</b>	<b>14614</b>	<b>14615</b>
<b>Field Id</b>	<b>12A</b>	<b>12B</b>

	W	W		
pH	6.5	6.4		
Aluminum-mg/L	ND<0.1	0.1		
Manganese-mg/L	0.03	0.02		
Copper-mg/L	ND<0.01	ND<0.01		
Iron-mg/L	0.05	ND<0.05		
Zinc-mg/L	0.10	0.09		
Tot. Residual Chlorine-mg/L	ND<0.05	ND<0.05		
Tot. Suspended Solids-mg/L	ND<1	4		
Tot. Sett. Solids-ml/L/hr.	ND<0.2	ND<0.2		

Matrix Types : W = Water/Aqueous  
 S = Soil/Solid  
 O = Oil/Hydrocarbons

126412

HRP Associates, Inc.  
 167 New Britain Avenue  
 Plainville, CT 06062  
 Phone: 860-793-6899  
 Fax: 860-793-6871

**HRP**

**CHAIN OF CUSTODY**

Sheet 1 of 1  
 Job Number NAV0096, FE  
 Project Manager JM

Place & Address of Collection US NAVY SUBBASE - GROTON, CT      Samplers Name (Signature) Michael D. Erickson  
 Assistant (Witness)(Signature)

Sample Number	Sample Location	Container Type	Total Volume	Preservative	Date	Time	Sample Type				Remarks
							Water	Soil	Air	Waste	
1	FLASH ARREST WASH	P, G	3L	cool	12/27/96	8:00	X				TEMP = 71 °F
2	FLASH ARREST RINSE	P, G	3L	cool	12/27/96	8:15	X				TEMP = 67 °F
3	MORZ CHAMING	P, G	3L	cool	12/27/96	8:48	X				TEMP = 71 °F
12A	GT RW OSMOSIS	P	2L	cool	12/27/96	9:56	X				TEMP = 55 °F
12B	GT RW OSMOSIS	P	2L	cool	12/27/96	10:37	X				TEMP = 53 °F

Relinquished By (Signature) Michael D. Erickson      Received By (Signature) M. McMahon      Date 12/27/96      Time 12:35  
 Relinquished By (Signature)      Received By (Signature)      Date      Time

Name & Address of Laboratory CTL - GRACEY AVE, MERIDEN, CT  
**LABORATORY SAMPLE PREPARATION REQUIRED**

None       Filter       Adjust pH to \_\_\_\_\_      Priority  1 WEEK  
 Other TURN AROUND PER STEVE FRANCO

**ANALYSES REQUIRED**

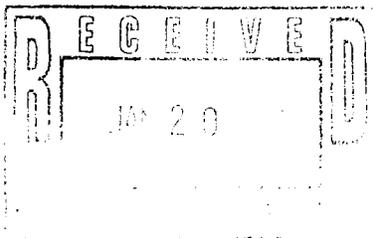
Parameters	Sample Number					Parameters	Sample Number				
	1	2	3	12A	12B		1	2	3	12A	12B
pH ✓	X	X	X	X	X	TPH <del>413.1M</del>	X	X	X		
Ag -TV ✓	X	X	X			TOC - TRC ✓				X	X
Al ✓				X	X	TSS ✓				X	X
As						STD Water					
Ba -TV ✓	X	X	X			Total Coliform Be-TV ✓	X	X	X		
Cd -TV ✓	X	X	X			Fluoride Zn -TV ✓	X	X	X		
CN-A						Chloride Mo -TV ✓	X	X	X		
<del>          </del>						pesticide B -TV ✓	X	X	X		
Mn -TV ✓				X	X	0045 Co -TV ✓	X	X	X		
Cr-T ✓	X	X	X			0000/000 Sb -TV ✓	X	X	X		
Cu -TV ✓	X	X	X	X	X	8020 + MTBE					
Fe -TV ✓				X	X	0000 TOTAL SETTLEABLE SOLIDS				X	X
Hg						8100					
Na						8 TCLP Metals					
Ni -TV ✓	X	X	X			SETTLEABLE SOLIDS ✓	X	X	X		
Pb -TV ✓	X	X	X			V-T ✓	X	X	X		
Se -TV ✓	X	X	X			Sm -T ✓	X	X	X		
Sp. Cond.						Ti -T ✓	X	X	X		
TDS						Tl -T ✓	X	X	X		
Zn -TV ✓	X	X	X	X	X	Sr -T ✓	X	X	X		

Remarks 1 WEEK TURNAROUND PER STEVE FRANCO

January 15, 1997

HRP Associates Inc.  
167 New Britain Ave  
Plainville, CT 06062

Attn: Ms. Pat Terwilliger



Please find attached laboratory report(s) for the samples submitted on :  
January 8, 1997

All pertinent information for this analysis is located on the report. Should it be necessary to contact us regarding billing and or the test results, please have the following information readily available :

LAB No. : 197087  
PO/JOB No. : NAV0096.FE  
INVOICE No. : 63432  
ORDER No. : 43559  
CUSTOMER No.: 350

Please feel free to contact us if you have any questions.

Very truly yours,

Stephen J. Franco  
Laboratory Director  
PH-0547



STEPHEN J. FRANCO  
Laboratory Director  
PHONE ■ 203/634-3731

165 GRACEY AVENUE ■ MERIDEN, CT ■ 06451

Date Samples Received : 1-8-97

Client Name: HRP Associates Inc.  
Report Date: 1-15-97

CTL Lab. No. 197087  
PO/Job No. NAV0096.FE

**RESULTS OF ANALYSIS****Total Metals**

Matrix Type  
CTL Sample No.  
Field Id

W	W	W	W
174	175	176	177
2A	2B	3A	3B

pH	8.0	7.4	7.4	7.6
Aluminum-mg/L	0.1	0.2	ND<0.1	0.1
Copper-mg/L	ND<0.01	ND<0.01	ND<0.01	0.02
Iron-mg/L	0.44	0.13	ND<0.05	1.04
Manganese-mg/L	0.01	0.01	ND<0.01	0.02
Zinc-mg/L	ND<0.05	ND<0.05	ND<0.05	0.37
Tot. Res. Chlorine-mg/L	ND<0.05	ND<0.05	ND<0.05	ND<0.05
Tot. Suspended Solids-mg/L	7	ND<1	7	3
Tot. Sett. Solids-ml/L/hr.	ND<0.2	ND<0.2	ND<0.2	ND<0.2

Matrix Types : W = Water/Aqueous  
S = Soil/Solid  
O = Oil/Hydrocarbons

**CONNECTICUT TESTING LABORATORIES, INC.**  
165 Gracey Avenue / Meriden, CT 06451-2268  
(203)-634-3731

Connecticut Certification No. PH-0547

Date Samples Received : 1-8-97

Client Name: **HRP Associates Inc.**  
 Report Date: 1-15-97

CTL Lab. No. 197087  
 PO/Job No. NAV0096.FE

**RESULTS OF ANALYSIS**

**Total Metals**

**Matrix Type**  
**CTL Sample No.**  
**Field Id**

<b>W</b>	<b>W</b>
<b>178</b>	<b>179</b>
<b>4A</b>	<b>4B</b>

	W	W		
pH	9.9	9.8		
Aluminum-mg/L	1.0	1.3		
Copper-mg/L	ND<0.01	ND<0.01		
Iron-mg/L	0.31	0.38		
Manganese-mg/L	0.01	0.01		
Zinc-mg/L	0.05	0.07		
Tot. res. Chlorine-mg/L	ND<0.05	ND<0.05		
Tot. Susp. Solids-mg/L	1	2		
Tot. Sett. Solids-ml/L/hr.	ND<0.2	ND<0.2		

Matrix Types : W = Water/Aqueous  
 S = Soil/Solid  
 O = Oil/Hydrocarbons

Tracking # 197087

HRP Associates, Inc. 167 New Britain Avenue Plainville, CT 06062 Phone: 860-793-6899 Fax: 860-793-6871	<h1 style="margin:0;">HRP</h1> <h2 style="margin:0;">CHAIN OF CUSTODY</h2>	Sheet <u>1</u> of <u>2</u> Job Number <u>NAV00961FE</u> Project Manager <u>JM</u>
--	--	---

Place & Address of Collection <u>US Naval Sub Base</u> <u>Groton, CT</u>	Samplers Name (Signature) <u>Charles Leonard</u> Assistant (Witness)(Signature)
---	--

Sample Number	Sample Location	Container Type	Total Volume	Preservative	Date	Time	Sample Type				Remarks
							Water	Soil	Air	Waste	
2A	Mixed Bed Blw	plastic	2L	cool	1/8/97	8:27am	X				Temp 50°F
2B		↓	↓	↓	1/8/97	8:43am	X				49°F
3A	Mixed Bed Final rinse	↓	↓	↓	1/8/97	11:17	X				62°F

Relinquished By (Signature) <u>Charles Leonard</u>	Received By (Signature)	Date	Time
Relinquished By (Signature) <u>John Sique</u>	Received By (Signature)	Date <u>1/7/97</u>	Time <u>2:10pm</u>
Name & Address of Laboratory <u>CTL, Gracey Ave, Meriden, CT</u>			
<b>LABORATORY SAMPLE PREPARATION REQUIRED</b>			
None <input type="checkbox"/>	Filter <input type="checkbox"/>	Adjust pH to _____	Priority <u>1 week per Steve Franco</u>
Other			

**ANALYSES REQUIRED**

Parameters	Sample Number			Parameters	Sample Number		
	2A	2B	3A		2A	2B	3A
pH ✓	X	X	X	TPH 418.1			
Ag				<del>TRC</del> ✓	X	X	X
Al - T ✓	X	X	X	<del>TSS</del> ✓	X	X	X
As				STD Water			
Ba				Total Coliform			
Cd				Fluoride			
CN-A				Chloride			
CN-T				8010/601			
Cr <sup>6+</sup>				8015			
Cr-T				8020/602			
Cu - T ✓	X	X	X	8020 + MTBE			
Fe - T ✓	X	X	X	8080			
Hg				8100			
Na				8 TCLP Metals			
Ni				total settleable solids	X	X	X
Pb							
Mn - T ✓	X	X	X				
Sp. Cond.							
TDS							
Zn - T ✓	X	X	X				

Remarks: 1 week Priority Per Steve Franco

HRP Associates, Inc.  
 167 New Britain Avenue  
 Plainville, CT 06062  
 Phone: 860-793-6899  
 Fax: 860-793-6871

# HRP

## CHAIN OF CUSTODY

Sheet 2 of 2  
 Job Number NAV0096.FE  
 Project Manager JM

Place & Address of Collection US Navy Sub Base Groton, CT Samplers Name (Signature) Charles Leonard  
 Assistant (Witness)(Signature)

Sample Number	Sample Location	Container Type	Total Volume	Preservative	Date	Time	Sample Type				Remarks
							Water	Soil	Air	Waste	
<del>3B</del>	<del>mixed Red Final Rinse</del>	<del>plastic</del>	<del>2000ml</del>	<del>cool</del>	<del>1/8/97</del>	<del>11:43</del>	X				Temp 60°F
4A	Neutral Tank	↓	↓	↓	1/8/97	12:03	X				68°F
4B	u	↓	↓	↓	1/8/97	12:27	X				68°F
<del>12A</del>	<del>GIPQ</del>	<del>↓</del>	<del>↓</del>	<del>↓</del>	<del>1/8/97</del>	<del>12:03</del>	<del>X</del>				
<del>12B</del>	<del>u</del>	<del>↓</del>	<del>↓</del>	<del>↓</del>	<del>1/8/97</del>	<del>12:27</del>	<del>X</del>				

Relinquished By (Signature) Charles Leonard Received By (Signature) Steve Franco Date 1/7/97 Time 2:10 pm

Name & Address of Laboratory CTL, Gracey Ave, Meriden, CT

### LABORATORY SAMPLE PREPARATION REQUIRED

None  Filter  Adjust pH to \_\_\_\_\_ Priority 1 week per Steve Franco

### ANALYSES REQUIRED

Parameters	Sample Number					Parameters	Sample Number				
	3B	4A	4B	<del>12A</del>	<del>12B</del>		3B	<del>4A</del>	4B	<del>12A</del>	<del>12B</del>
pH	X	X	X	<del>X</del>	<del>X</del>	TPH 418.1					
Ag				<del>X</del>	<del>X</del>	<del>TRC</del>	X	X	X	<del>X</del>	<del>X</del>
Al -T	X	X	X	<del>X</del>	<del>X</del>	<del>TSS</del>	X	X	X	<del>X</del>	<del>X</del>
As				<del>X</del>	<del>X</del>	STD Water				<del>X</del>	<del>X</del>
Ba				<del>X</del>	<del>X</del>	Total Coliform				<del>X</del>	<del>X</del>
Cd				<del>X</del>	<del>X</del>	Fluoride				<del>X</del>	<del>X</del>
CN-A				<del>X</del>	<del>X</del>	Chloride				<del>X</del>	<del>X</del>
CN-T				<del>X</del>	<del>X</del>	8010/601				<del>X</del>	<del>X</del>
Cr <sup>6</sup>				<del>X</del>	<del>X</del>	8015				<del>X</del>	<del>X</del>
Cr-T				<del>X</del>	<del>X</del>	8020/602				<del>X</del>	<del>X</del>
Cu -T	X	X	X	<del>X</del>	<del>X</del>	8020 + MTBE				<del>X</del>	<del>X</del>
Fe -T	X	X	X	<del>X</del>	<del>X</del>	8080				<del>X</del>	<del>X</del>
Hg				<del>X</del>	<del>X</del>	8100				<del>X</del>	<del>X</del>
Na				<del>X</del>	<del>X</del>	8 TCLP Metals				<del>X</del>	<del>X</del>
Ni				<del>X</del>	<del>X</del>	Total settleable solids	X	X	X	<del>X</del>	<del>X</del>
Pb				<del>X</del>	<del>X</del>					<del>X</del>	<del>X</del>
Mn -T	X	X	X	<del>X</del>	<del>X</del>					<del>X</del>	<del>X</del>
Sp. Cond.				<del>X</del>	<del>X</del>					<del>X</del>	<del>X</del>
TDS				<del>X</del>	<del>X</del>					<del>X</del>	<del>X</del>
Zn -T	X	X	X	<del>X</del>	<del>X</del>					<del>X</del>	<del>X</del>

Remarks 1 week priority per Steve Franco

**APPENDIX E**

**PERMIT APPLICATION TRANSMITTAL FORM  
AND  
GENERAL PERMIT REGISTRATION FORM  
FOR THE DISCHARGE OF WATER TREATMENT WASTEWATER**



STATE OF CONNECTICUT  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 Central Permit Processing Unit  
 79 Elm Street  
 Hartford, CT 06106-5127

## Permit Application Transmittal Form

Please complete this transmittal form in accordance with the instructions in order to ensure the proper handling of your application(s) and the associated fees. Print legibly or type.

DEP USE ONLY	
Document No.	_____
Rec'd CPPLU	_____
Rec'd Program	_____

### Part I: Applicant Information

Applicant: <u>Commanding Officer, Naval Submarine Base New London</u>				
Company Name or, if applicant is an individual, write name in the following format:				
Title (Mr, Ms, Dr)	First Name	Middle Initial	Last Name	Suffix (Jr, PE, PhD)
Mailing Address: <u>P. O. Box 00</u>				
City/Town:	<u>Groton</u>	State:	<u>CT</u>	Zip Code: <u>06349-5000</u>
Phone:	<u>(860) 449-5133</u>	ext.:		Fax: <u>(860) 449-2653</u>
Contact Person:	<u>Suzanne Berkman</u>	Phone:	<u>(860) 449-5133</u>	ext.:
<input type="checkbox"/> Check if any co-applicants. If so, attach additional sheet(s) with the required information as supplied above.				
Applicant is a(n) (check one): <input type="checkbox"/> individual <input type="checkbox"/> company <input checked="" type="checkbox"/> federal <input type="checkbox"/> state <input type="checkbox"/> municipal				
If a Company, list company type (e.g., corporation, limited partnership, etc.) _____				
Applicant Billing Address: <u>P.O. Box 00</u>				
City/Town:	<u>Groton</u>	State:	<u>CT</u>	Zip Code: <u>06349-5000</u>
Billing Contact Name:	<u>Suzanne Berkman</u>	Phone:	<u>(860) 449-5133</u>	ext.:

### Part II: Project Information

Brief Project Description: <u>Water Treatment Wastewater General Permit Registration</u>					
Location (City/Town): <u>Groton</u>					
Other Project Permits (not included with this form):					
Permit Description	Issuing Authority	Submittal Date	Issuance Date	Denial Date	Permit #

# General Permit Registration Form for Water Treatment Wastewater

Please complete this form in accordance with the instructions in order to ensure the proper handling of your registration. Print or type unless otherwise noted. You must submit the permit application transmittal form and the registration fee along with this form.

DEP USE ONLY	
Application No.	_____
Permit No.	_____
Facility I.D.	_____

## Part I: Registration Type

Enter a check mark in the appropriate box identifying the registration type.

- A new general permit registration;
- A discharge previously authorized by an individual State or NPDES permit;  
Provide Permit No. SP0000915

## Part II: Registration Information

Please provide the applicant/registrant's name as indicated on the transmittal form

Applicant/Registrant: Commanding Officer, Naval Submarine Base New London

When a facility or activity is owned by one person or municipality but is leased or in some other way the legal responsibility of another person or municipality (the operator) it is the operator's responsibility to submit any applications required under this section. (Section 22a-430-4-(a)(3)).

Operator: Department of Navy, Naval Submarine Base New London

Mailing Address: P.O. Box 00

City/Town: Groton State: CT Zip Code: 06349-5000

Business Phone: (860) 449-5133 ext. \_\_\_\_\_ Fax: (860) 449-2653

Contact: Suzanne Berkman Title: Environmental Department Head

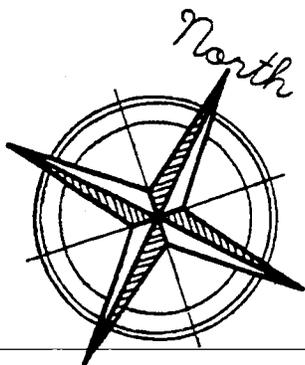
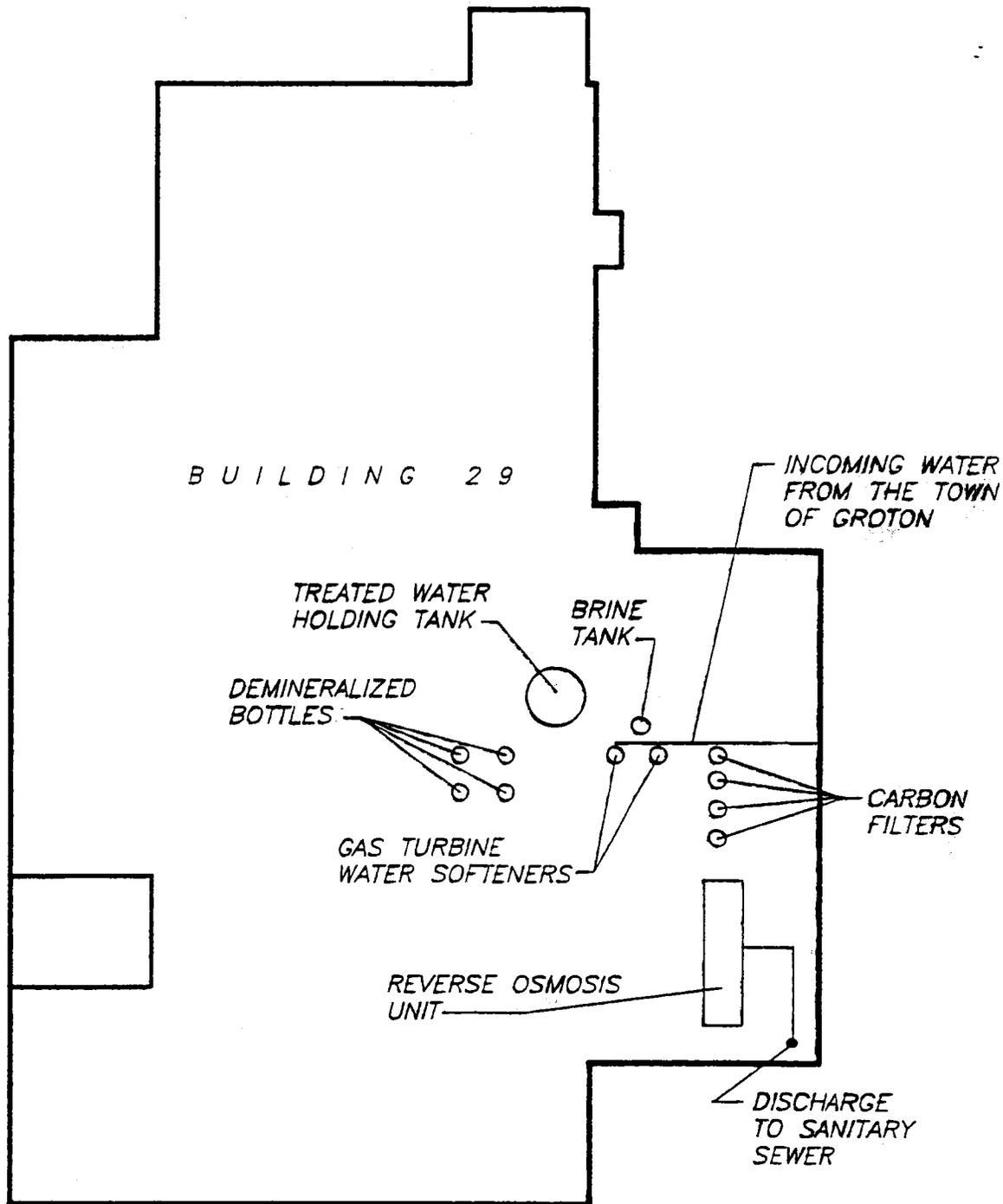
Facility or Site Owner: Department of Navy, Naval Submarine Base New London

Mailing Address: P.O. Box 00

City/Town: Groton State: CT Zip Code: 06349-5000

Business Phone: (860) 449-5133 ext. \_\_\_\_\_ Fax: (860) 449-2653

Contact: Suzanne Berkman Title: Environmental Department Head



**FIGURE 2**  
**BUILDING 29**  
**NAVAL SUBBASE NEW LONDON**  
**GROTON, CONNECTICUT**  
**HRP # NAV0096.FE**  
**NOT TO SCALE**

NAV096FE\BLDG29 (B)

**APPENDIX F**  
**INFORMATION SUBMITTED TO THE TOWN OF GROTON**

Mr. Carl Almquist  
Page 3  
March 11, 1997

HRP does not have any additional information on these wastewater discharges, other than what has been provided in this report. Based on this report, HRP does not feel that these discharges will adversely impact the performance of the POTW and cause any violation of their discharge permit or render the sludge generated at the POTW unsuitable for landfilling, land application, or incineration.

If there is any additional information that you need in order to assess these discharges, please contact us.

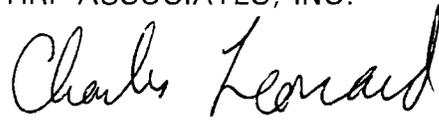
Please return a signed certification approving the discharge of the gas turbine water softener regeneration and reverse osmosis concentrate wastewaters into the Groton sanitary sewer system to:

Mr. Keith Chrisman  
SUBASENLON Environmental Department  
P.O. Box 39  
Groton, CT 06349-5039

If you have any questions or require additional information, please do not hesitate to call us at (860) 793-6899.

Sincerely yours,

HRP ASSOCIATES, INC.



Charles L. Leonard  
Project Engineer



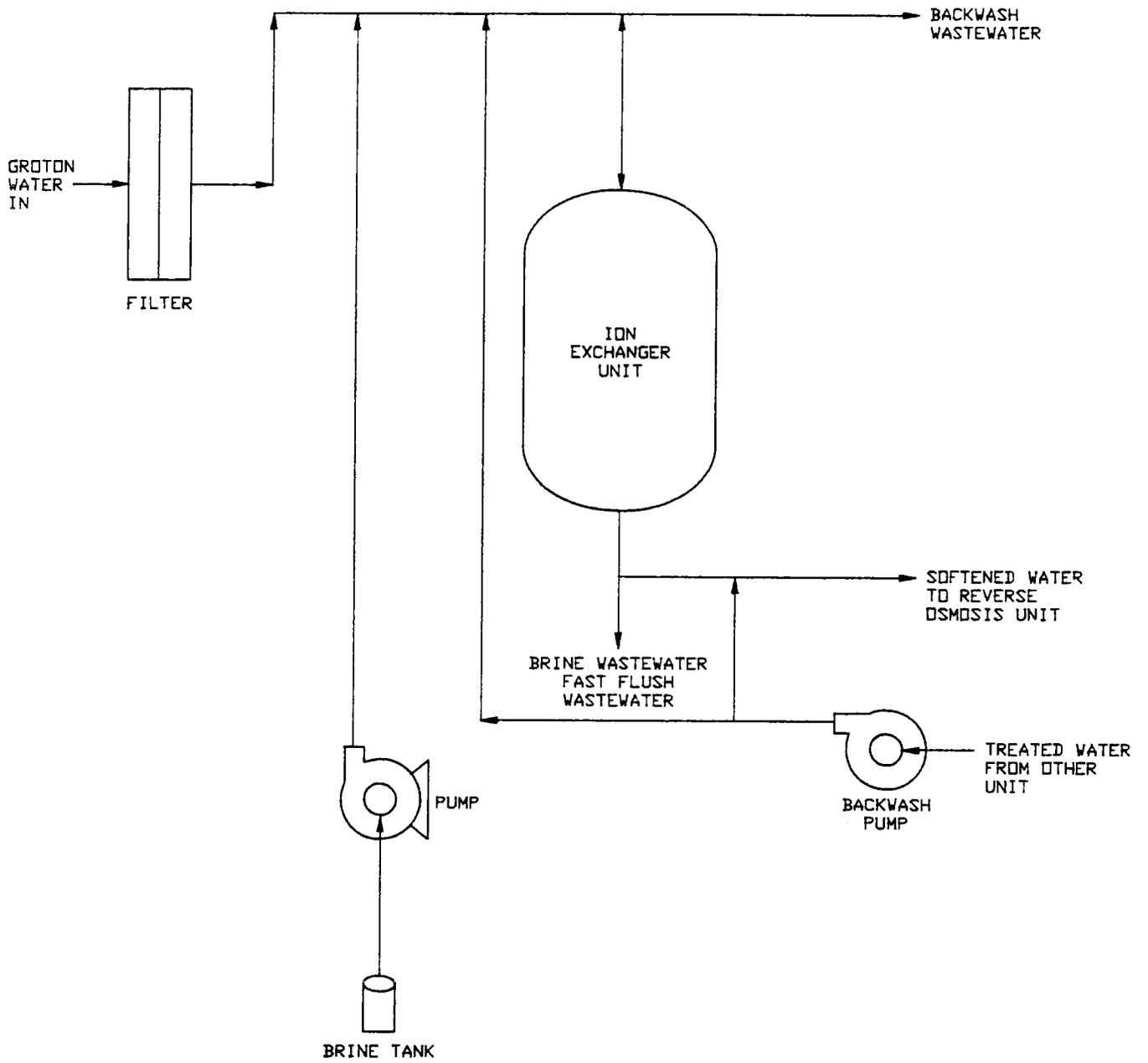
Joseph Magdol, P.E.  
Senior Project Manager

JM/cpk  
Enclosure

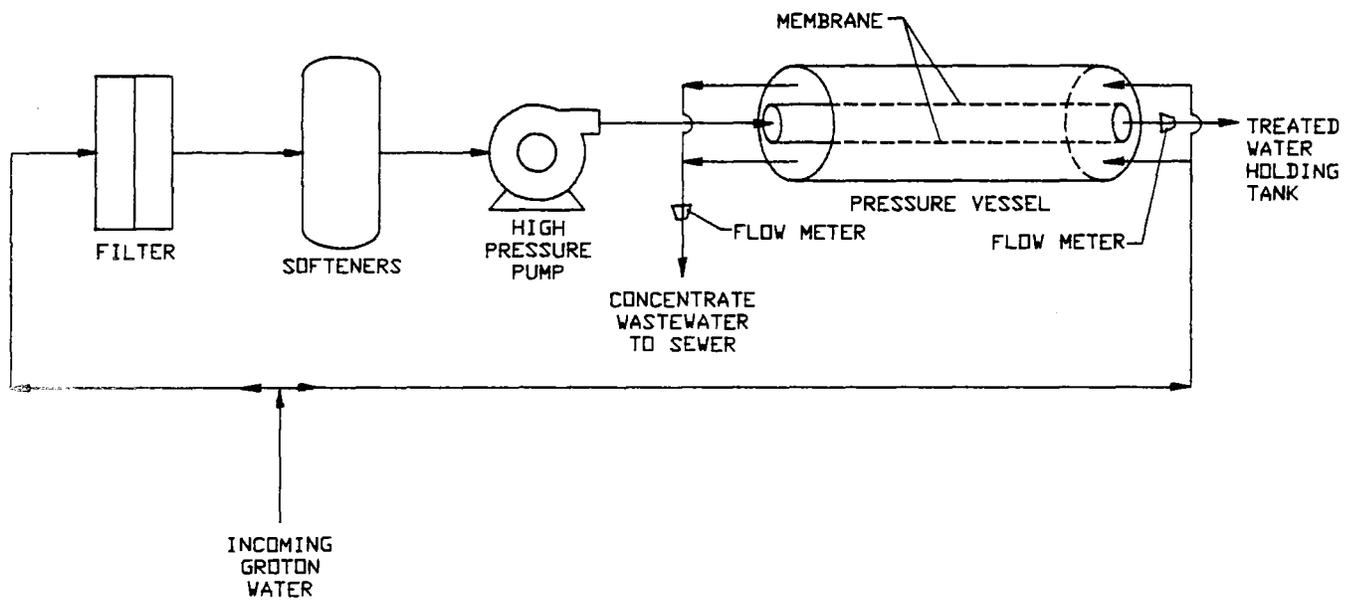
cc: Lew Reiss, Northern Division  
Keith Chrisman, NSB New London

**APPENDIX G**  
**FLOW DIAGRAMS**

# GAS TURBINE WATER SOFTENER FLOW DIAGRAM



# GAS TURBINE REVERSE OSMOSIS UNIT FLOW DIAGRAM



**APPENDIX H**  
**TOWN OF GROTON SEWER ORDINANCE EFFLUENT LIMITATIONS**

## § 15-128

## GROTON TOWN CODE

be discharged into it. It must also be able (with a 200 percent factor) to withstand the maximum amount of external pressure placed on it at any one time. The inlet and outlet piping and baffling must be approved by the director. Proper provisions shall be made for ease of periodic cleaning.

- d. The use and design of any sand trap for the removal of grease, oil or petroleum products must previously be approved by the state department of environmental protection and the director when applicable.
- e. The location and design must be submitted to the director for approval in less than 45 days in advance of installation.
- f. Maintenance shall be the full responsibility of the owner at no cost to the town and shall be carried out at intervals as requested by the director.

(Code 1969, § 11-58; Ord. No. 174, § 4.7, 7-16-85)

### Sec. 15-128. Discharge limitations.

(a) No person shall discharge or cause to be discharged any unpolluted waters such as stormwater, groundwater, roof runoff, subsurface drainage, or cooling water to any sanitary sewer.

(b) Stormwater and all other unpolluted drainage shall be discharged to such sewers as are specifically designated as combined sewers or storm sewers and discharged to a watercourse in accordance with all applicable state and federal laws and regulations.

(c) No users shall contribute or cause to be contributed, directly or indirectly, any pollutant or wastewater which will interfere with the operation or performance of the Water Pollution Control Facility (WPCF). These general prohibitions apply to all such users of a WPCF whether or not the user is subject to national categorical pretreatment standards of any other federal or state pretreatment standards or requirements. A user shall not contribute the following substances to any WPCF:

- (1) Any liquids, solids or gases which by reason of their nature or quantity are, or may be, sufficient either alone or by interaction with

other substances to cause fire or explosion or be injurious in any other way to the WPCF or to the operation of the WPCF. At no time shall two consecutive readings on an explosion hazard meter at the point of discharge into the sewage collection system (or at any point in the system) be more than five percent nor any single reading over ten percent of the lower explosive limit (LEL) of the meter.

- (2) Solids or viscous substances which may cause obstruction to the flow in a sewer or other interference with the operation of the WPCF, including substances such as, but not limited to, grease, garbage with particles greater than one-half inch in any dimension, animal guts or tissues, paunch manure, bones, hair, hides or fleshing, entrails, whole blood, feathers, ashes, cinders, sand, spent lime, stone or marble dust, metal, glass, straw, shavings, grass clippings, rags, spent grains, spent hops, waste paper, wood, plastic, gas, tar, asphalt residues, residues from refining or processing of fuel or lubricating oil, mud or glass grinding or polishing wastes.
- (3) Any sewage having a pH lower than 6.5 or having any other corrosive property capable of causing damage or hazard to structures, equipment and personnel of the WPCF. The upper limit of pH for any industrial wastewater discharge shall be established under the dischargers state discharge permit, but no higher than 8.5.
- (4) Any sewage containing toxic pollutants in sufficient quantity, either singly or by interaction with other pollutants, to injure or interfere with any wastewater treatment process, constitute a hazard to humans, or animals, or plant life, create a toxic effect in the receiving waters of the WPCF, or to exceed the limitation set forth in a "Categorical Pretreatment Standard." A toxic pollutant shall include but not be limited to any pollutant identified pursuant to section 307(a) of the Act.
- (5) Any noxious or malodorous sewage, gases, or solids which either singly or by interac-

## UTILITIES

§ 15-129

tion with other sewage are sufficient to prevent entry into the public sewers for their maintenance and repair.

- (6) Any sewage which, by interaction with other sewage in the public sewer releases obnoxious gases, forms suspended solids which interfere with the collection system, or creates a condition which may be deleterious to the structures and treatment processes or which may cause effluent limitations of the WPCF's NPDES permit to be exceeded.
- (7) Any substance which may cause the WPCF's effluent or any other product of the WPCF such as residues, sludges, or scums, to be unsuitable for reclamation process where the WPCF is pursuing a reuse and reclamation program. In no case shall a substance discharged to the WPCF cause the facility to be in noncompliance with sludge use or disposal criteria, guidelines, or regulations developed under section 405 of the Act; any criteria, guidelines or regulations affecting sludge use or disposal developed pursuant to the Toxic Substances Control Act, or state criteria applicable to the sludge management method being used.
- (8) Any substance which will cause the WPCF to violate its NPDES permit or the receiving water quality standards.
- (9) Sewage containing substances which are not amenable to treatment or reduction by the wastewater treatment process employed, or are amenable to treatment only to such degree that the water pollution control facility effluent cannot meet the limits stipulated in the district NPDES permit.

(d) The following described substances, materials, waters, or waste shall be limited in discharges to public sewers to concentration or quantities which will not harm either the sewers, water pollution control facility, will not have an adverse effect on the receiving stream, or will not otherwise endanger public property or constitute a nuisance. The commissioner may set lower limitations if more severe limitations are necessary to meet the water quality standards of the receiving

stream. The limitations or restrictions on materials or characteristics of sewage discharged to the public sewer are as follows:

- (1) Sewage having a temperature higher than 150 degrees Fahrenheit (65 degrees Celsius).
- (2) Sewage containing fat, wax, grease, petroleum, or mineral oil, whether emulsified or not, in excess of 100 mg/l with floatable oil not to exceed 20 mg/l or containing substances which may solidify or become viscous at temperatures between 32 and 150 degrees Fahrenheit (zero and 65 degrees Celsius).
- (3) Any garbage that has not been properly shredded. Garbage grinders may be connected to sanitary sewers from homes, hotels, institutions, restaurants, hospitals, catering establishments, or similar places where garbage originates from the preparation of food in kitchens for the purpose of consumption on the premises or when served by caterers.
- (4) Any sewage containing odor-producing substances exceeding limits which may be established by the commissioner and/or director.
- (5) Any radioactive wastes or isotopes or such half-life or concentration as may exceed limits established by the commissioner in compliance with all applicable state and federal regulations.
- (6) Materials which exert or cause:
  - a. Unusual concentrations of inert suspended solids (such as, but not limited to sodium chloride and sodium sulfate).
  - b. Excessive discoloration (such as, but not limited to, dye wastes and vegetable tanning solutions).
  - c. Unusual BOD, chemical oxygen demand, or chlorine demand in such quantities as to constitute a significant load on the water pollution control facility.
  - d. Unusual volume of flow or concentrations of waste constituting a "slug."

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## GROTON TOWN CODE

- (7) Overflow from holding tanks or other receptacles storing organic wastes.
- (8) Sewage with all concentration of pollutants in excess of the following limits:

<i>Pollutant:</i>	<i>Concentration:</i>
	<i>Parts per million (mg/l)</i>
Arsenic as A <sub>5</sub>	0.05
Barium as B <sub>a</sub>	5.0
Boron as B <sub>o</sub>	5.0
Cyanides as CN (amenable)	0.1
Fluoride as F	20.0
Chromium (total)	1.0
Chromium (Cr+6)	0.1
Magnesium as Mg	100
Manganese as Mn	5.0
Copper as CU	1.0
Zinc as Zn	1.0
Cadmium	0.1
Lead	0.1
Tin	2.0
Silver	0.1
Mercury	0.01
Nickel	1.0

Note: All metals are to be measured as total metals.

(e) In accordance with C.G.S. § 22a-430 a permit from the commission of environmental protection and approval by the director is required prior to the initiation of a discharge of any of the following wastewaters to a public sewer:

- (1) Industrial wastewater of any quantity.
- (2) Domestic sewage in excess of 5,000 gallons per day through any individual building sewer to a public sewer.

A potential discharger after receiving approval by the director must submit a permit application to the department of environmental protection not later than 90 days prior to the anticipated date of initiation of the proposed discharge.

(f) If any sewage is discharged or is proposed to be discharged to the public sewers which contains the substances or possesses the characteristics enumerated in subsection (d) of this section, and which in the judgment of the commissioner or director

may have a deleterious effect upon the wastewater facilities, processes, equipment, or receiving waters, or which otherwise may create a hazard to life or constitute a public nuisance, the commissioner may in accordance with C.G.S. § 22a-430(b):

- (1) Reject the discharge of the wastes.
- (2) Require pretreatment to an acceptable condition for discharge to the public sewers.
- (3) Require control over the quantities and rates of discharge.

If the commissioner permits the pretreatment or equalization of waste flows, the decision and installation of the equipment shall be subject to review and approval of the commissioner and director subject to the requirements of all applicable codes, ordinances and laws.

(g) The director shall have the right to reject the discharge of any wastes; or, require more stringent effluent limitations than required by the user's C.G.S. § 25-54i [22a-430] permit, the decisions of the commissioner notwithstanding.

(h) Grease, oil and gross particle separators shall be provided when in the opinion of the commissioner and/or director they are necessary for the proper handling in subsection (d)(2) of this section, or any flammable wastes, sands, or other harmful substances; except that such separators shall not be required for private living quarters or dwelling units. All separators shall be of a type and capacity approved by the commissioner and director and shall be located as to be readily and easily accessible for cleaning and inspection. In the maintaining of these separators, the owner shall be responsible for the proper removal and disposal by appropriate means of the captured material and shall maintain records of the dates, and means of disposal which are subject to review by the commissioner and director. Any removal and hauling of the collected materials shall be performed by a waste disposal firm which possesses a valid permit from the commissioner and director under C.G.S. § 25-54h [22a-429].

(i) Where pretreatment of flow-equalizing facilities are provided or required for any sewage, they shall be maintained continuously in satisfactory

## UTILITIES

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and effective operation by the owner at his expense.

(j) When required by the commissioner and/or director, the owner of any property serviced by a building sewer carrying industrial wastes shall install a suitable structure together with such necessary meters and other appurtenances in the building sewer to facilitate observations, sampling, and measurement of the wastes. Such structure, when required, shall be accessibly and safely located and shall be constructed in accordance with plans approved by the commissioner and/or director. The sampling structure shall be located at a point along the industrial waste stream where a representative sample of the industrial wastewater may be obtained prior to its being diluted by domestic sewage in the building sewer. The structure shall be installed by the owner at his expense and shall be maintained by him so as to be safe and accessible at all times.

(k) All industries discharging into a public sewer shall perform such monitoring of their discharge as required by the commission in any state discharge permit issued pursuant to C.G.S. § 25-54i (22a-430), including, but not limited to, installation, use, and maintenance of monitoring equipment, keeping records and reporting the results to the commissioner. Such records shall be made available upon request to the commissioner or the director.

(l) All measurements, tests, and analyses of the characteristics of sewage to which reference is made in this article shall be determined in accordance with the latest edition of "Standard Methods for Examination of Water and Wastewater," published by the American Public Health Association. Sampling methods, location, times, durations, and frequencies are to be determined on any individual basis subject to the stipulations and general conditions of the discharger's state discharge permit.

(m) No statement contained in this article shall be construed as preventing any special agreement or arrangement between the district and any industrial concern whereby an industrial waste of

unusual strength or character may be accepted by the district for treatment provided that such agreements do not contravene any requirements of existing state or federal regulations and are compatible with any user charge and industrial cost recovery system in effect.

(n) Upon the promulgation of the federal categorical pretreatment standard for a particular industrial subcategory, the federal standard, if more stringent than limitations imposed under this article for sources in that subcategory, shall supersede the limitations imposed under this article.

(o) No user shall increase the use of process water in an attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with the limitations contained in the federal categorical pretreatment standards, or in any specific pollutant limitations which may be developed by the commissioner.

(p) Each user shall provide protection from accidental discharge of prohibited materials or other substances regulated by this article. Facilities to prevent accidental discharge of prohibited materials shall be provided and maintained at the owner or user's cost and expense. The commissioner may require that plans showing facilities and operating procedures be submitted for review and approval prior to construction of the facilities.

- (1) Immediately after an accidental discharge, the user must notify the director.
- (2) Within five days following the accidental discharge, the user shall submit to the director and the commissioner, a detailed written report describing the cause of the discharge and the measures to be taken by the user to prevent similar future occurrences. Such notification shall not relieve the user of any expense, loss, damage, or other liability which may be incurred as a result of damage to the WPCF, fish kills, aquatic plants, or any damage to persons or property; nor shall such notification relieve the user of any fines, civil penalties, or other liability which may be imposed by this article or other applicable law.

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GROTON TOWN CODE

(3) A notice shall be permanently posted on the user's bulletin board or other prominent place advising employees whom to call in an event of a dangerous discharge. Employers shall ensure that all employees are advised of the emergency notification procedure.

(Code 1969, § 11-59; Ord. No. 174, §§ 5.1-5.16, 7-16-85)

**Sec. 15-130. Discharge of septic tank materials.**

Septic tank materials, for purposes of these regulations, includes only wastewaters derived by pumping or draining septic tanks, cesspools, and other wastewater storage and treatment tanks and basins appurtenant to dwellings and commercial establishments which contain only domestic wastes. Materials derived from pumping or draining industrial wastewater storage and treatment tanks or basins shall not be accepted in the sewerage system by the authority.

(Code 1969, § 11-60; Ord. No. 174, § 9.0, 7-16-85)

**Sec. 15-131. Fees.**

Fees charged for residential, commercial and industrial users of the sewer system shall be those fees passed by resolution of the authority and caused to be filed by the town clerk's office.

(Code 1969, § 11-61; Ord. No. 174, § 10.0, 7-16-85)

**Sec. 15-132. Method of determining sewer use charge.**

The method that is used to calculate the sewer use charge is:

$$C_u = \left( \frac{C_t}{V_t} \right) V_u \times V_i$$

$V_i$  = Infiltration factor.

$C_u$  = User charge.

$C_t$  = Total operation, maintenance and administration budget.

$V_t$  = Total annual volume.

$V_u$  = Volume contribution from user.

(1) *Residential rate:* Average residential water usage cubic foot times cost cubic feet treated divided by 12 equals monthly flat rate charged billed quarterly.

(2) *Commercial rate:* Cost per cubic foot times water usage (from water or sewage flow meter or estimate) with a minimum monthly charge.

(Code 1969, § 11-62; Ord. No. 174, § 1.01, 7-16-85)

**Sec. 15-133. Use charge for sewage with above average pollutant concentration.**

(a) Any customer who discharges sewage into the town sewage system which has particulates which exceed any of the following parameters will be subjected to high pollutant concentration usage charge:

	<i>Mg/l</i>
Biochemical oxygen demand . . . . .	200
Chemical oxygen demand . . . . .	400
Suspended solids . . . . .	200

(b) Calculation of user charge for sewage with above average pollutant concentration.