



State of Washington Department of Ecology
Cruise Ship Memorandum of Understanding, Cruise Operations in Washington State Inspection Report

Northwest Regional Office

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Inspection Date September 15, 2012	Permit Number NA	County King	Receiving Waters Marine Waters	Ecology Inspector Amy Jankowiak
Entry Time: 9:05 am	Photos Taken	Samples Taken	Inspection Announced	Discharges to: <input checked="" type="checkbox"/> Surface Water
Exit Time 11:25 am	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Ground Water <input type="checkbox"/> Dewater <input type="checkbox"/> POTW
Name and Location of Site Inspected: WESTERDAM, Holland America Line Pier 91 Seattle, Washington				Additional Participants/Inspectors: Jacqui Schultz, Ecology Tina Stotz, HAL
On-Site Representative(s): <i>Name/Title/Phone/e-mail</i> David Bass, Safety, Environmental and Health Officer				
Responsible Official(s): <i>Name/Title/Address/Phone/e-mail</i> William J. Morani Jr., Vice President – Environmental Management Systems Holland America Line 300 Elliott Ave. West, Seattle WA 98119 206-281-3535; WMorani@HollandAmerica.com				Other Facility Data: Notification made to Jon Turvey, HAL, on September 12, 2012

Section A: Areas Evaluated

<input checked="" type="checkbox"/> Black/Gray Wastewater System	<input checked="" type="checkbox"/> Residual Solids	<input checked="" type="checkbox"/> Records/Reports	<input checked="" type="checkbox"/> Hazardous Waste/ Solid Waste	<input checked="" type="checkbox"/> Sampling/Monitoring
<input checked="" type="checkbox"/> Discharge Locations	<input checked="" type="checkbox"/> Operation & Maintenance	<input checked="" type="checkbox"/> Sludge Handling/ Disposal	<input checked="" type="checkbox"/> Oily Bilge Water	<input checked="" type="checkbox"/> Other

Section B: For Vessels Discharging ≥ 1nm from Berth and ≥ 6 Knots Only [2.1.3(A)]

<input type="checkbox"/>	Schematics Match Black/Gray Wastewater System	
<input type="checkbox"/>	Operations as Described in Submitted Documentation	
<input type="checkbox"/>	Daily 24-hour Continuous Monitoring for Turbidity or Equivalent Monitoring	
<input type="checkbox"/>	Turbidimeter or Equivalent Monitoring Equipment Functioning Properly	
<input type="checkbox"/>	Auto Shut Down or Operational Controls to Insure System Shut Down if High Turbidity Occurs	
	<u>Turbidity or Equivalent:</u> Last Calibration: Trigger Level for Early Alarm: Trigger Level for Shutdown: Recorded Turbidity/Equivalent Levels Above Triggers:	NOT APPLICABLE
<input type="checkbox"/>	Daily 24-hour Continuous Monitoring for Disinfection Effectiveness	
<input type="checkbox"/>	Disinfection Effectiveness Monitoring Equipment Functioning Properly	
	<u>Disinfection Effectiveness Monitoring:</u>	
<input type="checkbox"/>	Auto Shut Down or Operational Controls to Insure System Shut Down if Disinfection System Upset Occurs	
<input type="checkbox"/>	Disinfection System Operated and Maintained Properly	
	<u>Disinfection System:</u>	

Section C: For Vessels Discharging Continuously [2.1.3(B)]

<input type="checkbox"/>	Schematics Match Black/Gray Wastewater System	
<input type="checkbox"/>	Operations as Described in Submitted Documentation	
<input type="checkbox"/>	Daily 24-hour Continuous Monitoring for Turbidity or Equivalent Monitoring	
<input type="checkbox"/>	Turbidimeter or Equivalent Monitoring Equipment Functioning Properly	
<input type="checkbox"/>	Auto Shut Down or Operational Controls to Insure System Shut Down if High Turbidity Occurs	
	<u>Turbidity or Equivalent:</u> Last Calibration: _____ Trigger Level for Early Alarm: _____ Trigger Level for Shutdown: _____ Recorded Turbidity/Equivalent Levels Above Triggers: _____	
<input type="checkbox"/>	Daily 24-hour Continuous Monitoring for Disinfection Effectiveness	
<input type="checkbox"/>	Disinfection Effectiveness Monitoring Equipment Functioning Properly	
	<u>Disinfection Effectiveness Monitoring:</u>	
<input type="checkbox"/>	Auto Shut Down or Operational Controls to Insure System Shut Down if Disinfection System Upset Occurs	
<input type="checkbox"/>	Disinfection System Operated and Maintained Properly	
	<u>Disinfection System:</u>	

NOT APPLICABLE

Section D: General (Approved to Discharge)

<input type="checkbox"/>	No Discharges Within 1/2 Miles From Shellfish Beds/ Protocol (President's Point, Apple Tree Cove, Tye Shoal, Middle Point (near Pt Townsend))	
<input type="checkbox"/>	Discharges Immediately Stopped When High Turbidity Occurs	
<input type="checkbox"/>	Discharges Immediately Stopped When Disinfection System Upset Occurs	
<input type="checkbox"/>	Immediate Notifications Made to WA Department of Health for Disinfection System Upset	
<input type="checkbox"/>	Sampling Conducted 2/month, 1/month in Seattle (BOD, TSS, Fecal Coliform, pH, Chlorine Residual)	
<input type="checkbox"/>	Whole Effluent Toxicity Testing 1 per 2 Years (Homeported) or 1/40 Calls for Continuous	

Section E: General

<input checked="" type="checkbox"/>	Wastewater Discharge Records Review	Discharge records were reviewed (blackwater/graywater/residual solids) and are maintained properly. No discharges appear to be in the OCNMS, MOU waters or Washington state waters (MOU related waters)
<input checked="" type="checkbox"/>	Wastewater Discharges protocol per MOU and managed properly	The discharge protocols appear to be consistent with MOU requirements to not occur in MOU waters or the OCNMS.
<input checked="" type="checkbox"/>	Residual Solids Managed Properly/Disposal Protocol per MOU	Residual solids appear to be handled per MOU requirements.
<input checked="" type="checkbox"/>	Hazardous Waste Managed Properly	Hazardous waste appears to be handled per MOU requirements.
<input checked="" type="checkbox"/>	WA Hazardous Waste Guidelines Followed (Appendix vii)	Hazardous waste guidelines appear to be handled per the MOU and guidelines.

<input checked="" type="checkbox"/>	Solid Waste Managed Properly (zero garbage discharge)	Solid waste appears to be managed per MOU requirements.
<input checked="" type="checkbox"/>	Photo/X-Ray Waste Managed Properly (fluids, cartridges,...) and landed ashore	Photo and x-ray waste appears to be handled per MOU requirements.
<input checked="" type="checkbox"/>	Dry-Cleaning Wastes and Byproducts (fluids, sludge, filter materials...) Managed Properly (PERC – haz waste – landed ashore)	Dry cleaning waste products appear to be managed per MOU requirements.
<input checked="" type="checkbox"/>	Unused/Outdated Pharmaceuticals Managed Properly (safely disposed of)	Unused or outdated pharmaceuticals appear to be managed per MOU requirements.
<input checked="" type="checkbox"/>	Fluorescent and Mercury Vapor Lamp Bulbs Managed Properly (prevent release of mercury)	Fluorescent and mercury vapor lamp bulbs appear to be managed per MOU requirements.
<input checked="" type="checkbox"/>	Waste Reduction/Reuse/Recycling Opportunities Maximized (glass, cardboard, aluminum & steel cans)	Waste reduction/reuse/recycling opportunities appear to be maximized per MOU requirements.
<input checked="" type="checkbox"/>	Batteries Managed Properly (recycled, reclaimed, disposed of properly)	Batteries appear to be managed per MOU requirements.
<input checked="" type="checkbox"/>	Incinerator Ash Managed Properly and minimized volume (haz waste segregation and annual testing)	Incinerator ash appears to be managed per MOU requirements.
<input checked="" type="checkbox"/>	Oily Bilge Water Managed Properly (<15 ppm, no visible sheen and underway)	Oily bilge water appears to be managed per MOU requirements.
<input checked="" type="checkbox"/>	Ballast Water Managed Properly (per Wash regs –reporting, treated or if open sea exchange >200 nm from outside EEZ, 50nm if not EEZ)	Ballast water exchanges occasionally occur on this route, outside of MOU related waters.
<input checked="" type="checkbox"/>	OCNMS rules and regs followed	The discharge protocol appears to be consistent with MOU requirements to not occur in the OCNMS.

Additional General Questions

<input checked="" type="checkbox"/>	How is deck runoff and hull cleaning handled (scuppers...) (non-toxic/phosphate free cleaners, biodegradable)	Deck runoff and hull cleaning appears to be handled per MOU requirements.
<input checked="" type="checkbox"/>	How is maintenance performed on the outside of the vessel (paint chipping, painting, etc)	Outside vessel maintenance appears to be handled per MOU requirements.
<input checked="" type="checkbox"/>	Sculleries and Galleys – type of detergents and degreasers used (phosphate free and non-toxic)?	Galleys appear to use phosphate free and non-toxic detergents and degreasers.
<input checked="" type="checkbox"/>	How are food waste discharges handled (prevention of erroneous materials)?	Food waste appears to be handled per MOU requirements.
<input checked="" type="checkbox"/>	Medical sinks/floor drains, chem. stor areas wastes go where (plugged, blackwater, bilge)?	Medical sinks/floor drains appear to be handled per MOU requirements.
<input checked="" type="checkbox"/>	Where is pool and spa water discharged? Dechlorinated/debrominated and underway?	Pool and spa water appears to be handled per MOU requirements.
<input checked="" type="checkbox"/>	What type of fuel is used and percent sulfur content?	<1% sulfur content is used throughout the route.

Other:

Section F: Sampling Results

Parameter	Results
Biochemical Oxygen Demand 5-Day (BOD ₅)	NOT APPLICABLE
Total Suspended Solids (TSS)	
Fecal Coliform	
Residual Chlorine	
pH	
Ammonia, Nitrogen	

Section G: Summary of Findings/Comments

Introduction

Amy Jankowiak, Washington State Department of Ecology (Ecology) Northwest Regional Office, Water Quality Program (NWRO-WQ) conducted the inspection of Holland America Line WESTERDAM on September 15, 2012 along with Jacqui Schultz, NWRO-WQ. The main contact on board the WESTERDAM was David Bass, Safety, Environmental and Health Officer (SEH) for the WESTERDAM. Tina Stotz with the Environmental Management Systems Department of Holland America Line was also there for the inspection. Prior notification of the visit was given on September 12, 2012 for security protocol. The purpose of the inspection was to evaluate compliance with the *Memorandum of Understanding Cruise Operations in Washington State* (MOU), as amended. The WESTERDAM is not approved to discharge wastewater in MOU waters.

The WESTERDAM was placed into service in 2004, and is 936 feet long with a width of 105.8 feet. The passenger capacity is 1916 with a crew capacity of about 800.

The WESTERDAM is scheduled for 21 port calls in Seattle and conducts one week cruises to Alaska turning around on Saturdays between May 12, 2012 and September 29, 2012.

Inspection

We arrived and boarded the ship (photo #01) at about 9:05 am and began with introductions and a plan for the day with David Bass, SEH. We discussed various waste streams and discharge protocols. We reviewed the various discharge and environmental records. We then toured the Rochem advanced wastewater treatment system (AWTS) and the garbage and recycling areas, the food waste systems, hazardous waste storage and the Engine Control Room (ECR). We also looked at navigation on the Bridge and toured the pool, salon, and one of the buffets. The inspection was then finalized with a debriefing and we disembarked the vessel at about 11:25 am. I also observed painting of the outside of the vessel during departure.

Discharge Types and Protocols:

If the vessel is in an area where a discharge is allowed, the engineer for the Engine Control Room (ECR) asks the Bridge permission to discharge. The Bridge uses a matrix (photo #27) showing what type of discharges is allowed where and checks the navigational position. Locations are verified with accurate paper charts (photos #28 and #29). The bridge okay's the discharge and gives the position to the Engineer and it is repeated and logged in both the Bridge and the ECR. The logs are checked for consistency and the discharge port open and close are recorded electronically. The ports are also locked when not approved to be discharging. The SEH and the Chief Officer have the keys to the discharge ports. All discharges to water occur at greater than 12 nautical miles, outside MOU waters, Washington State waters or the Olympic Coast National Marine Sanctuary (OCNMS) (MOU related waters). Contact numbers are available in the event of an unauthorized discharge. There is also an overboard valve monitoring system on the bridge with four lights:

- >12 nm
- > 4 nm, <12 nm
- <4 nm
- Special Areas (this one was lit at the time of inspection).

For blackwater and graywater, the latitude and longitude coordinates are recorded electronically in the *Sewage and Graywater Discharge Record Book* in the new electronic system. The date, time and location of both the start and the stop of the discharges are recorded, along with port location, effluent type, and volumes. All wastewater discharge records that were reviewed appeared to be in compliance with the MOU and also did not occur in MOU related waters.

The advanced wastewater treatment system (AWTS) is a Rochem bio-ultrafiltration system. Currently, all black water and a small amount graywater is treated by this system. The remaining graywater is collected and held for discharge in an allowed location. The vessel does have a Rochem low pressure reverse osmosis system for graywater installed; however, the system is currently not operational and is not used. The vessel is not approved to discharge in MOU water and holds all discharges of blackwater and graywater while in MOU related waters. Medical floor drains go to the blackwater system.

Screenings from the Rochem system are collected and incinerated. The solids separated out by the system are discharged outside of MOU related waters.

Discharge Types and Protocols:

Oily bilge is treated and with a FACET (down to 50ppm oil content) and SERAP (down to 15ppm) two-part oily water separator. Discharges occur at less than 15 ppm and outside of MOU waters. A white box is used to prevent discharges

of more than 15 ppm. Oily sludge is drummed and offloaded for proper disposal.

Ballast water exchanges occasionally occur on this route, outside of MOU related waters.

One pool uses salt water and the rest use fresh water and are disinfected with bromine. Pool water (photo #31) is discharged overboard outside of MOU related waters. Spa water is emptied daily to the graywater tanks and are then discharged outside of MOU related waters.

Food waste is collected in various locations, is sorted and then sent through a Somat pulper (photos #19 and #20). Pulped food waste and galley water is discharged outside of MOU related waters. Records reviewed were consistent with this protocol. A food chute (photo #18) is not used anymore. Food waste such as bones, coffee grounds (photo #23) and pineapples which the pulpers can't take are now sent to compost bins (photo #25) which are offloaded in Victoria for composting. Typically three compost bins per week are offloaded. Food waste is sorted in the galley and screened prior to discharge. Galleys use phosphate free and non-toxic detergents and degreasers. Used cooking oil filtered and re-used as fuel (photo #12). Filtered materials go to food waste.

To prevent viral gastrointestinal illnesses, protocol (photo #32) on the vessel is to suspend self service for food service for the first 48 hours of each voyage.

Decks runoff goes to scuppers and then overboard or to graywater tanks if inside MOU related waters. Hull water cleaning is not done in Seattle. Paint chipping and painting is not done Seattle this season.

Laundry water is discharged untreated outside of MOU related waters. Dry cleaning is done with a Miele hydrocarbon system which is a no-solvent based cleaner. The oil based wet-cleaning system, eliminates PERC type chemical byproducts.

X-rays are done digitally and therefore do not have a waste product. Photo waste goes through a silver recovery system and is treated to less than 5 ppm and is then offloaded as non-hazardous waste. Fluorescent bulbs are crushed with a mercury vapor removal bulb crusher. Bulbs are then offloaded and filters are offloaded as hazardous waste. Hazardous waste materials include items such as oily rags, incinerator ash, sharps, used cartridges and filters, aerosol cans (punctured) (photo #21), electronics, photo waste and barbicide (photo #30) and batteries. Hazardous waste (photo #14) is offloaded in Victoria. Hazardous waste logs were reviewed and appear to be consistent with MOU requirements.

Unused or outdated pharmaceuticals are offloaded to the vendor or offloaded for disposal. Narcotics are incinerated with witness. Drains in the medical facility go to the blackwater tanks. Sharps are off-loaded as bio-hazardous waste and white-bagged medical waste is incinerated. Bio-hazardous medical waste is offloaded.

Solid waste (garbage, recyclables, etc) is collected sorted (photo #17) and either reused, recycled, incinerated or offloaded to shore as appropriate. Sorting bins are cleaned out and water is sent to the graywater tanks (photo #22). Staff are trained on sorting and waste material handling (photo #24). The garbage record book was reviewed and showed consistency with requirements.

Glass (photo #15), some plastics, scrap metals, aluminum (photo #13), most cardboard (photo #16), batteries, wood pallets, paper and other items are recycled. Staff painted collection bins for batteries for easy identification (photo #26). Many materials are re-used and donated, such as mended books, clothes, and paint. Reduction, reuse and recycling progress is tracked and minimization improvements are constant.

Incinerator ash is offloaded as hazardous waste and tested bi-annually to ensure non-metals status. Recent results have passed for non-metals. Incinerators are used one hour after leaving port.

Less than 1% sulfur content fuel is used throughout the route and shore power is used while at the port in Seattle.

Freshwater is bunkered in Seattle and Juneau. Water is also produced on board with evaporators. The brine is discharged outside of MOU related waters.

Rochem Advanced Wastewater System:

Blackwater and some graywater is collected into tanks (photo #02) and then flow is sent to prefiltration through the SWECO system. Screenings are filtered out and sent to incineration. The SWECO system (photo #03) vibrates out the solids to the solids tank where it combines with solids from the bioreactors and is sent to another tank for holding and discharge outside of MOU related waters. Filtrate from the SWECO is collected to a tank and then sent to the bioreactors.

The biological activity takes place in the bioreactors (photo #06). Solids in the bioreactors are returned back to the

beginning of the bioreactors to enhance activity. A minimal amount of solids are periodically wasted to the solids tanks. Total Suspended Solids (TSS) are monitored continuously at the bioreactors. From the bioreactors, flow goes through the membranes for ultrafiltration (UF) (photo #04). The UF's are cleaned by backwashing with a wash tank (photo #05). Effluent or permeate from the UF's are sent to the permeate tanks (photo #05). Turbidity (photo #07) is also monitored continuously from the permeate tank. All three lines then combine at one ultraviolet light disinfection system (photo #08). The UV system consists of eight lights and a control board (photo #09) has a lighted alarm if any of the bulbs are out. Spare bulbs are available on board. From the UV, the flow can either go straight overboard, or it can go to storage tanks for discharge (photo #11) at an allowed location. A sample point is located at the permeate (photo #10). The Rochem system is currently not discharging in MOU related waters.

Maintenance of the Rochem system is done per an AMOS maintenance system where it is planned per manufacturer recommendations and tracked.

Conclusions and Recommendations

It is recommended that staff continue to work towards high functioning wastewater treatment systems.

Discharge protocols were clear and have been improved to prevent discharges. Recordkeeping was well organized. Waste minimization efforts continue to be comprehensive.

Attachments:
Photographs

Copies to:
David Bass, SEH Officer
Tina Stotz, Holland America Line
Doug Weeks, HAL
Jon Turvey, HAL
William Morani, Jr., HAL
Bob Diaz, HAL
Mark Toy, Health
Greg Wirtz, NWCCA
Stephanie Jones Stebbins, Port of Seattle
Kevin Fitzpatrick, Ecology
Mark Henley, Ecology
Amy Jankowiak, Ecology
Central Files: Holland America Line – WESTERDAM; WQ 6.1

Section H: Signatures

<u>Name and Signature of Inspector:</u>	<u>Agency/Office/Telephone:</u>	<u>Date</u>
Amy Jankowiak 	Department of Ecology Northwest Regional Office Water Quality Program Municipal Compliance Specialist 425-649-7195	10/9/12
<u>Name and Signature of Reviewer:</u> Mark Henley 	<u>Agency/Office/Telephone:</u> Department of Ecology Northwest Regional Office Water Quality Section Manager 425-649-7103	<u>Date</u> 10/9/12

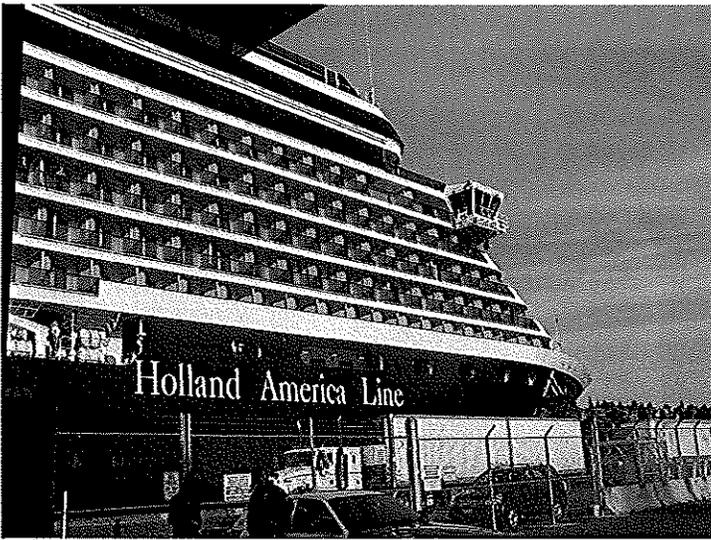


PHOTO #:01 DATE: SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150001
DESCRIPTION: VESSEL

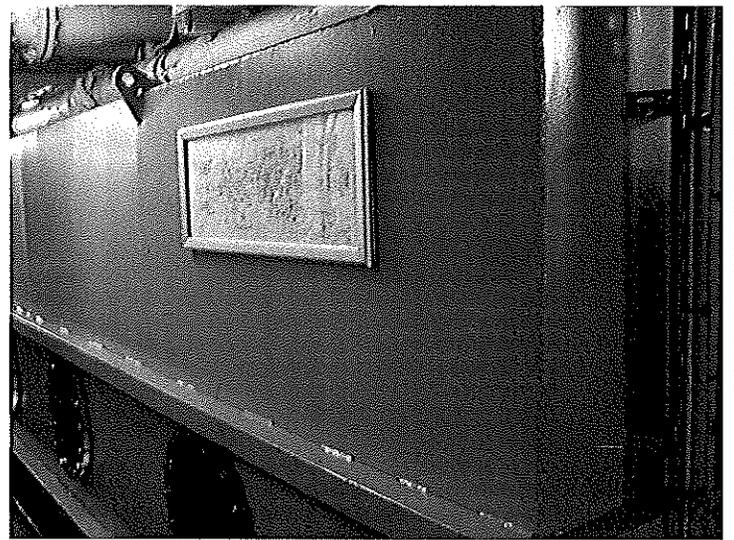


PHOTO #:02 DATE: SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150002
DESCRIPTION: AWTS BUFFER TANK

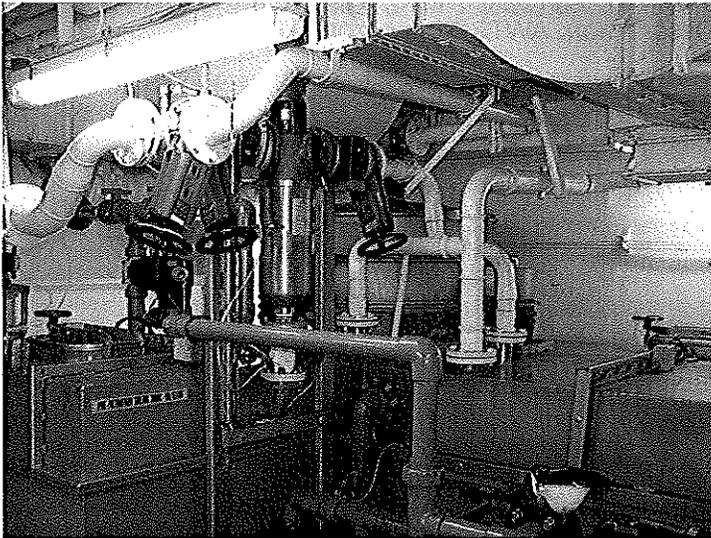


PHOTO #:03 DATE: SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150003
DESCRIPTION: AWTS SWECO FILTER (BACK CORNER)/SLUDGE
TANK (LEFT)/LIQUID TANK (RIGHT)

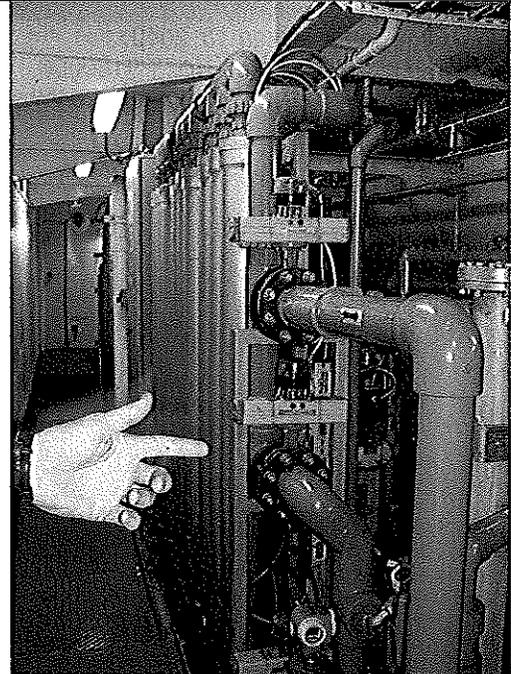


PHOTO #:04 SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150005
DESCRIPTION: AWTS ULTRAFILTERS

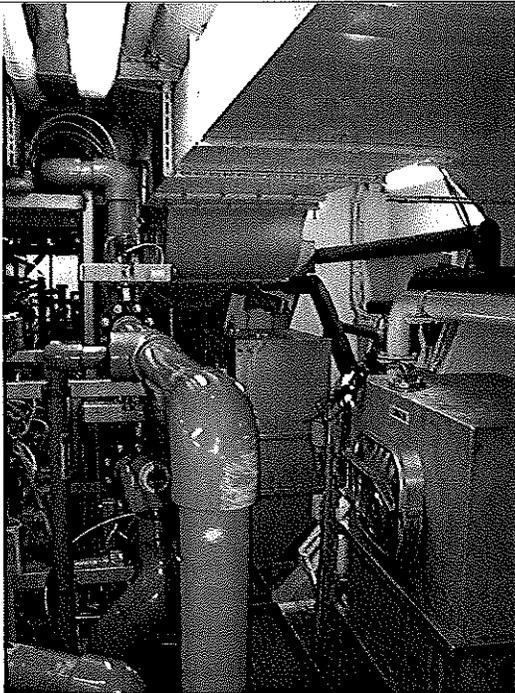


PHOTO #:05 DATE: SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150006
DESCRIPTION: AWTS PERMEATE TANK (FAR) AND WASH TANK (NEAR)

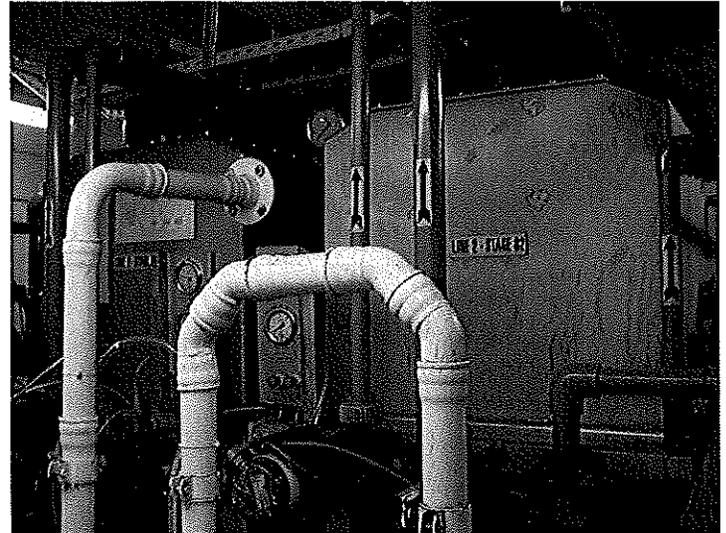


PHOTO #:06 DATE: SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150007
DESCRIPTION: AWTS BIOREACTOR TANKS

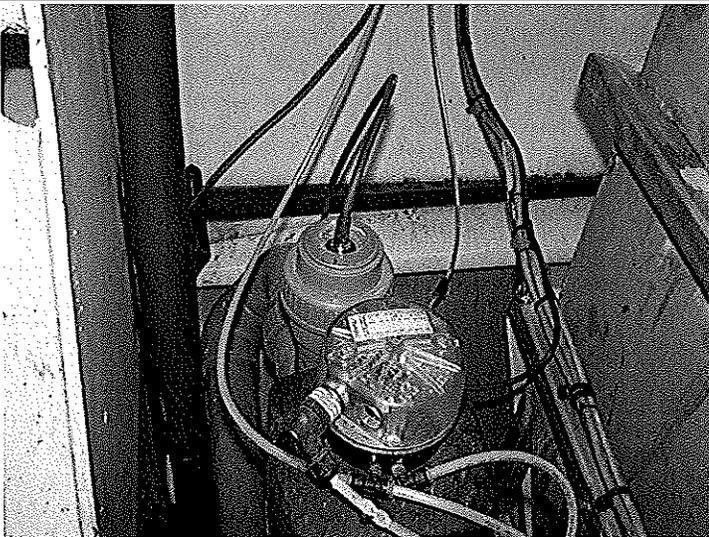


PHOTO #:07 DATE: SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150008
DESCRIPTION: AWTS TURBIDIMETER FOR PERMEATE TANK

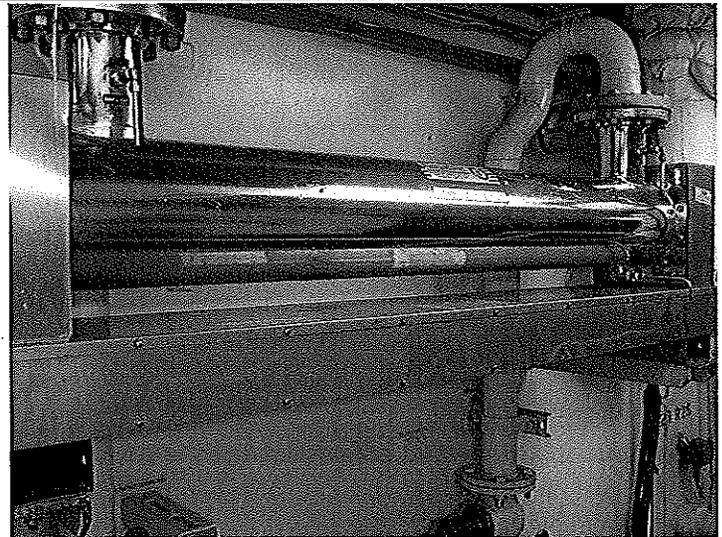


PHOTO #:08 SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150009
DESCRIPTION: AWTS ULTRAVIOLET DISINFECTION UNIT

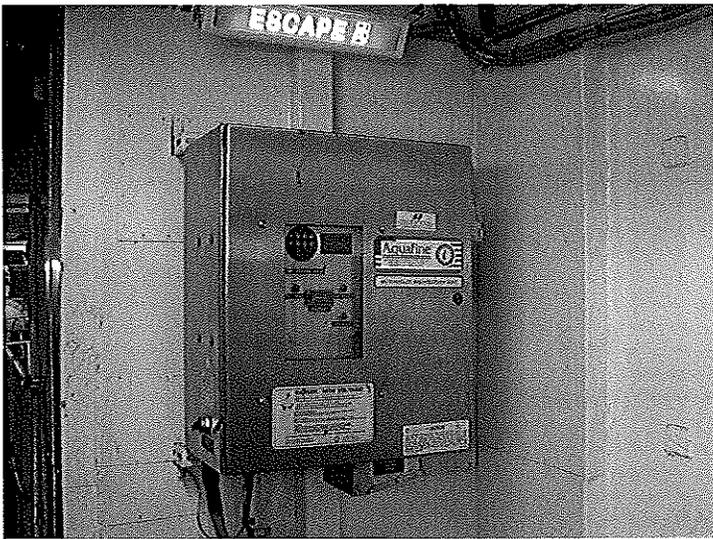


PHOTO #:09 DATE: SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150010
DESCRIPTION: AWTS UV CONTROL PANEL

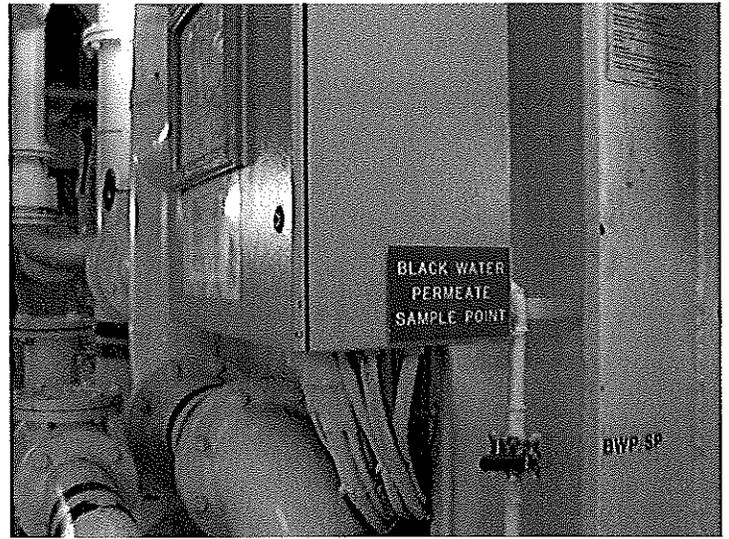


PHOTO #:10 DATE: SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150012
DESCRIPTION: AWTS BLACKWATER PERMEATE SAMPLE POINT

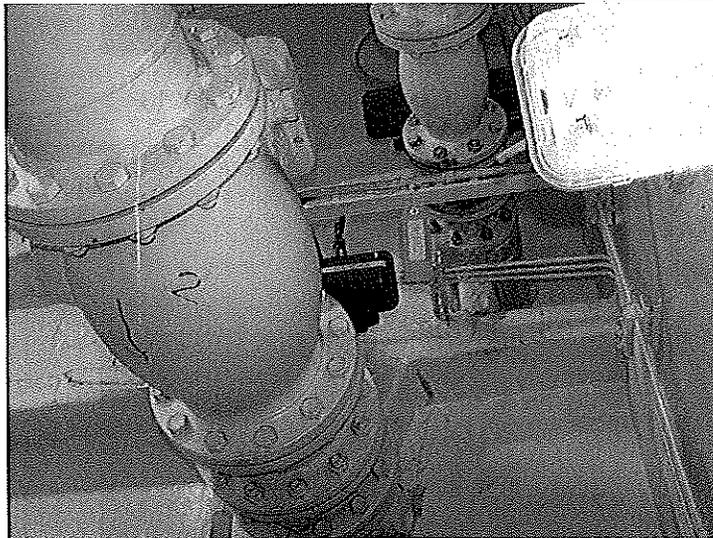


PHOTO #:11 DATE: SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150013
DESCRIPTION: AWTS DISCHARGE PORT

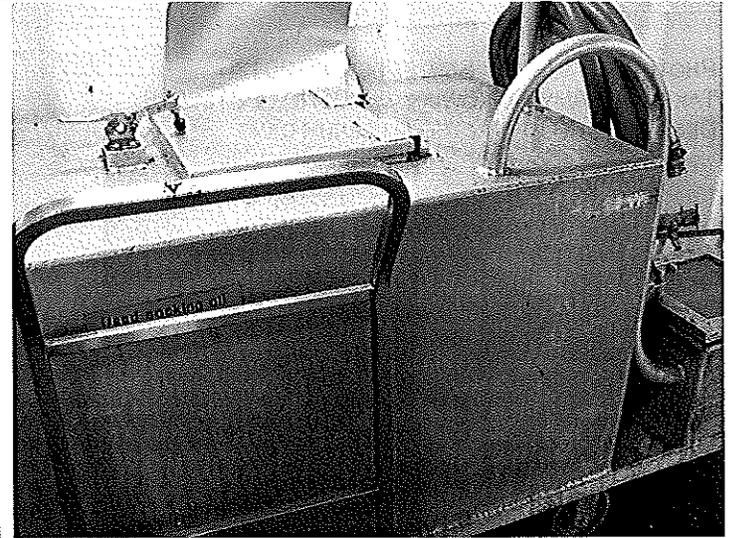


PHOTO #:12 SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150014
DESCRIPTION: USED COOKING OIL TROLLEY

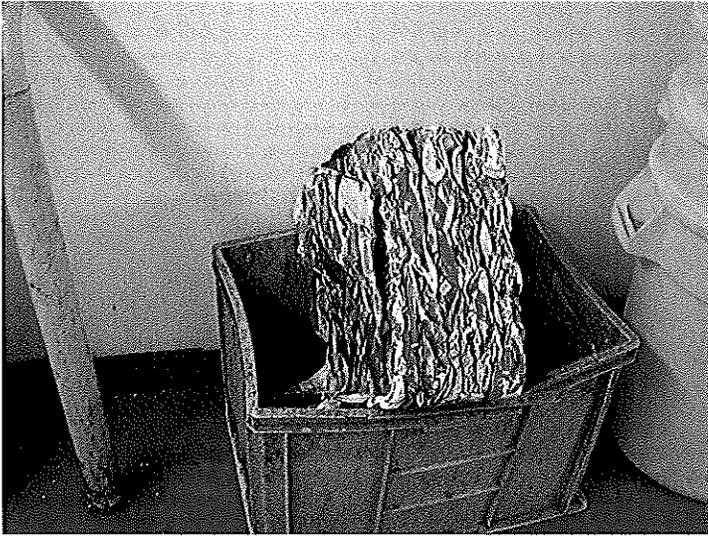


PHOTO #:13 DATE: SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150015
DESCRIPTION: COMPACTED ALUMINUM CANS

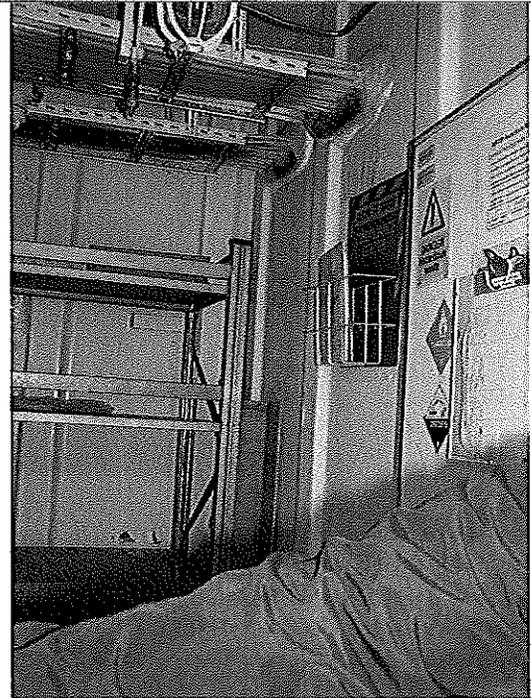


PHOTO #:14 DATE: SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150018
DESCRIPTION: HAZARDOUS WASTE STORAGE

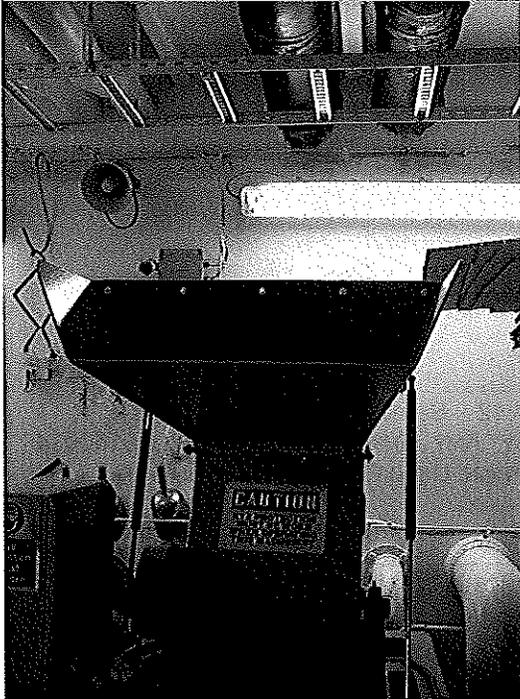


PHOTO #:15 DATE: SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150020
DESCRIPTION: GLASS CRUSHER

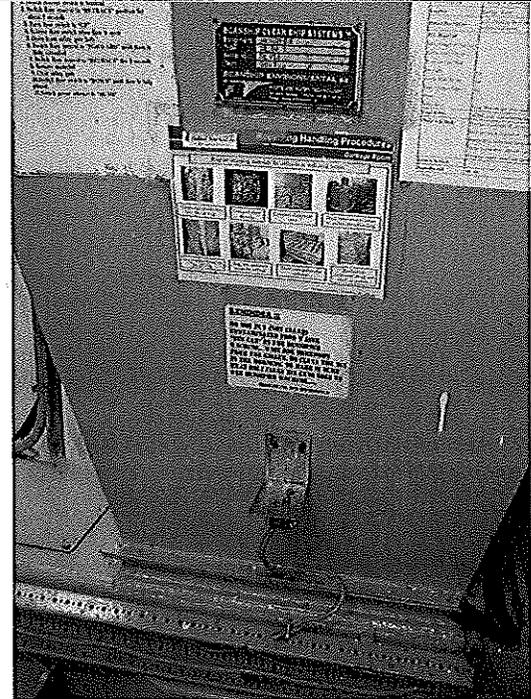


PHOTO #:16 SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150021
DESCRIPTION: CARDBOARD DENSIFIER



PHOTO #:17 DATE: SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150022
DESCRIPTION: GARBAGE/RECYCLING SORTING TABLE

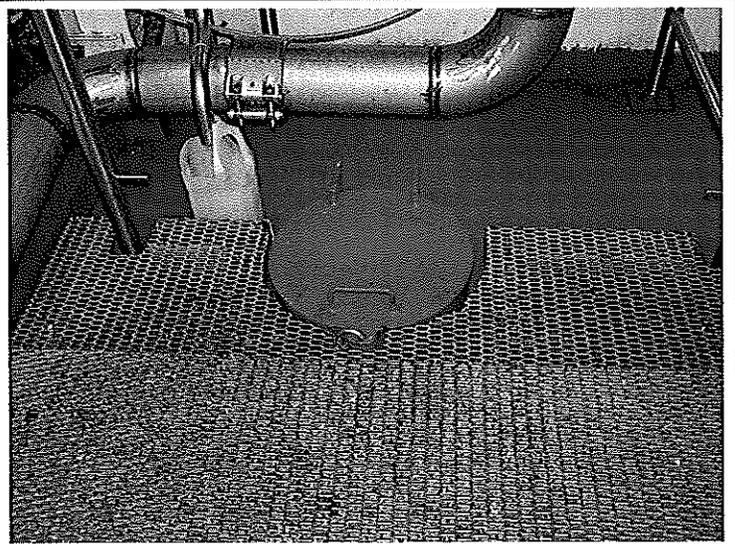


PHOTO #:18 DATE: SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150023
DESCRIPTION: FOOD WASTE CHUTE



PHOTO #:19 DATE: SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150024
DESCRIPTION: FOOD WASTE PULPER

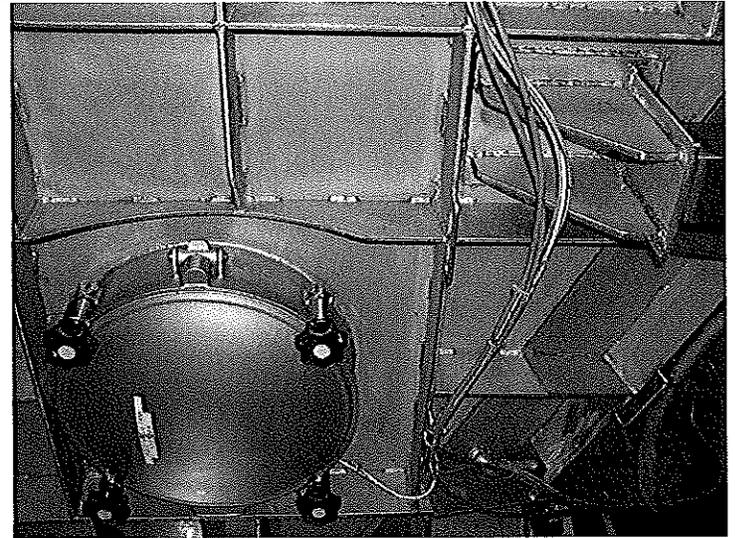


PHOTO #:20 SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150025
DESCRIPTION: FOOD WASTE TANK

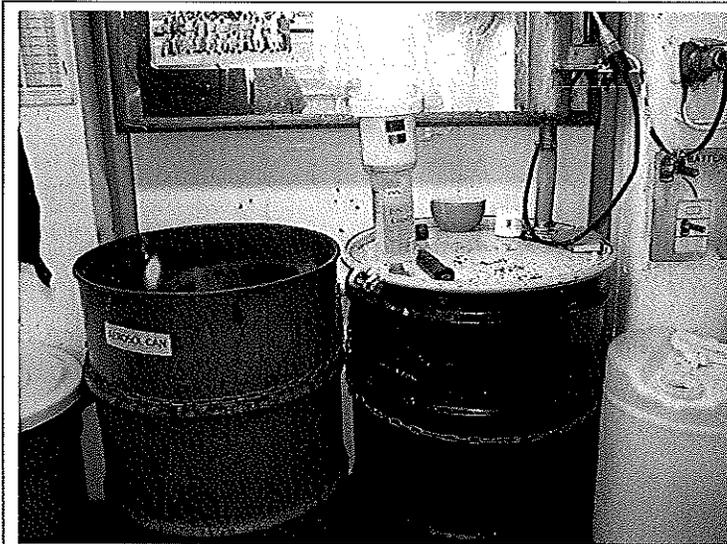


PHOTO #:21 DATE: SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150026
DESCRIPTION: AEROSOL PUNCTURE SYSTEM



PHOTO #:22 DATE: SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150027
DESCRIPTION: BIN CLEAN OUT – TO GRAYWATER TANK



PHOTO #:23 DATE: SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150028
DESCRIPTION: USED COFFEE GROUNDS

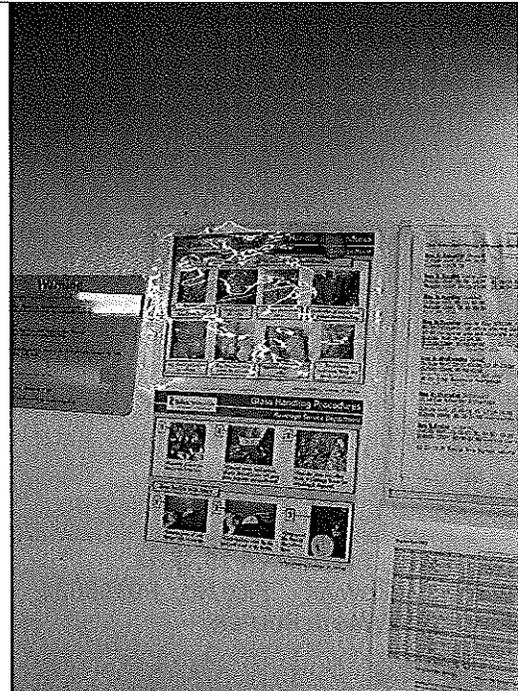


PHOTO #:24 SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150029
DESCRIPTION: TRAINING PLACARDS – WASTE MANAGEMENT



PHOTO #:25 DATE: SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150030
DESCRIPTION: FOOD COMPOST BINS

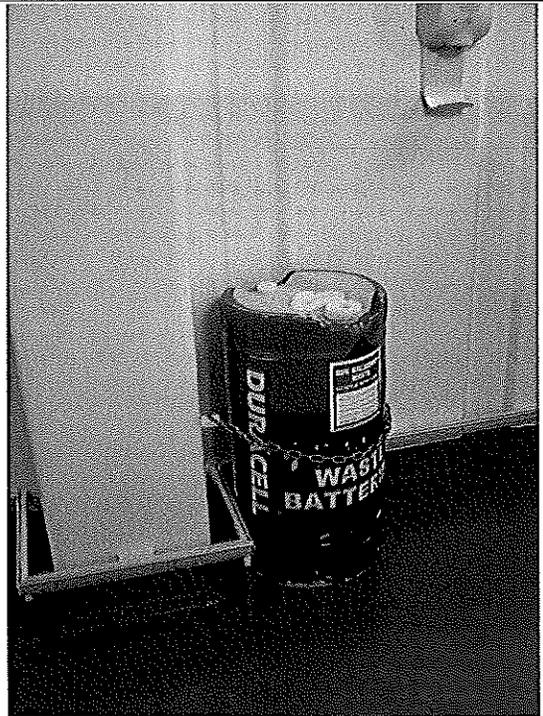


PHOTO #:26 DATE: SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150032
DESCRIPTION: BATTERY COLLECTION BIN – PAINTED BY STAFF

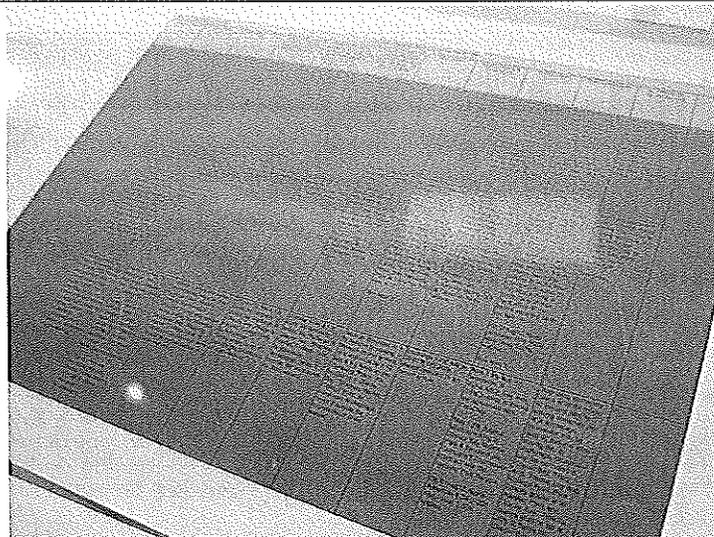


PHOTO #:27 DATE: SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150033
DESCRIPTION: DISCHARGE MATRIX ON BRIDGE

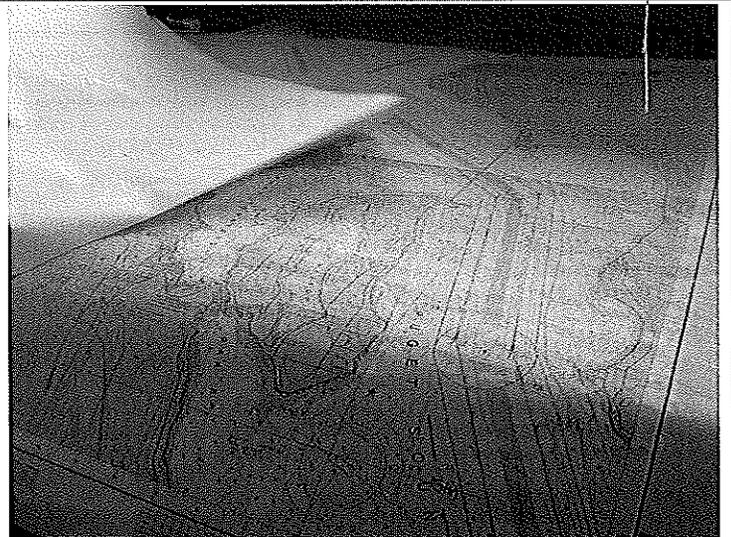


PHOTO #:28 SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150034
DESCRIPTION: NAVIGATIONAL CHARTS ON BRIDGE



PHOTO #:29 DATE: SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150035
DESCRIPTION: NAVIGATIONAL CHARTS ON BRIDGE – PORTS
CLOSED LOCATION

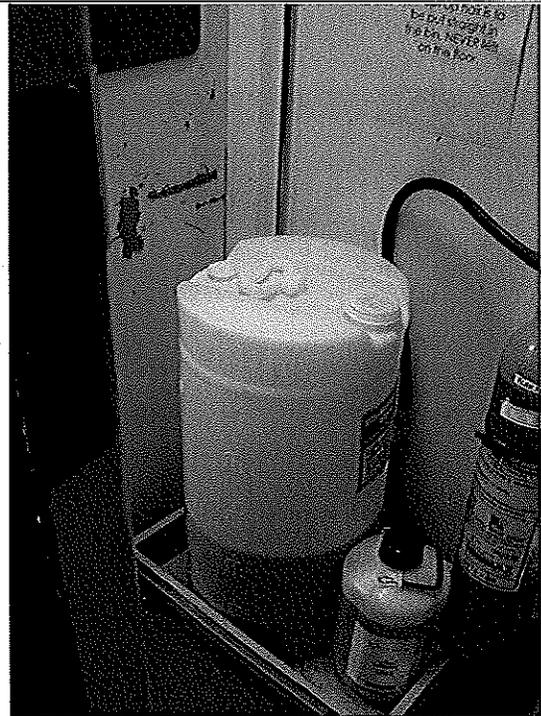


PHOTO #:30 DATE: SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150039
DESCRIPTION: SALON - BARBICIDE



PHOTO #:31 DATE: SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P9150040
DESCRIPTION: POOL DECK

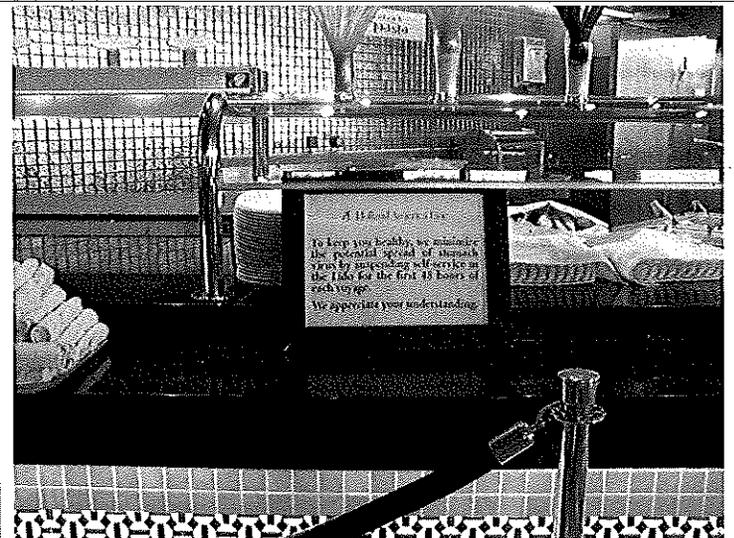


PHOTO #:32 SEPTEMBER 15, 2012
TAKEN BY: AMY JANKOWIAK FILE No.: P91500
DESCRIPTION: SIGN AT BUFFET – SUSPENDING SELF-SERVICE
FIRST 48 HOURS TO PREVENT ILLNESS