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Kenneth J. Bauer
President

Jose R. Fernández
Vice President - System Safety

FILE COPY

Long Island Rail Road

October 28, 2002

Ms. Champanine Saviengvong
New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau of Eastern Remedial Action, 11th Floor
625 Broadway
Albany, New York 12233-7015

RE: Galson Report: Mercury Clean-up Monitoring Report for the LIRR Substations Phases 1 & 2

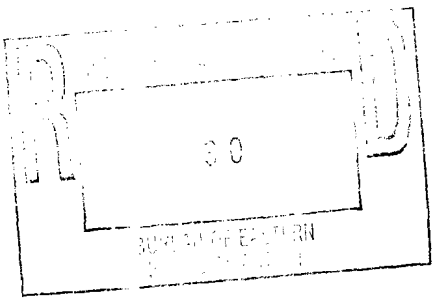
Dear Ms. Saviengvong:

Per your request, I have enclosed a copy of the subject Galson report for your review. Please call me at (718) 558-3252 if you have any or require any additional information.

Sincerely,

Lewis D. Wunderlich

cc. A. Postyn (w/o encl)

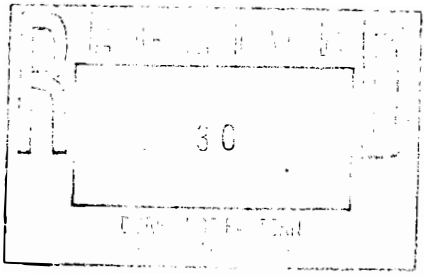


March 1999

95H3666046/95H3666050

Mercury Clean-up Monitoring Report for the Long Island Rail Road Substations

Phases 1 and 2



The Long Island Rail Road
Hillside, New York 11423

GALSON

Mercury Clean-up Monitoring Report for the Long Island Railroad Substations

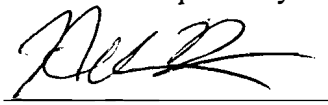
Phases 1 and 2

Long Island Rail Road
Hillside, NY 11423

March 1999

Galson Project No.'s: 95H3666.046 and 95H3666.050

Prepared By:



Hobart R. Van Deusen
Project Manager

Galson Corporation
10 Skyline Drive, Hawthorne, NY 10532

Table of Contents

Mercury Clean-up Monitoring Report for the Long Island Railroad Substations

1.0 BACKGROUND

Galson Consulting (Galson) was retained by Long Island Rail Road (LIRR) to document and monitor mercury (hg) clean-up operations at several substations that were identified as having visible mercury spills/contamination. The clean-up operations were divided into two phases identified by Galson as Phases 1 & 2. Initially, seven (7) substations were identified as being visibly mercury contaminated and they are listed below:

Phase 1:

- Little Neck
- Bayside
- Bellaire
- Lindenhurst
- Rockville Center
- Nassau Boulevard
- Babylon Yard

Upon further field investigations by Galson, an additional eight (8) substations were identified as being visibly mercury contaminated as well. They are presented below:

Phase 2:

- Floral Park
- Hempstead
- Port Washington
- Massapequa
- Island Park
- Shea
- Manhasset
- Inwood (Far Rockaway)

In addition to the fifteen (15) substations listed above, Galson also monitored an emergency clean-up of mercury spilled at the Meadow Brook substation at the request of LIRR System Safety department. The results and observations of this clean-up are documented in this report as well (see Section 8.04).

Galson personnel also performed visual inspections of two LIRR substations that were previously surveyed by LIRR System Safety personnel for mercury contamination. These were the Cedar Manor and Valley Stream substations. While no remedial actions were taken at these two substations during Phase 1 or 2 of the clean-up, Galson's observations at the two facilities are documented in this report (see Sections 8.10 and 8.11).

Mercury Clean-up Monitoring Report for the Long Island Railroad Substations

Trade Winds Environmental Restoration, Inc. (Trade Winds), of Bayshore, New York, was retained by LIRR as the environmental remediation contractor on this project. All Trade Winds personnel involved in the clean-up of mercury had taken the 40-hour hazardous waster operations training per 29 CFR 1910.120. The on-site supervisor and/or crew foreman had also taken the additional 8-hour hazardous waste operations training for a supervisor per 29 CFR 1910.120.

2.0 PURPOSE

The purpose of this remediation project was to protect LIRR personnel, contractor personnel, and the public from further possible exposure to mercury debris and vapors both within and outside these facilities. The aim was to remove all visible mercury contamination from the substations, and lower the ambient airborne mercury vapor concentrations to a level *below* the applicable regulatory standards.

3.0 MONITORING

LIRR retained Galson as an independent third party to monitor the remediation contractor's compliance to applicable regulations, intended scope of work, and health and safety issues. Galson also performed waste characterization sampling of water removed from the facilities (see Appendix B), and noted any deficiencies in the substations that would affect the outcome of the mercury clean-ups. As the third party monitor, Galson also had the right to stop work if the contractor was in non-compliance, or imminent hazards were observed. Galson also conducted final visual inspections and direct-read air monitoring to verify the clean-up was complete, and within the applicable regulatory standards for airborne mercury vapors. The clean-up was not considered complete until the area was satisfactory to Galson's sampling and inspection.

The contractor was responsible to perform monitoring to determine if contractor employees are exposed above the OSHA permissible exposure limit as defined in 29 CFR 1910.1000. The use of LIRR or third party monitor air sampling results to demonstrate compliance was prohibited.

4.0 METHODOLOGIES AND EXPOSURE LIMITS

Galson, in agreement with LIRR Office of System Safety, and the remediation contractor, Trade Winds, utilized a permissible exposure limit (PEL) for mercury vapor of 0.025 milligrams per meter cubed (mg/m3). This level is recommended as a threshold limit by the American Conference of Governmental Industrial Hygienists (ACGIH) for personal exposure to mercury vapor over an 8-hour Time Weighted Average (TWA). This exposure level is one-half the exposure level (0.05mg/m3) set by both the Occupational Safety and Health Administration (OSHA) and the New York State Public Employee Safety and Health (PESH) agency (see table

below). OSHA further provides a ceiling limit of exposure of 0.1 mg/m3. Trade Winds was required to reduce the mercury vapor levels in the substations to a level at or below 0.025 mg/m3 in order to obtain final clearance for the site. By setting such a stringent standard, Trade Winds was required to clean and neutralize the facility to level more stringent that either OSHA or PESH required.

Galson enforced this exposure limit by utilizing direct-read instrumentation at the work sites. A Jerome 431X Mercury (Hg) Vapor Analyzer (MVA) was utilized to obtain Hg vapor level readings from breathing zone level at various locations in the facilities. The Jerome MVA was put through a source regeneration process each evening, and was pre and post calibrated prior to all clearance sampling episodes. The readings collected by the Jerome MVA were short-term readings, and not full 8-hour readings. The readings therefore did not indicate the actual worker exposure the workers encountered during the full work shift. They did indicate if exposure levels exceeded the regulatory ceiling limits which workers can not be exposed to at any time without the proper respiratory protection.

Exposure Limits

Agency	Exposure Limit	Exposure Limit Type
American Conference of Governmental Industrial Hygienists (ACGIH)	0.025 mg/m3	8-hour time-weighted average (TWA)
Occupational Safety and Health Administration (OSHA)	0.05 mg/m3	8-hour TWA
OSHA	0.1 mg/m3	ceiling limit
New York State Public Employee Safety and Health (PESH)	0.05 mg/m3	8-hour TWA
PESH	1 mg/10 m3 (0.1 mg/m3)	ceiling limit
National Institute of Occupational Safety and Health (NIOSH)	0.05 mg/m3 (recommended)	10-hour TWA
NIOSH	0.1 mg/m3 (recommended)	ceiling limit
United States Department of Environmental Protection Agency (USEPA)	2,300 grams/day	National Ambient Standard for Emissions

5.0 GENERAL WORK PROCEDURES

The following outline of general work procedures were used by Trade Winds in the cleaning of the mercury contamination within the LIRR substations:

A. Restrict access to the contaminated areas.

B. Set up decontamination system.

C. Workers don appropriate personal protection equipment.

D. Shut down heating system (s) to minimize volatilization of mercury.

E. Open windows and doors to increase ventilation of the contaminated areas.

F. Install ventilation equipment. Ventilation equipment was exhausted outdoors away from occupied areas.

G. Conduct air monitoring with a direct-read mercury vapor analyzer in the contaminated areas to document conditions prior to remediation.

H. Begin gross clean-up of mercury contamination as follows:

1. Remove all moveable objects from contaminated areas. Porous objects made of wood, paper, and etc. that were potentially mercury contaminated were drummed and disposed of as mercury contaminated waste. Non-porous objects, such as metal, plastic, and glass, were decontaminated and removed from the work area for LIRR personnel to utilize or dispose of properly.

2. Vacuum contaminated areas with a mercury-vapor filtered vacuum, including areas of high vapor content, or previously treated with a mercury absorbent chemical.

3. Where large amounts of liquid were present, the contractor used mops, sponges or other appropriate material to absorb excess liquid.

4. Once excess liquid was removed, the areas were vacuumed thoroughly again.

I. Upon completion of vacuuming and gross cleanup, chemical neutralization was performed.

J. Once the contractor removed all equipment and materials from the work areas and neutralized them for future use, he would request a final visual inspection by Galson to verify thoroughness of the clean-up. If the area was not found to be satisfactorily clean by Galson, the contractor was directed to re-clean the areas still visibly contaminated until Galson was satisfied the area was clean. An area was deemed visually clean if there was no visible dust, debris, or mercury.

K. Once the area was determined to be visually clean, the ventilation units were shut down and the area vacated for a minimum of 8-hours.

L. After the 8-hour settling period, Galson would collect final clearance air samples with a direct reading mercury vapor analyzer. If mercury vapors exceed the clearance criteria of 0.025 mg/m3, as determined by Galson, the contractor would re-vacuum and neutralize the work areas with high readings, and wait another 8-hour settling period before Galson would perform clearance sampling again. This cycle was repeated until satisfactory clearance readings were obtained.

M. Once clearance levels were achieved, the contractor would then clean-up the mercury neutralizing agent by using wet wiping or mopping. Wipes and mop heads used for cleaning were disposed of as mercury contaminated waste. Contaminated water was disposed of as mercury contaminated waste as well.

N. The contractor would then seal all floor surfaces, cable trenches, etc. with two coats of epoxy paint to encapsulate any remaining mercury vapors that may be present in the work area.

O. Once the paint had a sufficient amount to dry, Galson would perform post-paint air sampling with the Jerome MVA to verify the facility is clear for re-occupancy by LIRR personnel.

6.0 WASTE HANDLING AND DISPOSAL

Waste handling and disposal of mercury and mercury contaminated waste during this remediation was governed by the following agencies and regulations:

A. United States Environmental Protection Agency (US EPA):

1. Resource Conservation and Recovery Act (RCRA)
2. Toxic Substances Control Act (TSCA)
3. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)

B. United States Department of Transportation (US DOT):

1. Hazardous Materials Transportation Act (HMTA)

C. New York State Department of Environmental Conservation (NYS DEC)

D. LIRR Health, Safety and Environment Policy

E. State and local regulations of the final destination site

The remediation contractor was responsible for adhering to all applicable federal, state, and local regulations regarding the handling, transportation and disposal of the mercury contaminated waste generated at each substation.

Waste characterization, and shipping was coordinated through LIRR. Galson performed limited waste characterization for the waste water pumped from the basements of the Little Neck and Rockville Center substations. The contractor, Trade Winds, was responsible for any subsequent waste characterization that was needed during the clean-up. Galson's waste characterization laboratory analysis results are presented in Appendix C, along with the sample chain of custody records. Waste shipment manifests supplied by the contractor are presented in Appendix D.

7.0 PHASE 1 - SITE SUMMARIES

The following section outlines the significant activities, events, and observations during each substation clean-up during Phase 1. This includes visual inspections, clearance air sampling, post-paint sampling, and observations of deficiencies at each site. A count of waste drums from each site can be found in Appendix B.

7.01 Little Neck Substation:

January 26, 1998 - January 28, 1998	Trade Winds mobilizes to site. Decontamination area set-up. Contractor has difficulties with generator for two days. Ventilation Machines in place and running. Workers begin pumping water from basements into waste 55-gallon drums. Gross removal of mercury on main floor. Galson is represented by Hobart Van Deusen.
January 29, 1998 - February 3, 1998	Contractor begins gross removal of mercury in basement chambers. De-watering of basement chambers completed. Work continues on main floor as well. Moveable objects are removed from the work areas and are decontaminated or disposed of as mercury contaminated.

Mercury Clean-up Monitoring Report for the Long Island Railroad Substations

February 4, 1998	Contractor begins neutralizing main floor work area with sodium thiosulfate neutralizing agent. Clean-up in basement chambers continues.
February 5, 1998	Basement chambers have been flooded by heavy rains. Contractor attempts to stop water from entering basement. LIRR personnel arrive to clean-out overflowing/clogged gutters. Contractor de-waters basement again into waste drums. Contractor continues neutralizing of the main floor and starts neutralizing in basement chambers.
February 6, 1998	Galson performs visual inspection of the main floor and basement work areas. Neutralizing has been completed in both areas. Contractor is asked to perform minor re-cleaning on the main floor at floor cracks by the rectifiers. This is completed. Galson re-inspects and passes the work areas for clearance air sampling on 2/7/98.
February 9, 1998	Galson performs direct-read clearance air sampling utilizing a Jerome 431X Mercury Vapor Analyzer (MVA). (20) samples are collected in the breathing zone level throughout the facility. Readings ranged from 0.010 mg/m3 to 0.024 mg/ m3. All samples were below the 0.025 mg/m3 clearance criteria. The facility is cleared for re-occupancy and painting. Floors are mopped/washed down in preparation for painting. Contractor demobilizes clean-up equipment from site. Craig Stiles, of Galson, is orientated to the job. He will be Galson's technician on-site until further notice.
February 10, 1998 - February 12, 1998	Contractor begins painting floors, cable trenches, etc. in the main floor and basement work areas with epoxy paint. Painting (2-coats) is completed.
February 20, 1998	Galson performs direct-read post-paint clearance air sampling utilizing the Jerome MVA. (23) samples are collected in the breathing zone level throughout the facility. Readings ranged from 0.000 mg/m3 to 0.012 mg/m3. All samples were below the 0.025 mg/m3 clearance criteria. The building is cleared for re-occupancy by LIRR personnel.
March 4, 1998	Galson performs waste water characterization sampling on the (17) 55-gallon drums filled with potentially mercury contaminated water on-site. Galson performs this sampling to confirm contractor's own sampling of the water which resulted in extremely high levels of mercury in the water collected. Samples are shipped to Galson's Syracuse, NY lab for analysis.
DEFICIENCIES:	Basement floods when it rains heavily. Water enters through the outside door to basement on South Side. Some windows and doors boarded up, but not weather-tight. NO Floor Drains in Basement Chambers.

Mercury Clean-up Monitoring Report for the Long Island Railroad Substations

7.02 Bayside Substation:

February 9, 1998	Trade Winds mobilizes to site. Galson is represented by Craig Stiles. Decontamination area set-up. Ventilation machines are set-up and running. Gross cleaning of first floor work area begins.
February 10, 1998	Gross cleaning of first floor work area complete. Contractor gross cleans North and South basement chambers as well. Contractor performs neutralization on main floor and in North basement chamber.
February 11, 1998	Gross cleaning continues in South basement chamber. Contractor plugs floor drains in both chambers with concrete, and is then directed by LIRR System Safety department to remove the plugs and use rubber "J-plugs" instead. The floor drains are covered with plastic sheeting and duct tape until the contractor can get the appropriate sized plugs. Neutralizing is completed in the facility. Galson performs visual inspection of the facility. Some free mercury observed on lip of trench plates. Contractor immediately cleans and re-neutralizes these areas as directed by Galson. Galson passes the work areas for clearance air sampling on 2/12/98.
February 12, 1998	Galson performs direct-read clearance air sampling utilizing a Jerome 431X Mercury Vapor Analyzer (MVA). (17) samples are collected in the breathing zone level throughout the facility. Readings ranged from 0.00 mg/m3 to 0.017 mg/m3. All samples were below the 0.025 mg/m3 clearance criteria. The facility is cleared for re-occupancy and painting. Contractor begins painting floors, cable trenches, etc. with epoxy paint. Neutralizing agent has been wet mopped/washed from the surfaces to be painted. Contractor demobilizes clean-up equipment from site.
February 20, 1998	Painting (2 coats) has been completed. Galson performs direct-read post-paint clearance air sampling utilizing the Jerome MVA. (17) samples are collected in the breathing zone level throughout the facility. All readings were 0.000 mg/m3. All samples were below the 0.025 mg/m3 clearance criteria. The building is cleared for re-occupancy by LIRR personnel.
DEFICIENCIES:	No Deficiencies Noted. Basement chambers do have floor drains. All drains are sealed with plastic sheeting and duct tape.

Mercury Clean-up Monitoring Report for the Long Island Railroad Substations

7.03 Bellaire Substation:

February 13, 1998	Trade Winds mobilizes to site. LIRR personnel do not arrive. It is learned that today is an LIRR holiday, no workers available to open site. Work crew is sent home for the day.
February 17, 1998 - February 18, 1998	Contractor mobilizes to site again. Decontamination area set-up. Ventilation machines are set-up and running. Gross cleaning of main floor work area begins. Gross cleaning in North and South basement chambers is started as well.
February 19, 1998	Gross cleaning on main floor and South basement chamber is complete. Gross cleaning continues in North basement chamber. Contractor begins neutralizing work surfaces on the main floor and South basement chamber. North basement chamber neutralized as well.
February 20, 1998	Galson performs direct-read air sampling utilizing a Jerome 431X Mercury Vapor Analyzer (MVA). (21) samples are collected in the breathing zone level throughout the facility. Readings ranged from 0.000 mg/m3 to 0.043 mg/ m3. Only one reading was over the 0.025 mg/m3 clearance criteria. This reading was located in the North basement chamber. The contractor was directed to re-clean and neutralize this area. They complied. Galson re-sampled the North basement chamber, (12) readings collected. The readings ranged from 0.005 mg/m3 to 0.011 mg/m3. All samples were below the 0.025 mg/m3 clearance criteria. Galson also performs visual inspection of the work areas. No visible mercury was observed. Galson passes the work areas for clearance air sampling on 2/23/98.
February 23, 1998	Galson is now represented by Hobart Van Deusen. Galson performs direct-read clearance air sampling utilizing a Jerome 431X Mercury Vapor Analyzer (MVA). (20) samples are collected in the breathing zone level throughout the facility. Readings ranged from 0.00 mg/m3 to 0.006 mg/m3. All samples were below the 0.025 mg/m3 clearance criteria. The facility is cleared for re-occupancy and painting. Contractor begins painting floors, cable trenches, etc. with epoxy paint. Neutralizing agent has been wet mopped/washed from the surfaces to be painted. Contractor demobilizes clean-up equipment from site.
February 26, 1998	Contractor has completed applying two coats of epoxy paint to work area surfaces. Galson performs direct-read post-paint clearance air sampling utilizing the Jerome MVA. (21) samples are collected in the breathing zone level throughout the facility. All readings were 0.000 mg/m3. The building is cleared for re-occupancy by LIRR personnel.

7.03 Bellaire Substation: (cont.)

DEFICIENCIES: Access to site difficult for large vehicles. No water source on-site. Basement chambers do have floor drains. All drains are sealed with plastic sheeting and duct tape.

7.04 Lindenhurst Substation:

February 23, 1998 — Trade Winds mobilizes to site. Decontamination area set-up. Ventilation machines are set-up and running. Visual inspection of basement chambers reveals large amounts of debris to be removed (i.e.: chairs, drums, cables, etc.). . Gross cleaning of main floor work area begins. Gross cleaning in East basement chamber is started as well. A two-foot by two-foot pit is located in the East basement chamber. There is a small amount of water in this pit that will be removed and drummed tomorrow. Approximately 2-3 gallons.

February 24, 1998 - February 25, 1998 — Contractor has completed gross cleaning of main floor, and East basement chamber. Both areas have been neutralized as well. Gross cleaning of West basement chamber has been started. Water in pit located in the East basement chamber has been removed and placed in waste drum with solids. Gross cleaning of West basement has been completed and neutralized. Large objects and debris removed and disposed of/or neutralized. Contractor re-cleans and neutralizes East basement chamber after Galson finds residual mercury contamination. Galson also performs visual inspection of the work areas (2/25/98). Minor areas of visible mercury was observed under East rectifier. The contractor re-cleans and neutralizes areas as directed. Galson re-inspects these locations and passes the work areas for clearance air sampling on 2/26/98.

February 26, 1998 — Galson performs direct-read clearance air sampling utilizing a Jerome 431X Mercury Vapor Analyzer (MVA). (20) samples are collected in the breathing zone level throughout the facility. Readings ranged from 0.00 mg/m3 to 0.009 mg/m3. All samples were below the 0.025 mg/m3 clearance criteria. The facility is cleared for re-occupancy and painting. Contractor begins painting floors, cable trenches, etc. with epoxy paint. Neutralizing agent has been wet mopped/washed from the surfaces to be painted. Contractor demobilizes clean-up equipment from site.

March 2, 1998	Contractor has completed applying two coats of epoxy paint to work area surfaces. Galson performs direct-read post-paint clearance air sampling utilizing the Jerome MVA. (20) samples are collected in the breathing zone level throughout the facility. All readings were 0.000 mg/m3. All samples were below the 0.025 mg/m3 clearance criteria. The building is cleared for re-occupancy by LIRR personnel.
DEFICIENCIES:	No Deficiencies Noted. Basement chambers do have floor drains. All drains are sealed with plastic sheeting and duct tape.

7.05 Rockville Center Substation:

February 26, 1998 - February 27, 1998	Trade Winds mobilizes to site. Decontamination area set-up. Ventilation machines are set-up and running. There are 2-4 inches of water in both basement chambers. There is a significant amount of mercury contamination (4 sq.ft.) under water in the West basement chamber. There are large amounts of debris in each chamber as well. The contractor will pump the water into waste drums and neutralize/or dispose debris in basement chambers. Main floor is gross cleaned and neutralized. Bulky waste is removed from the basement chambers.
March 2, 1998 - March 3, 1998	Contractor pumps contaminated water from the basement chambers and continues to remove debris from them as well. Gross cleaning of basement chambers begins. A broken sewer line was located in the West basement chamber (North end) and it posed a health threat to the workers cleaning in the area. Disinfectant and germicide are applied to the area and the leak repaired with a new cap. West basement chamber has been gross cleaned and neutralized. Gross cleaning in East basement chamber continues. Contractor has also removed a large piece of equipment (5' high) from the basement that had high mercury vapor readings (1.537 mg/m3) coming from openings in it. Contractor was directed to seal all openings with plastic sheeting and duct tape. They did so. This item will have to be disposed of separately.
March 4, 1998	Gross cleaning and neutralizing of work areas is complete. Galson performs visual inspection of the work areas. No visible mercury was observed. Galson passes the work areas for clearance air sampling on 3/5/98. Contractor wet mops neutralizing agent from work area surfaces. Contractor demobilizes clean-up equipment from site. Galson performs waste water characterization sampling on the (3) 55-gallon drums filled with potentially mercury contaminated water on-site. Samples are shipped to Galson's Syracuse, NY lab for analysis.

March 5, 1998	Galson performs direct-read clearance air sampling utilizing a Jerome 431X Mercury Vapor Analyzer (MVA). (21) samples are collected in the breathing zone level throughout the facility. Readings ranged from 0.00 mg/m3 to 0.021 mg/m3. All samples were below the 0.025 mg/m3 clearance criteria. The facility is cleared for re-occupancy and painting. Contractor begins painting floors, cable trenches, etc. with epoxy paint.
March 9, 1998	Contractor has completed applying two coats of epoxy paint to work area surfaces. Galson performs direct-read post-paint clearance air sampling utilizing the Jerome MVA. (20) samples are collected in the breathing zone level throughout the facility. There is 2-3 inches of standing water in the East basement chamber, and 3-4 inches of standing water in the West basement chamber. It apparently rained heavily last night. Readings ranged from 0.000 mg/m3 to 0.009 mg/m3. All samples were below the 0.025 mg/m3 clearance criteria. The building is cleared for re-occupancy by LIRR personnel.
DEFICIENCIES:	Basement Floods when it rains due to roof leaks. Basement chambers do have floor drains. All drains are sealed with plastic sheeting and duct tape.

7.06 Nassau Boulevard Substation:

March 5, 1998 - March 9, 1998	Trade Winds mobilizes to site. Decontamination are set-up. Ventilation machines are set-up and running. Contractor gross cleans and neutralizes the main floor work area and the North and South basement chambers. Galson performs visual inspection of the work areas. No visible mercury was observed. Galson passes the work areas for clearance air sampling on 3/10/98. Contractor wet mops neutralizing agent from work area surfaces. Contractor demobilizes clean-up equipment from site.
March 10, 1998	Galson performs direct-read clearance air sampling utilizing a Jerome 431X Mercury Vapor Analyzer (MVA). (20) samples are collected in the breathing zone level throughout the facility. Readings ranged from 0.00 mg/m3 to 0.031 mg/m3. All samples were below the 0.025 mg/m3 clearance criteria, except for three in the North basement chamber (West end). These readings were .029 mg/m3, 0.030 mg/m3 and 0.031 mg/m3. Galson cleared the facility for re-occupancy and painting. These three samples were only slightly above the 0.025 mg/m3 clearance criteria set by Galson, but still well below the regulated limit of 0.050 mg/m3 set by OSHA and NYSPESH. Contractor begins painting floors, cable trenches, etc. with epoxy paint.

March 12, 1998	Contractor has completed applying two coats of epoxy paint to work area surfaces. Galson performs direct-read post-paint clearance air sampling utilizing the Jerome MVA. (20) samples are collected in the breathing zone level throughout the facility. Readings ranged from 0.003 mg/m3 to 0.023 mg/m3. All samples were below the 0.025 mg/m3 clearance criteria. The building is cleared for re-occupancy by LIRR personnel.
DEFICIENCIES:	No Deficiencies Noted. Basement chambers do have floor drains. All drains are sealed with plastic sheeting and duct tape.

7.07 Babylon Yard Substation:

March 11, 1998	Trade Winds mobilizes to site. Decontamination area set-up. Ventilation machines are set-up and running. There is 1 to 2 feet of water in the basement chambers. A sump pump is located in-place in the basement and the water is pumped out. LIRR workers state the basement chambers have been flooded for years and they only pump them out when they need to do work in them. Workers begin gross cleaning of the main floor.
March 12, 1998	Basement has been pumped out. Only 5-10 gallons of water left. This is placed into a waste drums for disposal. Gross cleaning is started in the basement chambers. Workers encounter large amounts of mud on the floors to be disposed of. A water leak is discovered in the South basement chamber at the East end. A steady stream of water was coming in through the duct banks in the wall at floor level. It is believed to be ground water. This water flows in to the floor drains, which then in turn, sends it to the sump pit in the North basement chamber, which then pumps it out of the building. The sump pump has a damaged discharge hose and a bad float. LIRR will attempt to replace these tomorrow. Contractor will attempt to seal the water leak with hydraulic cement tomorrow as well.
March 13, 1998	LIRR personnel set-up pumps in two outdoor manholes adjacent to the South basement chamber. These manholes are filled with water as well. They hope to alleviate the flooding in the basement chambers by doing this. A new sump pump is provided by LIRR and the contractor replaces the old one in the North basement sump pit. A small amount of mercury is found embedded in the mud around the floor drain in this chamber, and the South chamber as well. Hydraulic cement is used to seal the duct bank openings in the South basement chamber. LIRR System Safety personnel ask Galson to investigate a "spill" outside the substation that was anonymously reported the NYSDEC at 6:00 am. Galson inspects all areas outside the facility, paying particular attention to the ground under the

transformers. There was no evidence of a recent spill of petroleum or any other substance. This is reported back to LIRR System Safety personnel. LIRR System Safety personnel also ask Galson and Trade Winds to determine where sump pump in the North basement chamber discharges to. The cast iron pipe from the sump pit appeared to go to a storm sewer or sanitary sewer manhole outside the building on the North side. LIRR personnel expressed their beliefs that it may go into the wetlands North of the substation. Upon further investigation, a white PVC tube was found protruding into the wetlands behind some office trailers North of the substation. The contractor activated the sump pump and water was observed discharging in to the

March 13, 1998

wetlands immediately afterwards. LIRR System Safety personnel are contacted as soon as possible and informed of this. Water also continues to flow into the basement chambers through the duct banks even though hydraulic cement was used. Contractor will attempt to re-apply cement on Monday, 3/16/98.

March 16, 1998

Gross cleaning continues in the basement chambers. Contractor neutralizes work surfaces on the main floor and the South basement chamber.

March 17, 1998

Galson orientates new technician to the job. Tom Ten Eyck will be replacing Hobart Van Deusen starting today. Contractor neutralizes the main floor and South basement chamber work areas for a second time. Gross cleaning in the North basement chamber is completed and neutralized. Large wood debris from basement chambers is cut up and placed in waste drums. Galson performs visual inspection of the main floor and South basement chamber work areas. No visible mercury was observed. Galson passes these work areas for clearance air sampling on 3/18/98. The North basement chamber was too wet to visually inspect today. Galson will perform visual inspection prior to clearance air sampling tomorrow morning. Contractor wet mops neutralizing agent from work area surfaces on the main floor and South basement chamber. Contractor demobilizes clean-up equipment from site.

March 18, 1998

Galson performs visual inspection of the North basement chamber work area. Only small puddles of water remained. No visible mercury was observed. Galson passed the work area for clearance air sampling. Galson performs direct-read clearance air sampling utilizing a Jerome 431X Mercury Vapor Analyzer (MVA). (20) samples are collected in the breathing zone level throughout the facility. Readings ranged from 0.000 mg/m3 to 0.023 mg/m3. All samples were below the 0.025 mg/m3 clearance criteria. The facility is cleared for re-occupancy and painting. Contractor can begin painting floors, cable trenches, etc. with epoxy paint. Painting has been delayed due to rain.

March 25, 1998	Contractor has completed applying two coats of epoxy paint to work area surfaces. Galson performs direct-read post-paint clearance air sampling utilizing the Jerome MVA. (20) samples are collected in the breathing zone level throughout the facility. Readings ranged from 0.000 mg/m3 to 0.015 mg/m3. All samples were below the 0.025 mg/m3 clearance criteria. The building is cleared for re-occupancy by LIRR personnel.
DEFICIENCIES:	Basement floods when it rains due to roof leaks. Basement also floods due to high water table in the area. Water enters through duct bank openings in the basement. Basement chambers do have floor drains. All drains are sealed with plastic sheeting and tape.

8.0 PHASE 2 - SITE SUMMARIES

The following section outlines the significant activities, events, and observations during each substation clean-up during Phase 2. This includes visual inspections, clearance air sampling, post-paint sampling, and observations of deficiencies at each site. A count of waste drums from each site can be found in Appendix B.

8.01 Floral Park Substation:

March 18, 1998 - March 19, 1998	Trade Winds mobilizes to site. Decontamination area set-up. Ventilation machines are set-up and running. There are no basement chambers at this site. Only rectifier pits 3-4 feet deep. Contractor begins gross cleaning of the work areas. Neutralizer is sprayed on the work surfaces to keep airborne dust down to a minimum. It is a problem at this facility.
March 20, 1998	Contractor completes gross cleaning neutralizing of all work areas. Galson performs visual inspections of the work areas. Some areas with visible mercury still present. The contractor cleans these locations up immediately at Galson's direction. Galson passes the work areas upon reinspection for clearance air sampling on 3/23/98. Contractor demobilizes clean-up equipment from site.
March 23, 1998	Galson performs direct-read clearance air sampling utilizing a Jerome 431X Mercury Vapor Analyzer (MVA). (20) samples are collected in the breathing zone level throughout the facility. Readings ranged from 0.003 mg/m3 to 0.020 mg/m3. All samples were below the 0.025 mg/m3 clearance criteria. The facility is cleared for re-occupancy and painting. Contractor can begin painting floors, cable trenches, etc. with epoxy paint.

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March 27, 1998	Contractor has completed applying two coats of epoxy paint to work area surfaces. Galson performs direct-read post-paint clearance air sampling utilizing the Jerome MVA. (20) samples are collected in the breathing zone level throughout the facility. All samples were below the 0.025 mg/m3 clearance criteria, except for the southwest and center rectifier pit trenches (trenches are adjacent to actual open rectifier pits and are covered with steel plate). The three readings in the SW pit trench were 0.079 mg/m3, 0.086 mg/m3, and 0.118 mg/m3. The three readings in the center pit trench were 0.090 mg/m3, 0.096 mg/m3, and 0.113 mg/m3. It did not appear the contractor painted these trenches thoroughly due to the concrete in them being soft and deteriorating from water damage over the years.
March 27, 1998	Galson contacted Trade Winds and LIRR System Safety personnel and informed them of the post-paint clearance sample failures. LIRR System Safety will direct Galson and Trade Winds as to further actions to be taken to clear this facility for re-occupancy. The building is not cleared for re-occupancy by LIRR personnel.
April 1, 1998	Galson conducts direct-read ambient sampling with the Jerome MVA in the SW and center rectifier pit trenches. This sampling was requested by LIRR System Safety department. The readings were 0.242 mg/m3 and 0.162 mg/m3. These results are higher than the clearance sampling and post-paint sampling results. This is reported to LIRR System Safety.
April 22, 1998	Galson (Hobart Van Deusen), Trade Winds, and LIRR System Safety perform inspection at the substation to determine what can be done to obtain clearance air levels in the facility. The contractor had returned to the site before this visit to cover floor drains and pipe openings in each trench to help reduce mercury vapor levels from building up in them when they are covered with the steel plate. Galson collects several direct-read air samples both the SW rectifier pit trench and the center pit trench. Readings at the SW pit trench ranged from 0.003 mg/m3 to 0.903mg/m3. Readings at the center pit trench ranged from 0.021 mg/m3 to 0.224 mg/m3. The readings dropped quickly when the steel plate covers were removed. The highest readings were found when the MVA probe was poked through the plastic covering the floor drains and pipe openings. All parties agreed that additional painting of the pit trenches needed to be done once the loose concrete was removed. In addition, the floor drains and pipe openings needed to be recleaned and sealed with rubber "J-plugs" until further remediation could be planned and executed.

May 8, 1998	Galson (Adrian Salmon) returns to perform direct-read post-paint air sampling at the site with the Jerome MVA again. Trade Winds has performed all work as listed on the April 22, 1998 entry. (23) samples were collected throughout the facility. Only two readings were at or above the 0.025 mg/m3 clearance criteria. These were 0.025 mg/m3 and 0.027 mg/m3 at the center rectifier pit trench. Galson cleared the facility for re-occupancy by LIRR personnel. One sample was only slightly above the 0.025 mg/m3 clearance criteria set by Galson, but still well below the regulated limit of 0.050 mg/m3 set by OSHA and NYSPESH.
May 22, 1998	Galson (Hobart Van Deusen) returns to site to collect direct-read confirmation samples at the site with the Jerome MVA. (10) ambient samples collected throughout the facility in the breathing zone level ranged from 0.010 mg/m3 to 0.018 mg/m3. (3) readings collected at the partially oper. SW pit trench ranged from 0.016 mg/m3 to 0.018 mg/m3. 15 minutes after replacing the steel trench plates, the three readings ranged from 0.023 mg/m3 to 0.025 mg/m3. (3) readings collected at the partially open center pit trench ranged from 0.019 mg/m3 to 0.024 mg/m3. 15 minutes after replacing the steel trench plates, the three readings ranged from 0.022mg/m3 to 0.024 mg/m3. An LIRR worker recently washed the floors down with an ammonia based glass cleaner. This could possibly have accounted for the elevated readings. A reading collected at the opening to the glass cleaner bottle was 0.018 mg/m3. The manufacturer of the Jerome MVA confirmed by telephone that cigarette smoke and ammonia can cause elevated readings with the MVA.
DEFICIENCIES:	Rectifier pits and main floor flood during heavy rains due to poorly sealed doors, windows, & and openings. No basement chambers in the facility. Floor drains and pipe openings found in trenches next to rectifier pits only. These were sealed with rubber "J-plugs".

8.02 Hempstead Substation:

March 23, 1998 - March 24, 1998	Trade Winds mobilizes to site. Decontamination area set-up. Ventilation machines are set-up and running. There are no basement chambers at this site. Only one rectifier pit 3-4 feet deep. Contractor begins gross cleaning of the work areas. Neutralizing of work area surfaces started as well.

March 25, 1998	Contractor has completed gross cleaning and neutralizing of the work areas. Galson performs visual inspection of the work areas. Some areas with visible mercury still present. The contractor cleans these locations up immediately at Galson's direction. Galson passes the work areas upon reinspection for clearance air sampling on 3/23/98. Contractor wet mops neutralizing agent from work area surfaces. Contractor demobilizes clean-up equipment from site.
March 26, 1998	Galson performs direct-read clearance air sampling utilizing a Jerome 431X Mercury Vapor Analyzer (MVA). (20) samples are collected in the breathing zone level throughout the facility. Readings ranged from 0.000 mg/m3 to 0.017 mg/m3. All samples were below the 0.025 mg/m3 clearance criteria. The facility is cleared for re-occupancy and painting. Contractor can begin painting floors, cable trenches, etc. with epoxy paint.
March 31, 1998	Contractor has completed applying two coats of epoxy paint to work area surfaces. Galson performs direct-read post-paint clearance air sampling utilizing the Jerome MVA. (20) samples are collected in the breathing zone level throughout the facility. Readings ranged from 0.000 mg/m3 to 0.022 mg/m3. All samples were below the 0.025 mg/m3 clearance criteria. The building is cleared for re-occupancy by LIRR personnel.
DEFICIENCIES:	No basement chambers in the facility. Floor drains and pipe openings found in trenches next to rectifier pits only. These were sealed with rubber "J-plugs".

8.03 Port Washington Substation:

March 26, 1998 - March 30, 1998	Trade Winds mobilizes to site. Decontamination area set-up. Ventilation machines are set-up and running. Contractor performs gross cleaning of the main floor work area. Neutralizing of main floor work area surfaces completed. Contractor begins gross cleaning of basement chambers.
March 31, 1998 - April 1	Contractor completes gross cleaning of the basement chamber work areas. Neutralizing of the basement chamber work areas surfaces completed as well. Galson performs visual inspection of the work areas. Some areas with visible mercury still present. The contractor cleans these locations up immediately at Galson's direction. Galson passes the work areas upon reinspection for clearance air sampling on 4/2/98. Contractor wet mops neutralizing agent from work area surfaces. Contractor demobilizes clean-up equipment from site.

April 2, 1998	Galson performs direct-read clearance air sampling utilizing a Jerome 43 lX Mercury Vapor Analyzer (MVA). (20) samples are collected in the breathing zone level throughout the facility. Readings ranged from 0.000 mg/m3 to 0.011 mg/m3. All samples were below the 0.025 mg/m3 clearance criteria. The facility is cleared for re-occupancy and painting. Contractor can begin painting floors, cable trenches, etc. with epoxy paint.
April 6, 1998	Contractor has completed applying two coats of epoxy paint to work area surfaces. Galson (Hobart Van Deusen) performs direct-read post-paint clearance air sampling utilizing the Jerome MVA. (20) samples are collected in the breathing zone level throughout the facility. Readings ranged from 0.000 mg/m3 to 0.005 mg/m3. All samples were below the 0.025 mg/m3 clearance criteria. The building is cleared for re-occupancy by LIRR personnel.
DEFICIENCIES:	Water leak through conduit pipes in South basement chamber under Rectifier #2. Similar to Babylon Yard substation. Basement chambers do have floor drains. All drains are sealed with plastic sheeting and duct tape.

8.04 Meadow Brook Substation (Emergency Mercury Spill Clean-up):

March 31, 1998	Galson is informed by LIRR personnel that the Meadow Brook substation had a power surge and one of the mercury relay switches had broken and spilled mercury onto the main floor. Galson went to the site to perform a visual inspection of the situation and to collect direct-read ambient air samples. A 4-inch by 4-inch puddle of mercury was observed on the floor in front of the relay switch panel during Galson's visual inspection at the site. A 3-4 foot deep pit was located under this panel , but no visible mercury contamination was observed by Galson. This pit will be cleaned as well as a precautionary measure. The contractor will have difficulties cleaning the pit under the relay switch panel as there are a lot of cables running into it. Galson performs direct-read ambient air sampling utilizing a Jerome 431X Mercury Vapor Analyzer (MVA). Samples are collected in the breathing zone level on the main floor and in the relay switch panel pit. Readings ranged from 0.011 mg/m3 to 0.024 mg/m3 on the main floor, and the one reading collected in the pit was 0.079 mg/m3. LIRR personnel and Trade Winds are contacted and informed of Galson's observations and readings. Trade Winds is scheduled to have a crew on-site Thursday, April 2, to perform clean-up operations.

April 2, 1998	Trade Winds mobilizes to site. Decontamination area set-up. Ventilation machines are set-up and running. Contractor performs gross cleaning and neutralizing of the floor and pit areas under the relay switch panel. Direct-read ambient air samples collected during the clean-up operations ranged from 0.012 mg/m3 to 0.017 mg/m3.
DEFICIENCIES:	No Deficiencies Noted.

8.05 Massapequa Substation:

April 2, 1998	Trade Winds mobilizes to site. Decontamination area set-up. Ventilation machines are set-up and running. This substation does not have any basement chambers. There is a 3-4 foot deep pit under the rectifier and two smaller pits/trenches. Contractor begins gross cleaning of the work areas.
April 3, 1998	Contractor has difficulties running his generator today. Clean-up activities delayed. Gross cleaning continues today. Contractor has difficulties reducing elevated levels of mercury vapors from the two smaller pit areas. These are the NW pit and the SE pit. Both pits were cleaned thoroughly. A drain located in the NW pit and will be cleaned again. Contractor neutralizes the pits as well. Both pits are covered with plastic sheeting and sealed with duct tape at the end of the shift to prevent mercury vapor levels from increasing in the facility.
April 6, 1998	Contractor continues gross cleaning of the facility. Galson is now represented by Hobart Van Deusen.. The plastic covers on the pits are removed. The NW pit is recleaned and "merc-sorb" is used on the walls of the NW pit and the rectifier pit to remove very small beads of mercury observed by Galson. The SE pit is recleaned as well. Contractor has re-neutralized all work surfaces. Galson performs visual inspection of the work areas. Some areas with visible mercury still present. The contractor cleans these locations up immediately at Galson's direction. Galson passes the work areas upon reinspection for clearance air sampling on 4/8/98. Contractor wet mops neutralizing agent from work area surfaces. Contractor demobilizes clean-up equipment from site.
April 8, 1998	Galson performs direct-read clearance air sampling utilizing a Jerome 431X Mercury Vapor Analyzer (MVA). (20) samples are collected in the breathing zone level throughout the facility. Readings ranged from 0.003 mg/m3 to 0.014 mg/m3. All samples were below the 0.025 mg/m3 clearance criteria. The facility is cleared for re-occupancy and painting. Contractor begins painting floors, cable trenches, etc. with epoxy paint.

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April 13, 1998	Contractor has completed applying two coats of epoxy paint to work area surfaces. Galson performs direct-read post-paint clearance air sampling utilizing the Jerome MVA. (20) samples are collected in the breathing zone level throughout the facility. Readings on the main floor and in the rectifier pit ranged from 0.000 mg/m3 to 0.006 mg/m3. Readings in the NW pit ranged from 0.121 mg/m3 to 0.385 mg/m3. Readings in the SE pit ranged from .0.048 mg/m3 to 0.052 mg/m3. The steel covers were on the pits when they were sampled. LIRR personnel are informed not to open the pits until further notice.
April 13, 1998	Otherwise they can re-occupy the main floor. Galson informs Trade Winds and LIRR System Safety department of the high readings and awaits direction from LIRR for further action.
April 22, 1998	Galson meets with Trade Winds and LIRR System Safety personnel at the site to discuss the actions to be taken with the SE pit and NW pit to reduce the mercury vapor levels the clearance criteria level of 0.025 mg/m3. Galson collects direct-read air samples in each pit with the Jerome MVA. The NW pit reading was 0.075 mg/m3 with the pit cover on. The SE pit reading was 0.068 mg/m3 with the pit cover on. Contractor is directed to plug/cap six pipe/drain openings of various sizes in the NW pit. The NW pit will also have concrete applied around a rough opening around a pipe protruding from the West wall of the pit. They are also directed to plug/cap one opening in the SW pit. The SW pit will also have concrete applied around a rough opening at a water pipe in the pit as well. Once these actions are done, Galson will re-sample the substation.
May 8, 1998	Galson (Adrian Salmon) returns to site to perform a second round of direct-read post-paint clearance air sampling utilizing the Jerome MVA. (20) samples are collected in the breathing zone level throughout the facility. Readings ranged from 0.000 mg/m3 to 0.028 mg/m3. All readings were below the clearance criteria of 0.025 mg/m, except for the four samples collected in the NW pit. These samples ranged from 0.027 mg/m3 to 0.028 mg/m3. Galson cleared the facility for re-occupancy by LIRR personnel. The four samples were only slightly above the 0.025 mg/m3 clearance criteria set by Galson, but still well below the regulated limit of 0.050 mg/m3 set by OSHA and NYSPESH.

May 22, 1998	Galson (Hobart Van Deusen) returns to the site to collect direct-read confirmation ambient air samples with the Jerome MVA. (6) ambient readings were collected throughout the main floor of the facility in the breathing zone. The readings ranged from 0.000 mg/m3 to 0.003 mg/m3. (3) samples were collected in the SE pit after the trench plates were placed back on the pit. The readings ranged from 0.009 mg/m3 to 0.012 mg/m3. (3) samples were collected in the NW pit after the trench plates were placed back on the pit. The readings ranged from 0.013 mg/m3 to 0.014 mg/m3. All samples were below the 0.025 mg/m3 clearance criteria. The building is cleared for re-occupancy by LIRR personnel.
DEFICIENCIES:	No Deficiencies Noted. No basement chambers in the facility. Floor drains and pipe openings found in pits/trenches. These were sealed with rubber "J-plugs" or metal caps.

8.06 Island Park Substation:

April 15, 1998 - April 17, 1998	Trade Winds mobilizes to site. Decontamination area set-up. Ventilation machines are set-up and running. Contractor performs gross cleaning of the main floor work areas and basement chambers. Neutralizing is started as well.
April 20, 1998	Gross cleaning of the work areas is complete. Main floor and basement chambers have been neutralized as well. Galson performs visual inspections of the main floor and basement chamber work areas. Several areas with visible mercury still present. The contractor cleans these locations up immediately at Galson's direction. Galson passes the work areas upon reinspection for clearance air sampling on 4/21/98. Contractor wet mops neutralizing agent from work area surfaces. Contractor demobilizes clean-up equipment from site.
April 21, 1998	Galson performs direct-read clearance air sampling utilizing a Jerome 431X Mercury Vapor Analyzer (MVA). (20) samples are collected in the breathing zone level throughout the facility. Readings on the main floor ranged from 0.000 mg/m3 to 0.006 mg/m3. Readings in the West basement chamber ranged from 0.016 mg/m3 to 0.036 mg/m3. Readings in the East basement chamber ranged from 0.024 mg/m3 to 0.043 mg/m3. All samples on the main floor were below the 0.025 mg/m3 clearance criteria. Trade Winds and Galson re-inspect basement chambers and find very small beads of mercury clinging to the cables under the rectifiers. The contractor wipes down the cables again and re-vacuums the basement floors as well. The contractor is permitted to begin painting of the main floor work area as the readings

were below the 0.025 mg/m3 clearance criteria. Galson performs a second round of direct-read clearance air sampling in the basement chambers with the Jerome MVA. Readings (5) in the West basement chamber ranged from 0.011 mg/m3 to 0.018 mg/m3. . Readings (5) in the East basement chamber ranged from 0.027 mg/m3 to 0.039 mg/m3. Readings are collected in a sump pit located between the two basement chambers. Readings range from 0.075 mg/m3 to 0120 mg/3. There is 4-6" of stagnant water in the pit, but know visible mercury debris. Galson and Trade Winds suspect this pit is the source of the elevated readings in the basement chambers. The contractor seals the pit with plastic sheeting and duct tape and will paint the floor surfaces in the basement chambers today. LIRR System Safety department is informed of the actions taken. Contractor plans on pumping the water out of the sump pit tomorrow and put it into a waste drum for disposal. Galson will collect clearance air samples again as well.

April 22, 1998

Contractor has pumped the water from the sump pit and placed it into a waste drum. The pit is cleaned and neutralized as well. Pit is resealed with plastic sheeting and duct tape. Galson could not perform clearance sampling in the basement today because the contractor began painting the floor surfaces in the basement chambers after cleaning the sump pit and before Galson arrived on-site. Galson will return to the site tomorrow for post-paint clearance air sampling.

April 23, 1998

Galson returns to site to perform direct-read post-paint clearance air sampling utilizing the Jerome MVA. Adrian Salmon, of Galson, is on-site as well for orientation to the job. (20) samples are collected in the breathing zone level throughout the facility. Readings ranged from 0.000 mg/m3 to 0.028 mg/m3. All readings were below the clearance criteria of 0.025 mg/m, except for one sample collected in the West basement chamber. This sample was 0.028 mg/m3. Galson cleared the facility for re-occupancy by LIRR personnel. The one high sample was only slightly above the 0.025 mg/m3 clearance criteria set by Galson, but still well below the regulated limit of 0.050 mg/m3 set by OSHA and NYSPESH. One reading was collected in the sealed sump pit. The reading was 0.203 mg/m3. The pit is resealed and LIRR System Safety department is notified. Further remediation may be necessary.

DEFICIENCIES:

Large entrance doors don't seal weather-tight. Building slab is severely cracked and is partially subsiding. The building is sheathed in corrugated asbestos cement panels with many holes and openings. The basement sump pit was sealed with plastic sheeting and duct tape. The sump pit may need further remediation.

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8.07 Shea Substation:

April 23, 1998	Trade Winds mobilizes to site. The building is in poor structural condition. It is sliding off its foundation and the slab is cracked. Decontamination area set-up. There are no basement chambers. There is a 3-4 foot deep pit under the rectifier. Visible mercury is found on the ground outside the facility's entrance door. Ventilation machines are set-up and running. Galson is represented by Adrian Salmon. Contractor begins gross cleaning of the main floor work area.
April 24, 1998 - April 28, 1998	Contractor continues gross cleaning of the facility. They are have very difficult time cleaning large cracks in the floor slab. MVA readings exceed 0.300 mg/m3 in some cases in these cracks. Some cracks almost 5 feet deep. LIRR System Safety department recommends to contractor to seal larger cracks with cement, and the smaller cracks with silicone sealant after they have been cleaned as much a s possible. One mercury-vacuum breaks down and slows progress (4/24/98). Neutralizing is done to keep mercury vapor levels down. Removal of mercury and contaminated soil outside front entrance is performed (4/28/98). removal of soil is stopped after contractor removes soil to a depth of two feet and still encounters mercury. LIRR System Safety department arrives on-site and is informed of situation. LIRR will contact NYSDEC and request a site visit from them to assess the situation. The "hot spot" is covered for the night.
April 29, 1998	NYSDEC spill manager, Anthony Sigona, is on-site. He inspects site and recommends ballast be placed in the area dug by the contractor yesterday and to cap it with cement. Galson performs visual inspection of the work area. No visible mercury is observed. The contractor passes the visual inspection. The contractor seals cracks in slab with cement and silicone. No painting will be performed at this site as it is slated for demolition. Galson will perform clearance air sampling on 4/30/98.
April 30, 1998	Galson performs direct-read clearance air sampling utilizing a Jerome 431X Mercury Vapor Analyzer (MVA). (20) direct-read samples are collected in the breathing zone level throughout the facility, except for the pit below the rectifier. All readings were below the 0.025 mg/m3 clearance criteria, except for (3) readings in the pit East of the rectifier pit. These readings ranged from 0.024 mg/m3 to 0.030 mg/m3. (4) samples are collected in the rectifier pit. All readings were over 0.050 mg/m3. Galson informs LIRR System Safety department of these elevated readings. LIRR will direct the contractor to reclean and neutralize the two pits. Galson will collect a second round of clearance air samples once this is completed.

May 6, 1998	Contractor has recleaned and neutralized both pits. They have also sealed/plugged all inoperable pipes and openings in the pit East of the rectifier. Additional cracks in slab are sealed as well. location. Direct-read air samples are collected indoors. Readings ranged from 0.003 mg/m3 to 0.006 mg/m3. Galson will collect a second round of clearance air samples on 5/8/98.
May 8, 1998	Galson performs second round of direct-read clearance air sampling utilizing a Jerome 431X Mercury Vapor Analyzer (MVA). (17) direct-read samples are collected in the breathing zone level throughout the facility. (10) ambient readings on the main floor ranged from 0.000 mg/m3 to 0.006 mg/m3. (3) samples collected in the pit East of the rectifier pit ranged from 0.006 mg/m3 to 0.011 mg/m3. (4) samples collected in the rectifier pit ranged from 0.000 mg/m3 to 0.005 mg/m3. (4) direct-read samples collected in the exterior of the building at the front entrance ranged from 0.003 mg/m3 to 0.006 mg/m3. All samples were below the 0.025 mg/m3 clearance criteria. The building is cleared for re-occupancy by LIRR personnel.
May 26, 1998	Galson (Hobart Van Deusen) returns to the site to collect direct-read confirmation air samples with the Jerome MVA. Galson collects (25) readings at the breathing zone level throughout the facility. The readings ranged from 0.009 mg/m3 to 0.023 mg/m3. All samples were below the 0.025 mg/m3 clearance criteria. The building is still cleared for re-occupancy by LIRR personnel.
DEFICIENCIES:	The building is sliding off its foundation and the slab is cracked. Visible mercury contamination in soil outside the facility.

8.08 Manhassett Substation:

May 1, 1998 to May 4, 1998	Trade Winds mobilizes to site. Decontamination area set-up. Ventilation machines are set-up and running. There are no basement chambers at this site. Only rectifier pit 3-4 feet deep. Visible mercury was observed outside the entrance to the facility in the soil by the entrance doors. LIRR System Safety department is informed of this. Contractor performs gross cleaning of the work areas. Contaminated soil is removed and placed in waste drums.
May 5, 1998	Gross cleaning of the work areas is completed. Neutralizing of the work areas is completed. Workers have also plugged/capped pipe openings in pit south of the rectifier pit. Galson performs visual inspection of the work areas. No visible mercury is observed. Galson passes the work areas for clearance air sampling on 5/6/98. Contractor wet mops neutralizing agent from work area surfaces

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May 6, 1998	Galson performs direct-read clearance air sampling utilizing a Jerome 431X Mercury Vapor Analyzer (MVA). (25) samples are collected in the breathing zone level throughout the facility. All readings were below the 0.025 mg/m3 clearance criteria. The facility is cleared for re-occupancy and painting. Contractor begins painting floors, cable trenches, etc. with epoxy paint.
May 8, 1998	Contractor has completed applying two coats of epoxy paint to work area surfaces. Galson performs direct-read post-paint clearance air sampling utilizing the Jerome MVA. (20) samples are collected in the breathing zone level throughout the facility. All samples were below the 0.025 mg/m3 clearance criteria, except for four readings collected in the pit South of the rectifier pit. The (4) readings ranged from 0.089 mg/m3 to 0.111 mg/m3. These samples were collected with the trench lid on. The contractor will be directed to correct the situation by LIRR System Safety department. (5) direct-read ambient samples are collected outside the facility over the soil at the front entrance. Readings ranged from 0,003 mg/m3 to 0.006 mg/m3.
May 12, 1998	Contractor recleans and neutralizes the pit South of the rectifier pit. Trade Winds supervisor informs Galson he observed large amounts of mercury sitting at the bottom of the drainage ditch filled with water outside the facility. Galson and Trade Winds walk the drainage ditch that runs to the West of the substation. Mercury is observed up to 55 feet away from the substation in the ditch. LIRR System Safety department is notified immediately. LIRR System Safety department notifies NYSDEC immediately. Contractor is directed to wet-vacuum any visible mercury in the drainage ditch. They do so. NYSDEC will be on-site tomorrow to assess the situation.
May 13, 1998	Galson collects direct-read ambient samples from the pit South of the rectifier pit. The (4) readings ranged from 0.109 mg/m3 to 0.110 mg/m3. Samples collected with the lid on. (4) readings collected with the lid off ranged from 0.003 mg/m3 to 0.007 mg/m3. Contractor is directed to remove the foam pipe insulation on pipes located in the pit. Galson will resample the pit on 5/14/98. Galson performs another visual inspection of the drainage ditch. No visible mercury is observed beyond the 50 foot distance from the substation. Contractor continues wet-vacuuming of the mercury in the drainage ditch areas closer to the substation. Walter Parish, of the NYSDEC performs site visit to assess the situation. NYSDEC, Galson, and LIRR walk the ditch and assess the situation. Mr. Parish recommends LIRR place hay bales in the ditch as filtration for any mercury moving down the ditch. They are to be placed at least 70 feet away from the substation. He will also give additional instructions to LIRR later in the week.

May 14, 1998	The contractor has removed the foam pipe insulation in the pit. He has also repainted the pipes with epoxy paint from which the insulation was removed. Contractor is also wet-vacuuming the drainage ditch and removing contaminated soil. Galson (Hobart Van Deusen) performs several direct-read air sampling episodes in the pit South of the rectifier pit. Both with the covers on and covers off. The majority of the readings were over 0.025mg/m3. The covers will be left off the pit to allow it to ventilate and the paint to dry thoroughly. LIRR System Safety personnel have staked hay bales in the drainage ditch to act as filtration for the mercury until further remedial actions are taken.
May 22, 1998	Galson returns to the site to collect direct-read clearance air samples with the Jerome MVA. (4) readings collected throughout the facility at the breathing zone level were all 0.000 mg/m3. (4) readings collected at the SE pit (south of rectifier) ranged from 0.000 mg/m3 to 0.003 mg/m3 with the covers off. The covers were placed back on and the SE pit was re-sampled through small openings 15 minutes later. The (4) readings ranged from 0.024 mg/m3 to 0.031 mg/ m3. This sequence is repeated twice more with similar results. Galson will recommend that open grates be placed over the pit or that it should be filled with clean sand or with concrete. LIRR System Safety department is informed of the readings and recommendations. The main floor is cleared for re-occupancy by LIRR personnel. They are informed not to perform work in the pit until further notice. Contractor demobilizes clean-up equipment from site.
DEFICIENCIES:	Large entrance doors don't seal weather-tight. No basement chambers in the facility. Pipe openings found in pits/trenches. These were sealed with rubber "J-plugs" or metal caps.

8.09 Inwood (Far Rockaway) Substation:

May 7, 1998 - May 8, 1998	Trade Winds mobilizes to site. Decontamination area set-up. Ventilation machines are set-up and running. There are no basement chambers at this site. Only rectifier pit 3-4 feet deep. Ambient direct-read air samples of the soil outside the entrance to the facility by the entrance doors reveals readings of 0.039 mg/m3 to 0.257 mg/m3. Very small pieces (possibly) of visible mercury observed in soil. LIRR System Safety department is informed of this. Contractor performs gross cleaning of the work areas.

Mercury Clean-up Monitoring Report for the Long Island Railroad Substations

May 11, 1998	Contractor completes gross cleaning and neutralizing of the work areas. Small cracks and holes in the floor slab are sealed with cement. Galson performs visual inspection of the work areas. No visible mercury is observed. Galson passes the work areas for clearance air sampling on 5/12/98. Contractor wet mops neutralizing agent from work area surfaces.
May 12, 1998	Galson performs direct-read clearance air sampling utilizing a Jerome 431X Mercury Vapor Analyzer (MVA). (20) samples are collected in the breathing zone level throughout the facility. All readings were below the 0.025 mg/m3 clearance criteria. The facility is cleared for re-occupancy and painting. Prior to painting, the contractor seals a hole located in a small pit on the West wall of the facility with cement. Contractor begins painting floors, cable trenches, etc. with epoxy paint.
May 14, 1998	Contractor has completed applying two coats of epoxy paint to work area surfaces. Galson performs direct-read post-paint clearance air sampling utilizing the Jerome MVA. (20) samples are collected in the breathing zone level throughout the facility. All samples were below the 0.025 mg/m3 clearance criteria, except for readings collected in the SW pit and the NE pit by the rectifier. The (4) readings in the SW pit ranged from 0.085 mg/m3 to 0.265 mg/m3. The (4) readings in the NE pit by the rectifier ranged from 0.017 mg/m3 to 0.131 mg/m3. The paint in the SW pit was not completely dry and the covers were left on overnight. There was also a small pipe opening that may need plugging. The paint in the NE pit was not completely dry and the covers were left on overnight. LIRR System Safety department and Trade Winds are notified of the readings. The contractor will be directed to correct the situation by LIRR System Safety department.
May 22, 1998	Galson performs second round of direct-read post-paint clearance air sampling utilizing the Jerome MVA. Numerous samples are collected in the breathing zone level throughout the facility. (5) ambient samples throughout the facility ranged from 0.005 mg/m3 to 0.009 mg/m3. (3) readings at the open NE pit ranged from 0.018 mg/m3 to 0.030 mg/m3. (3) readings collected in the SW closed pit ranged from 0.127 mg/m3 to 0.166 mg/m3. (2) additional samples were collected at a pipe opening at the bottom of the NE pit. They were 0.084 mg/m3 and 0.049 mg/m3. (3) additional samples were collected at the SW pit with the covers off. The readings ranged from 0.050 mg/m3 to 0.063 mg/m3. The paint was still damp in each pit as the covers were left on overnight. Galson will recommend that the foam pipe insulation be removed from the pipe in the NE pit, and that the pipe opening in the bottom of the NE pit is sealed with cement. Also, the paint should be allowed to thoroughly dry prior to re-sampling.

May 22, 1998	LIRR System Safety department is informed of these readings and recommendations. The main floor is clear for re-occupancy by LIRR personnel as all readings were below the 0.025 mg/m3 clearance criteria. LIRR personnel will be advised not to perform any work in the two pits until further notice.
DEFICIENCIES:	No basement chambers in the facility. High mercury vapor readings recorded outside entrance to facility form the soil. Very small pieces (possibly) of visible mercury observed in soil.

8.10 Cedar Manor Substation (Visual Inspection and Air Sampling Only):

May 7, 1998	Galson (Adrian Salmon) performs visual inspection and direct-read ambient air sampling with the Jerome MVA at this facility. This is requested by LIRR System Safety department to confirm whether mercury contamination is present at this facility. All trenches, pits, basements, floors, and exterior areas are inspected. Visual inspection of the facility, both indoors and outdoors, revealed no visible mercury contamination. Direct-read ambient air samples ranged from 0.000 mg/m3 to 0.003 mg/m3 throughout the facility. All readings were below the clearance criteria of 0.025 mg/m3. Galson informed LIRR System Safety department of these findings.

8.11 Valley Stream Substation (Visual Inspection and Air Sampling Only):

May 7, 1998	Galson (Adrian Salmon) performs visual inspection and direct-read ambient air sampling with the Jerome MVA at this facility. This is requested by LIRR System Safety department to confirm whether mercury contamination is present at this facility. All trenches, pits, basements, floors, and exterior areas are inspected. Visual inspection inside the facility revealed no visible mercury contamination. Visual inspection outside the facility revealed visible mercury contamination in the soil directly outside the front entrance to the facility. Direct-read ambient air samples collected directly over the soil ranged from 0.258 mg/m3 to 0.521 mg/m3. Ambient readings were collected throughout the inside of the facility at the breathing zone level. These readings ranged from 0.000 mg/m3 to 0.006 mg/m3. Another reading collected at a 4" pipe opening in the trench next to the rectifier was 0.198 mg/m3. This pipe appeared to be inoperable. Galson informed LIRR System Safety department of these findings.

9.0 Conclusions

Galson found the remediation contractor, Trade Winds, to be in substantial compliance with all applicable federal, state, and local regulations in regards to the removal and disposal of mercury contaminated debris and water. The contractor also paid special attention in protecting the health and safety of their own employees, Galson Corporation's personnel, LIRR personnel, and the general public.

Further remedial actions may be necessary at the substation locations with floor drains, sump pits, and outdoor mercury contamination. These locations have been sufficiently safe guarded until future remediation plans can be made, and implemented.

Appendix A

Galson's Project Personnel

Galson

Project Personnel

Name:	Title:
Matt Meldrim	Project Manager
Hobart Van Deusen	Project Manager/Industrial Hygeine Technician
Craig Stiles	Industrial Hygiene Technician
Tom Ten Eyck	Industrial Hygiene Technician
Adrian Salmon	Industrial Hygiene Technician

Appendix B

Waste Drum Count By Site

Mercury Clean-up Waste Drum Count by Site

Long Island Rail Road

Site Name:	No. of Waste Drums Solids:	No. of Waste Drums Water:
Little Neck	10	17
Bayside	4	0
Bellaire	7	0
Lindenhurst	9	0
Rockville Center	18	3
Nassau Blvd.	3	0
Babylon Yard	11	0
Floral Park	3	0
Hempstead	2	0
Port Washington	4	0
Massapequa	2	0
Meadow Brook (Emergency Clean-up)	Waste Bags from this small clean-up were placed in waste drums at Manhasset Substation	0
Island Park	2	1
Shea	7	0
Manhasset	5	0
Inwood (Far Rockaway)	2	0

Appendix C

Waste Characterization
Laboratory Analysis Results

Galson Laboratories

Client: Galson Corporation-Hawthorne
10 Skyline Drive
Hawthorne, NY 10532

Account # : 12262
Laboratory No. : L41748
Report Date : 03/09/98

Attn : Mr. Rye Van Deusen

SAMPLE INFORMATION

Sample Date : 03/04/98
Site : LIRR/Little Neck Substation

Date Received : 03/05/98
Matrix : Water

CLIENT ID	LAB#	Mercury SW846 7470A mg/l
LN-DRUM-1	1	2.2
LN-DRUM-2	2	0.11
LN-DRUM-3	3	1.7
LN-DRUM-4	4	0.013
LN-DRUM-5	5	0.16
LN-DRUM-6	6	0.54
LN-DRUM-7	7	0.83
LN-DRUM-8	8	0.011
LN-DRUM-9	9	1.3
LN-DRUM-10	10	0.0078
LN-DRUM-11	11	3.4
LN-DRUM-12	12	5.0
LN-DRUM-13	13	6.6
LN-DRUM-14	14	1.2
LN-DRUM-15	15	12
LN-DRUM-16	16	1.4
LN-DRUM-17	17	9.2
Method Blank	1	< 0.0002

Approved by : Karen S. Becker Date : 03/09/98
QC by : Date : 3/10/98
NYS DOH # : 11626
Footnotes :

Galson Laboratories

6601 Kirkville Road East
E. Syracuse, New York 13057
315-432-0506 or 800-950-0506

Company Name: Galson Corp.

Project Name / Number: LIRR Hg Cleanup / 95H3666.046 EXPS/EST

Turn-Around Time
- [x] - Standard Service 5 DAYS
- [ ] - * Rush Service

Date requested by: _____

Ph # ( ) - _____

Fax # 914) - 347 2195 Julie H.

Page 1 of 2

Send Report to: Rye Van Deusen

Send Invoice to: _____

P.O. # _____

Chain of Custody Record

SAMPLE ID	Date	Time	TYPE Comp.	TYPE Grab	Aqueous	Oil	Other	Laboratory ID Number	PARAMETERS FOR ANALYSIS: Total Mercury (Hg)
LN-DRUM-1	3-4-98	9:00		X	X			Galson Corporation-Hawthorne L41748-1	X
LN-DRUM-2									X
LN-DRUM-3								Galson Corporation-Hawthorne L41748-3	X
LN-DRUM-4									X
LN-DRUM-5								Galson Corporation-Hawthorne L41748-5	X
LN-DRUM-6								Galson Corporation-Hawthorne L41748-6	X
LN-DRUM-7									X
LN-DRUM-8									X
LN-DRUM-9								Galson Corporation-Hawthorne L41748-9	X
LN-DRUM-10								Galson Corporation-Hawthorne L41748-10	X
LN-DRUM-11								Galson Corporation-Hawthorne L41748-11	X
LN-DRUM-12									X

03/05/98 Water LN-DRUM-12

Total Containers -

REMARKS:

* Collected at L.I.R.R. - Little Neck Substation

SAMPLER'S NAME: H.R. Van Deusen SIGNATURE: _____

SAMPLES RELINQUISHED BY:		SAMPLES RECEIVED BY:	
NAME: Hobart R. Van Deusen	DATE: 3-4-98	NAME:	DATE:
SIGNATURE: _____	TIME: 7pm	SIGNATURE:	TIME:
NAME:	DATE:	NAME:	DATE:
SIGNATURE:	TIME:	SIGNATURE:	TIME:
NAME:	DATE:	Received For Laboratory By:	DATE: 3-5-98
SIGNATURE:	TIME:	(Signature) _____	TIME: 1015

Custody Seal Intact? Sample ☐ Yes ☐ No ☒ N.A.
Shipment Complete? ☒ Yes ☐ No

Temp _____ °C TS TB TM

Airbill # Air borne

Galson Laboratories

6601 Kirkville Road East
E. Syracuse, New York 13057
315-432-0506 or 800-950-0506

Company Name: Galson Corp.

Project Name / Number: LIRR Hg clean-up / 95H 3666-046 EXPS/EST

Turn Around Time
- [x] Standard Service (5 DAYS)
- [ ] * Rush Service

Date requested by:
Ph # ( ) - -
Fax # (914) -347-2195

Page 2 of 2

Send Report to: Rye VD.

Send Invoice to: Julie U.

P.O. #

Chain of Custody Record

SAMPLE ID	Date	Time	TYPE Comp.	TYPE Grab	Aqueous	Soil	Other	Laboratory ID Number	PARAMETERS FOR ANALYSIS: Total Mercury (Hg)									
LN-DRUM-13	3-4-98	9AM		X	X			Galson Corporation Hawthorne L41[illegible] 13	X									
LN-DRUM-14	↓	↓		↓	↓			Galson Corporation Hawthorne L41[illegible] 14	X									
LN-DRUM-15	↓	↓		↓	↓			Galson Corporation Hawthorne L41[illegible] 15	X									
LN-DRUM-16	↓	↓		↓	↓			Galson Corporation Hawthorne L41[illegible] 16	X									
LN-DRUM-17	↓	↓		↓	↓			Galson Corporation Hawthorne L41[illegible] 17 [illegible] Water [illegible] 17	X									

Total Containers -

REMARKS:

See pg. 1

SAMPLER'S NAME: H.R. Van Deusen **SIGNATURE:** [signature]

SAMPLES RELINQUISHED BY:		SAMPLES RECEIVED BY:	
NAME: HR Van Deusen SIGNATURE: [signature]	DATE: 3-4-98 TIME: 7pm	NAME: SIGNATURE:	DATE: TIME:
NAME: SIGNATURE:	DATE: TIME:	NAME: SIGNATURE:	DATE: TIME:
NAME: SIGNATURE:	DATE: TIME:	Received For Laboratory By: *(Signature)* [signature]	DATE: 3-5-98 TIME: 1017

Custody Seal Intact? Sample: ☐ Yes ☐ No ☒ N.A.
Shipment Complete? ☒ Yes ☐ No

Temp ______ °C TS TB TM

Airbill # Airborne

Galson Laboratories

Client: Galson Corporation-Hawthorne
10 Skyline Drive
Hawthorne, NY 10532

Account # : 12262
Laboratory No. : L41750
Report Date : 03/09/98

Attn : Mr. Rye Van Deusen

SAMPLE INFORMATION

Sample Date : 03/04/98
Site : LIRR/Rockville Center SS

Date Received : 03/05/98
Matrix : Water

CLIENT ID	LAB#	Mercury SW846 7470A mg/l
RVC-DRUM-1	1	0.80
RVC-DRUM-2	2	4.2
RVC-DRUM-3	3	8.4
Method Blank	1	< 0.0002

Approved by : Karen S. Becker Date : 03/09/98
QC by : EBJ Date : 3/10/98 NYS DOH # : 11626
Footnotes :

Galson Laboratories

6601 Kirkville Road East
E. Syracuse, New York 13057
315-432-0506 or 800-950-0506

Company Name: Galson Corp.

Project Name / Number: LIRR. Hg Clean-up / 9513666.046 / Exps / EST

Turn-Around Time
☑ - Standard Service 5 DAYS
☐ - * Rush Service
Date requested by: _____
Ph # ( ) - -
Fax # (914) -347 - 2195

Page 1 of 1

Send Report to: Rye Van Deusen

Send Invoice to: Julie U.

P.O. #

Chain of Custody Record

SAMPLE ID	Date	Time	TYPE Comp.	Grab	Aqueous	Soil	Other	Laboratory ID Number	PARAMETERS FOR ANALYSIS: Total Mercury (Hg)
RVC - DRUM - 1	3-4-98	4:00pm		X	X			Galson Corporation-Hawthorne L11750-1	X
RVC - DRUM - 2	3-4-98			X	X			Galson Corporation-Hawthorne L11750-2	X
RVC - DRUM - 3	3-4-98			X	X			Galson Corporation-Hawthorne L11750-3	X
								PUC-DRUM-2	

REMARKS: * Collected at LIRR - Rockville Center Substation

Total Containers -

SAMPLER'S NAME: H.R. Van Deusen SIGNATURE:

SAMPLES RELINQUISHED BY:		SAMPLES RECEIVED BY:	
NAME: H.R. Van Deusen	DATE: 3-4-98	NAME:	DATE:
SIGNATURE:	TIME: 7PM	SIGNATURE:	TIME:
NAME:	DATE:	NAME:	DATE:
SIGNATURE:	TIME:	SIGNATURE:	TIME:
NAME:	DATE:	Received For Laboratory By:	DATE: 3-5-98
SIGNATURE:	TIME:	(Signature)	TIME: 1015

Custody Seal Intact? Sample ☐ Yes ☐ No ☒ N.A.
Shipment Complete? ☒ Yes ☐ No

Temp _____ °C TS TB TM

Airbill # AIRBORNE

Appendix D

Waste Shipment Manifests

48-14-1 (3/89)—7f

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS SUBSTANCES REGULATION

HAZARDOUS WASTE MANIFEST

P.O. Box 12820, Albany, New York 12212

Please print or type. Do not Staple.

Form Approved. OMB No. 2050-0039, Expires 9-30-94

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA No. NYD986993800 Manifest Document No. 85856
2. Page 1 of 1
Information in the shaded areas is not required by Federal Law.

3. Generator's Name and Mailing Address: Long Island Railroad, Cutter Mill Road, Great Neck, NY 11020 (Little Neck)
4. Generator's Phone (718) 558-7356

A. State Manifest Document No. NYB 6868367
B. State Generator's ID

5. Transporter 1 (Company Name): Trade-Winds Environmental
6. US EPA ID Number: NYD000836385
C. State Transporter's ID
D. Transporter's Phone 516 755-4000

7. Transporter 2 (Company Name)
8. US EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address: Radiac Research Corporation, 261 East Avenue, Brooklyn, NY 11211
10. US EPA ID Number: NYD049178296
G. State Facility's ID: 33 S. First St. Brooklyn
H. Facility's Phone: 718 963-2233

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ Waste environmentally hazardous liquid N.O.S. (Lead) (mercury) (D009) 9 UN3082 PGIII ERG#171	010 / 17	DM	00550 / 935 / 730	G	EPA D009 STATE
b. RQ Waste environmentally hazardous solid N.O.S. (Lead) (mercury) (D009) 9 UN3077 PGIII ERG#171	015 / 01	DM	07500 / 1000 / 550	P	EPA D009 STATE
c.					EPA STATE
d.					EPA STATE

J. Additional Descriptions for Materials listed Above: a. b. c. d.

K. Handling Codes for Wastes Listed Above: a. b. c. d.

15. Special Handling Instructions and Additional Information

Emergency contact: Trade-Winds 516 755-4000
a. E114 M121 b. E302 M121

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations.

If I am a large quantity generator, I certify that I have program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR If I am a small generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name | Signature | Mo. Day Year 0 1 97

17. Transporter 1 (Acknowledgement of Receipt of Materials)
Printed/Typed Name | Signature | Mo. Day Year 10

18. Transporter 2 (Acknowledgement or Receipt of Materials)
Printed/Typed Name | Signature | Mo. Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name | Signature | Mo. Day Year

EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.

COPY 7—Transportation copy—retained by transporter

48-14-1 (3/89)—7f

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS SUBSTANCES REGULATION

HAZARDOUS WASTE MANIFEST

P.O. Box 12820, Albany, New York 12212

Please print or type. Do not Staple.

Form Approved. OMB No. 2050-0039. Expires 9-30-94

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA No.: NYD980593838
Manifest Document No.: 58901
2. Page 1 of 1

Information in the shaded areas is not required by Federal Law.

3. Generator's Name and Mailing Address: Long Island Railroad, 216th Ave. off 40th St., Bayside, NY
4. Generator's Phone (718) 553-7356
A. State Manifest Document No.: NYB 6858801
B. Generator's ID
5. Transporter 1 (Company Name): Trade-Winds Environmental
6. US EPA ID Number: NYD000936555
C. State Transporter's ID
D. Transporter's Phone: 516-755-4000
7. Transporter 2 (Company Name)
8. US EPA ID Number
E. State Transporter's ID
F. Transporter's Phone
9. Designated Facility Name and Site Address: Radiac Research Corporation, 261 Kent Avenue, Brooklyn, NY 11211
10. US EPA ID Number: NYD049178296
G. State Facility's ID: 33 S. First St. Brooklyn
H. Facility's Phone: (718) 963-2233

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ Waste environmentally hazardous solid N.O.S. (Lead) (D008) 9 UN3077 PGIII ERG#171	004	DM	02000	P	EPA D008 STATE
b.					EPA STATE
c.					EPA STATE
d.					EPA STATE

J. Additional Descriptions for Materials listed Above
a. c.
b. d.

K. Handling Codes for Wastes Listed Above
a. T c.
b. d.

15. Special Handling Instructions and Additional Information

Emergency contact Trade-Winds 516 755-4000
a. E302 PG21

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations.

If I am a large quantity generator, I certify that I have program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Mo.	Day	Year
		10	14	98

17. Transporter 1 (Acknowledgement of Receipt of Materials)

Printed/Typed Name	Signature	Mo.	Day	Year
		10	14	98

18. Transporter 2 (Acknowledgement of Receipt of Materials)

Printed/Typed Name	Signature	Mo.	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Mo.	Day	Year
		[illegible]	[illegible]	[illegible]

EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.

COPY 7—Transportation copy—retained by transporter

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS SUBSTANCES REGULATION

HAZARDOUS WASTE MANIFEST

P.O. Box 12820, Albany, New York 12212

Please print or type. Do not Staple.

Form Approved. OMB No. 2050-0039. Expires 9-30-94

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA No. NYD986993830 Manifest Document No. 58819
2. Page 1 of 1

Information in the shaded areas is not required by Federal Law.

3. Generator's Name and Mailing Address: Long Island Railroad, 98th St. and 218th St., Bellaire, NY
4. Generator's Phone (718) 558-7356

A. State Manifest Document No. NY B 685881 9
B. Generator's ID

5. Transporter 1 (Company Name): Trade-Winds Environmental
6. US EPA ID Number: NYO000936385

C. State Transporter's ID 68467AF
D. Transporter's Phone (516) 755-4000

7. Transporter 2 (Company Name):
8. US EPA ID Number:

E. State Transporter's ID
F. Transporter's Phone ( )

9. Designated Facility Name and Site Address: Radiac Research Corporation, 261 Kent Avenue, Brooklyn, NY 11211
10. US EPA ID Number: NYD049178296

G. State Facility's ID 33 S. First St. Brooklyn
H. Facility's Phone (718)963-2233

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ Waste environmentally hazardous solid N.O.S. (~~Lead~~) (Mercury) 9 UN3077 PGIII ERG#171	008	DM	04000	P	EPA D009 / STATE
b.					EPA / STATE
c.					EPA / STATE
d.					EPA / STATE

J. Additional Descriptions for Materials listed Above: a c b d

K. Handling Codes for Wastes Listed Above: a T c b d

15. Special Handling Instructions and Additional Information

~~B14~~ 302 R M121 Emergency contact: Trade-Winds 516 755-4000

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations.

If I am a large quantity generator, I certify that I have program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR If I am a small generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: X CHARLES F MORICI AGENT 4 — Signature: X Charles F. Morici — Mo. Day Year 05/15/98

17. Transporter 1 (Acknowledgement of Receipt of Materials)
Printed/Typed Name: Bob White — Signature: Bob White — Mo. Day Year 05/15/98

18. Transporter 2 (Acknowledgement or Receipt of Materials)
Printed/Typed Name — Signature — Mo. Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: [illegible signature] — Signature: [illegible signature] — Mo. Day Year 05/15/98

GENERATOR / TRANSPORTER / FACILITY

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the N.Y. Dept. of Environmental Conservation (518) 457-7362

NY B 685881 9

EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.

COPY 1—Disposer State—Mailed by TSD Facility

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS SUBSTANCES REGULATION

HAZARDOUS WASTE MANIFEST

P.O. Box 12820, Albany, New York 12212

Please print or type. Do not Staple.

Form Approved. OMB No. 2050-0039. Expires 9-30-94

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's US EPA No.	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal Law.
	NYD986993830	58792		

3. Generator's Name and Mailing Address: Long Island Railroad Hoffman Ave. off Wellwood Lindenhurst, NY 11757	A. State Manifest Document No. NY B 685879 2
4. Generator's Phone (718) 558-7356	B. Generator's ID
5. Transporter 1 (Company Name): Trade-Winds Environmental	6. US EPA ID Number: NYO0009 36385 / C. State Transporter's ID
	D. Transporter's Phone 516 755-4000
7. Transporter 2 (Company Name)	8. US EPA ID Number / E. State Transporter's ID
	F. Transporter's Phone ( )
9. Designated Facility Name and Site Address: Radiac Research Corporation 261 Kent Avenue Brooklyn, NY 11211	10. US EPA ID Number: NYD049178296 / G. State Facility's ID: 33 S. First St. Brooklyn
	H. Facility's Phone (718) 963-2233

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ Waste environmentally hazardous solid N.O.S. (~~Lead~~) (Mercury) (D009) 9 UN3077 PGIII ERG#171	BW 009	DM	05500	P	EPA D009 STATE
b.					EPA STATE
c.					EPA STATE
d.					EPA STATE

J. Additional Descriptions for Materials Listed Above

a. c.

b. d.

K. Handling Codes for Wastes Listed Above

a. T c.

b. d.

L. Special Handling Instructions and Additional Information

Emergency contact: Trade-Winds 516 755-4000
a. B302 M121

M. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Mo.	Day	Yr.
T. PHILLIPS (Agent for J. CAPUTO)	T. Phillips (Agent for J. Caputo)	05	18	98

N. Transporter 1 (Acknowledgement of Receipt of Materials)

Printed/Typed Name	Signature	Mo.	Day	Yr.
BOB White	Bob White	05	18	98

O. Transporter 2 (Acknowledgement of Receipt of Materials)

Printed/Typed Name	Signature	Mo.	Day	Year

P. Discrepancy Indication Space

Q. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item P.

Printed/Typed Name	Signature	Mo.	Day	Year
Louis Camacho		05	18	98

EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.

COPY 1—Disposer State—Mailed by TSD Facility

In case of emergency, notify the New York State Department of Environmental Conservation (518) 457-7362, (800) 424-8802 and the N.Y. Dept. of Environmental Conservation (518) 457-7362.

46-14-1 (3/89)—71

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS SUBSTANCES REGULATION

HAZARDOUS WASTE MANIFEST

Please print or type. Do not Staple.

P.O. Box 12820, Albany, New York 12212

Form Approved. OMB No. 2050-0039. Expires 9-30-94

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA No.: NYD986993830 | Manifest Document No.: 68576

2. Page 1 of 1 | Information in the shaded areas is not required by Federal Law.

3. Generator's Name and Mailing Address: Long Island Railroad
Maple Avenue off Long Beach Rd
Rockville Center, NY 11570

A. State Manifest Document No.: NY B 685857 6

B. Generator's ID

4. Generator's Phone: 718 558-7356

5. Transporter 1 (Company Name): Trade-Winds Environmental

6. US EPA ID Number: NYD000936385

C. State Transporter's ID: 6746TAF

D. Transporter's Phone: 516 755-4000

7. Transporter 2 (Company Name)

8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone ( )

9. Designated Facility Name and Site Address: Radiac Research Corporation
261 Kent Avenue
Brooklyn, NY 11211

10. US EPA ID Number: NYD049178296

G. State Facility's ID: 33 S. First St. Brooklyn

H. Facility's Phone: (718) 963-2233

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ Waste environmentally hazardous liquid N.O.S. (~~Lead~~) (Mercury) (D009) 9 UN3082 PGIII ERG#171	003	DM	00150	G	EPA D009 STATE
b. RQ Waste environmentally hazardous solid N.O.S. (~~Lead~~) (Mercury) (D009) 9 UN3077 PGIII ERG#171	018	DM	08500	P	EPA D009 STATE
c.					EPA STATE
d.					EPA STATE

J. Additional Descriptions for Materials Listed Above

K. Handling Codes for Wastes Listed Above: a. T c. d. J

15. Special Handling Instructions and Additional Information: a. B114 M121
b. B302 M121

Emergency contact: Trade-Winds 516 755-4000

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations.

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Printed/Typed Name	Signature	Mo.	Day	Year
X PHILIP J. CAPUTO (Agent FSW)	X Philip J. Caputo	05	18	98

17. Transporter 1 (Acknowledgement of Receipt of Materials)

Printed/Typed Name	Signature	Mo.	Day	Year
Bob White	Bob White	05	18	98

18. Transporter 2 (Acknowledgement of Receipt of Materials)

Printed/Typed Name	Signature	Mo.	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Mo.	Day	Year
Louis Camacho		05	18	98

EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.

COPY 1—Disposal State—Mailed by TSD Facility

(See Reverse Side for Instructions)

'69)—7f

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS SUBSTANCES REGULATION

HAZARDOUS WASTE MANIFEST

nt or type. Do not Staple. P.O. Box 12820, Albany, New York 12212 Form Approved. OMB No. 2050-0039. Expires 9-30-94

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's US EPA No. NYD986993830 Manifest Document No. 58765	2. Page 1 of 1	Information in the shaded areas is not required by Federal Law.

Generator's Name and Mailing Address: Long Island Railroad, Nassau Blvd., Garden City, NY 11530

Generator's Phone (718)558-7356

A. State Manifest Document No. NY B 685876 5

B. Generator's ID

Transporter 1 (Company Name): Trade-Winds Environmental — 6. US EPA ID Number: NYO000936385

C. State Transporter's ID 684674F

D. Transporter's Phone 516 755-4000

Transporter 2 (Company Name) — 8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone ( )

Designated Facility Name and Site Address: Radiac Research Corporation, 261 Kent Avenue, Brooklyn, NY 11211 — 10. US EPA ID Number: NYD049178296

G. State Facility's ID 33 S. First St. Brooklyn

H. Facility's Phone (718) 963-2233

US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
RQ Waste environmentally hazardoussolid N.O.S. (~~Lead~~ (Mercury) ~~&~~ (D009) 9 UN3077 PGIII ERG#171	BW 003	DM	BW 00600	P	EPA D009 / STATE
					EPA / STATE
					EPA / STATE
					EPA / STATE

Additional Descriptions for Materials listed Above: a / c / b / d

K. Handling Codes for Wastes Listed Above: a T / c / b / d

Special Handling Instructions and Additional Information

a. B302 M121

. Emergency contact: Trade-Winds 516 755-4000

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Printed/Typed Name: AGENT 4 CHARLES F MORICI — Signature: Charles F Morici — Mo. Day Year 05 15 98

Transporter 1 (Acknowledgement of Receipt of Materials)

Printed/Typed Name: BOB White — Signature: Bob White — Mo. Day Year 05 15 98

Transporter 2 (Acknowledgement or Receipt of Materials)

Printed/Typed Name — Signature — Mo. Day Year

Discrepancy Indication Space

Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: JOHN V TEKIN Jr — Signature: [signature] — Mo. Day Year 05 15 98

8700-22 (Rev. 9-88) Previous editions are obsolete.

COPY 1—Disposer State—Mailed by TSD Facility

48-14-1 (3/89)—7f

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS SUBSTANCES REGULATION

HAZARDOUS WASTE MANIFEST

P.O. Box 12820, Albany, New York 12212

Please print or type. Do not Staple.

Form Approved. OMB No. 2050-0039. Expires 9-30-94

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the N.Y. Dept. of Environmental Conservation (518) 457-7362.

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA No. NYD986993830 — Manifest Document No. 58774
2. Page 1 of 1
Information in the shaded areas is not required by Federal Law.

3. Generator's Name and Mailing Address: Long Island Railroad, Plainfield Avenue, Floral Park, NY 11001
4. Generator's Phone (718) 558-7356

A. State Manifest Document No. NY B 685877 4
B. Generator's ID

5. Transporter 1 (Company Name): Trade-Winds Environmental
6. US EPA ID Number: NYO000936385
C. State Transporter's ID 6847AF
D. Transporter's Phone (516) 755-4000

7. Transporter 2 (Company Name):
8. US EPA ID Number:
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address: Radiac Research Corporation, 261 Kent Avenue, Brooklyn, NY 11211
10. US EPA ID Number: NYD049178296
G. State Facility's ID: 33 S. First St. Brooklyn
H. Facility's Phone: 718 963-2233

GENERATOR

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ Waste environmentally hazardous solid N.O.S. (~~Lead~~) (Mercury) (D009) 9 UN3077 PGIII ERG#171	003	DM	01500	P	EPA D009 / STATE
b.					EPA / STATE
c.					EPA / STATE
d.					EPA / STATE

J. Additional Descriptions for Materials Listed Above: a / b / c / d

K. Handling Codes for Wastes Listed Above: a T / b / c / d

15. Special Handling Instructions and Additional Information

Emergency contact: Trade-Winds 516 755-4000
a. B302 M121

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations.

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Printed/Typed Name: CHARLES F MORICI (AGENT 4) — Signature: [signature] — Mo. Day Year 05 15 98

TRANSPORTER

17. Transporter 1 (Acknowledgement of Receipt of Materials)
Printed/Typed Name: BOB White — Signature: [signature] — Mo. Day Year 05 15 98

18. Transporter 2 (Acknowledgement or Receipt of Materials)
Printed/Typed Name: ~~CHARLES F. MORICI~~ — Signature: [signature] — Mo. Day Year 05 16 98

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name — Signature — Mo. Day Year 05 15 98

EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.

COPY 1—Disposer State—Mailed by TSD Facility

40-14-1 (3/89)—11

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS SUBSTANCES REGULATION

HAZARDOUS WASTE MANIFEST

P.O. Box 12820, Albany, New York 12212

Please print or type. Do not Staple.

Form Approved. OMB No. 2050-0039. Expires 9-30-94

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA No.: NYD986993830 — Manifest Document No.: 58855
2. Page 1 of 1

Information in the shaded areas is not required by Federal Law.

A. State Manifest Document No.: NYB 685885 5

3. Generator's Name and Mailing Address: Long Island Railroad, Franklin Street, Hempstead, NY
4. Generator's Phone: 718 558-7356

B. Generator's ID

5. Transporter 1 (Company Name): Trade-Winds Environmental
6. US EPA ID Number: NYD000936385

C. State Transporter's ID: 6846TAF
D. Transporter's Phone: 516 755-4000

7. Transporter 2 (Company Name):
8. US EPA ID Number:

E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address: Radiac Research Corporation, 261 Kent Avenue, Brooklyn, NY 11211
10. US EPA ID Number: NYD049178296

G. State Facility's ID: 33 S. First St. Brooklyn
H. Facility's Phone: (718) 963-2233

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ Waste environmentally hazardous solid N.O.S. (Mercury) (D009) 9 UN3077 PGIII ERG #171	002	DM	00200	P	EPA D009 / STATE
b.					EPA / STATE
c.					EPA / STATE
d.					EPA / STATE

J. Additional Descriptions for Materials Listed Above: a. b. c. d.

K. Handling Codes for Wastes Listed Above: a. T b. c. d.

15. Special Handling Instructions and Additional Information

Emergency contact: Trade-Winds 516 755-4000
a. B302 M121

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Printed/Typed Name: AGENT 4 CHARLES F. MORICI — Signature: [signature] — Mo. Day Year: 05 15 98

17. Transporter 1 (Acknowledgement of Receipt of Materials)

Printed/Typed Name: BOB WHITE — Signature: [signature] — Mo. Day Year: 05 15 98

18. Transporter 2 (Acknowledgement or Receipt of Materials)

Printed/Typed Name — Signature — Mo. Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: [handwritten name] — Signature: [signature] — Mo. Day Year: 05 15 98

EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the N.Y. Dept. of Environmental Conservation (518) 457-7362

NYB 685885

COPY 1—Disposer State—Mailed by TSD Facility

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS SUBSTANCES REGULATION

HAZARDOUS WASTE MANIFEST

P.O. Box 12820, Albany, New York 12212

type. Do not Staple.

Form Approved. OMB No. 2050-0039. Expires 9-30-94

IFORM HAZARDOUS WASTE MANIFEST	1. Generator's US EPA No. NYD986993830 / Manifest Document No. 5 8 8 4 6	2. Page 1 of 1 / Information in the shaded areas is not required by Federal Law.
ator's Name and Mailing Address Long Island Railroad Port Washington, NY		A. State Manifest Document No. NY B 685884 6
rator's Phone (718) 558-7356		B. Generator's ID
porter 1 (Company Name) ade-Winds Environmental	6. US EPA ID Number NYD000093638 5	C. State Transporter's ID / D. Transporter's Phone 516) 755-4000
porter 2 (Company Name)	8. US EPA ID Number	E. State Transpo ter's ID / F. Transporter's Phone ( )
nated Facility Name and Site Address diac Research Corporation 1 Kent Avenue ooklyn, NY 11211	10. US EPA ID Number NYD049178296	G. State Facility's ID 33 S. First St. Brooklyn / H. Facility's Phone (718) 963-2233

DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
Waste environmentally hazardous solid N.O.S. ercury) (D009) UN3077 PGIII ERG# 171	004	D M	02050	P	EPA D009 STATE
					EPA STATE
					EPA STATE
					EPA STATE

ional Descriptions for Materials Listed Above	K. Handling Codes for Wastes Listed Above
a.	b. T / c.
e.	d.
g.	f.
i.	h.

cial Handling Instructions and Additional Information

ergency contact: Trade-Winds 516 755-4000
B302 N121

NERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are ified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government rations and state laws and regulations.

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Typed Name JEGNER AS AGENT	Signature	Mo. Day Year
nsporter 1 (Acknowledgement of Receipt of Materials)		
Typed Name Matthews S. Copeland	Signature	Mo. 05 Day 14 Year 98
nsporter 2 (Acknowledgement of Receipt of Materials)		
Typed Name	Signature	Mo. Day Year

crepancy Indication Space

cility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Typed Name	Signature	Mo. 05 Day 14 Year 98

00-52 (Rev. 9-88) Previous editions are obsolete.

COPY 1—Disposer State—Mailed by TSD Facility

NY B 685884 6

48-14-1 (3/89)—7f

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS SUBSTANCES REGULATION

HAZARDOUS WASTE MANIFEST

P.O. Box 12820, Albany, New York 12212

Please print or type. Do not Staple.

Form Approved OMB No. 2050-0039. Expires 9-30-94

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA No.: NYD986993830 — Manifest Document No.: 58864
2. Page 1 of 1

Information in the shaded areas is not required by Federal Law.

A. State Manifest Document No.: NYB 685886 4

3. Generator's Name and Mailing Address: Long Island Railroad, Long Beach Road, Island Park, NY
4. Generator's Phone (718) 558-7356

B. Generator's ID:

5. Transporter 1 (Company Name): Trade-Winds Environmental
6. US EPA ID Number: NYD000986385

C. State Transporter's ID: 6746TAE
D. Transporter's Phone: 516 755-4000

7. Transporter 2 (Company Name):
8. US EPA ID Number:

E. State Transporter's ID:
F. Transporter's Phone ( )

9. Designated Facility Name and Site Address: Radiac Research Corporation, 261 Kent Avenue, Brooklyn, NY 11211
10. US EPA ID Number: NYD049178296

G. State Facility's ID: 33 S. First St. Brooklyn
H. Facility's Phone: (718) 963-2233

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ Waste environmentally hazardous solid N.O.S. (Mercury) (D009) 9 UN3077 PGIII ERG #171	003	DM	00500	P	EPA D009 / STATE
b.					EPA / STATE
c.					EPA / STATE
d.					EPA / STATE

J. Additional Descriptions for Materials Listed Above: a. b. c. d.

K. Handling Codes for Wastes Listed Above: a. T b. c. d.

15. Special Handling Instructions and Additional Information
Emergency contact: Trade-Winds 516 755-4000
a. B302 M121

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Printed/Typed Name: (Agent For) PHILIP J. CAPUTO — Signature: Philip J. Caputo — Mo. Day Year: 05 18 98

17. Transporter 1 (Acknowledgement of Receipt of Materials)
Printed/Typed Name: BOB White — Signature: [signature] — Mo. Day Year: 05 18 98

18. Transporter 2 (Acknowledgement of Receipt of Materials)
Printed/Typed Name: — Signature: — Mo. Day Year:

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Louis Camacho — Signature: [signature] — Mo. Day Year: 05 18 98

EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802 and the N.Y. Dept. of Environmental Conservation (518) 457-7362.

COPY 1—Disposer State—Mailed by TSD Facility

48-14-1 (3/89)—7f

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS SUBSTANCES REGULATION

HAZARDOUS WASTE MANIFEST

P.O. Box 12820, Albany, New York 12212

Please print or type. Do not Staple.

Form Approved. OMB No. 2050-0039, Expires 9-30-94

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA No.	Manifest Document No.	2. Page 1 of	Information in the shaded areas is not required by Federal Law.
[illegible]	[illegible]	1	

3. Generator's Name and Mailing Address
Long Island Railroad
Flushing Harbor Yard
Flushing, NY

4. Generator's Phone (718) 558-7556

A. State Manifest Document Number	
B. Generator's ID	
C. State Generator's ID	

5. Transporter 1 (Company Name) — Trade-Winds Environmental — 6. US EPA ID Number — D. Transporter's Phone 516 [illegible]-4000

7. Transporter 2 (Company Name) — 8. US EPA ID Number — E. State Transporter's ID — F. Transporter's Phone

9. Designated Facility Name and Site Address
Envirosafe Corporation
261 East Avenue
Brooklyn, NY 11211

10. US EPA ID Number [illegible]

G. State Facility's ID
H. Facility's Phone 718 963-2233

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	Unit Wt/Vol	14. Waste No.
a. RQ Waste environmentally hazardous solid N.O.S. (mercury) (D009) 9 000377 NYRR 172-171	001	DM	03500	P	EPA D009 STATE
b.					EPA STATE
c.					EPA STATE
d.					EPA STATE

J. Additional Descriptions for Materials listed Above
a. [illegible] b. [illegible] c. [illegible] d. [illegible]

K. Handling Codes for Wastes Listed Above
a. [illegible] b. [illegible] c. [illegible] d. [illegible]

15. Special Handling Instructions and Additional Information
Emergency contact: Trade Winds 516 755-4000
a. D302 F121

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Printed/Typed Name	Signature	Mo.	Day	Year
	[signature]			

TRANSPORTER

17. Transporter 1 (Acknowledgement of Receipt of Materials)

Printed/Typed Name	Signature	Mo.	Day	Year
[illegible]	[signature]			

18. Transporter 2 (Acknowledgement or Receipt of Materials)

Printed/Typed Name	Signature	Mo.	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Mo.	Day	Year
[illegible]	[signature]	05	11	95

EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.

COPY 7—Transportation copy—retained by transporter

48-14-1 (3/89)—7f

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS SUBSTANCES REGULATION

HAZARDOUS WASTE MANIFEST

P.O. Box 12820, Albany, New York 12212

Please print or type. Do not Staple.

Form Approved. OMB No. 2050-0039. Expires 9-30-94

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA No. NYD986993880 — Manifest Document No.

2. Page 1 of — Information in the shaded areas is not required by Federal Law.

3. Generator's Name and Mailing Address: Long Island Railroad, Vet & NA Blvd, Manhasset NY

4. Generator's Phone ( ): 718 558-7356

A. State Manifest Document No. NY B 685802 7

B. Generator's ID

5. Transporter 1 (Company Name): Trade Winds Environmental

6. US EPA ID Number: NY0000936385

C. State Transporter's ID 68467AF

D. Transporter's Phone (516) 755-4000

7. Transporter 2 (Company Name)

8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone ( )

9. Designated Facility Name and Site Address: Radiac Research Corporation, 261 Kent Ave Brooklyn NY 11211

10. US EPA ID Number: NYD049178296

G. State Facility's ID 333 First St Brooklyn

H. Facility's Phone: 718 963-2233

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ Waste Environmentally Hazardous Solid NOS (Mercury) D009 UN3077 PG III ERG 171	001	M	000250		EPA D009 STATE
b.					EPA STATE
c.					EPA STATE
d.					EPA STATE

J. Additional Descriptions for Materials listed Above

a | c | b | d

K. Handling Codes for Wastes Listed Above

a: T | c | b | d

15. Special Handling Instructions and Additional Information

Emergency Contact: Trade Winds (516) 755-4000

a. B302 M121

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations.

If I am a large quantity generator, I certify that I have program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Mo.	Day	Year
CHARLES F MORICI AGENT 4	Charles F Morici	05	15	98

TRANSPORTER

17. Transporter 1 (Acknowledgement of Receipt of Materials)

Printed/Typed Name	Signature	Mo.	Day	Year
Bob White	Bob White	05	15	98

18. Transporter 2 (Acknowledgement or Receipt of Materials)

Printed/Typed Name	Signature	Mo.	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Mo.	Day	Year
John Nelson Jr	John Nelson	05	15	98

EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.

COPY 1—Disposer State—Mailed by TSD Facility

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the N.Y. Dept. of Environmental Conservation (518) 457-7362.

NI 0000021

48-14-1 (3/89)—7i

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS SUBSTANCES REGULATION

HAZARDOUS WASTE MANIFEST

P.O. Box 12820, Albany, New York 12212

Please print or type. Do not Staple.

Form Approved. OMB No. 2050-0039. Expires 9-30-94

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA No.: NYD986991383 — Manifest Document No.: 05887 3
2. Page 1 of 1
Information in the shaded areas is not required by Federal Law.

3. Generator's Name and Mailing Address: Long Island Railroad, Redfern Avenue, Inwood, NY
4. Generator's Phone (718) 558-7356

A. State Manifest Document No. NYB 685887 3
B. Generator's ID

5. Transporter 1 (Company Name): Trade-Winds Environmental
6. US EPA ID Number: NYD000936385
C. State Transporter's ID: 78878AE
D. Transporter's Phone 516) 755-4000

7. Transporter 2 (Company Name)
8. US EPA ID Number
E. State Transporter's ID
F. Transporter's Phone ( )

9. Designated Facility Name and Site Address: Radiac Research Corporation, 261 Kent Avenue, Brooklyn, NY 11211
10. US EPA ID Number: NYD049178296
G. State Facility's ID: 33 S. First St. Brooklyn
H. Facility's Phone (718) 963-2233

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ Waste environmentally hazardous solid N.O.S. (Mercury) (D009) 9 UN-3077 PGIII ERG#171	002	DM	00400	P	EPA D009 / STATE
b.					EPA / STATE
c.					EPA / STATE
d.					EPA / STATE

J. Additional Descriptions for Materials listed Above: a. b. c. d.

K. Handling Codes for Wastes Listed Above: a. T b. c. d.

15. Special Handling Instructions and Additional Information
Emergency contact: Trade-Winds 516 755-4000
a. B302 M121

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: (Agent for) CHARLES WHARTON — Signature: Charles Wharton — Mo. Day Year: 05 1998

17. Transporter 1 (Acknowledgement of Receipt of Materials)
Printed/Typed Name: Bob White — Signature: [signature] — Mo. Day Year: 05 1998

18. Transporter 2 (Acknowledgement of Receipt of Materials)
Printed/Typed Name — Signature — Mo. Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Luis Camacho — Signature: [signature] — Mo. Day Year: 05 1998

EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.

COPY 1—Disposer State—Mailed by TSD Facility

GALSON OFFICES:

Albany
518-453-6444

New York Metro Area
800-966-7014

Philadelphia
800-220-7288

Rochester
716-381-2210

Syracuse
800-950-0506

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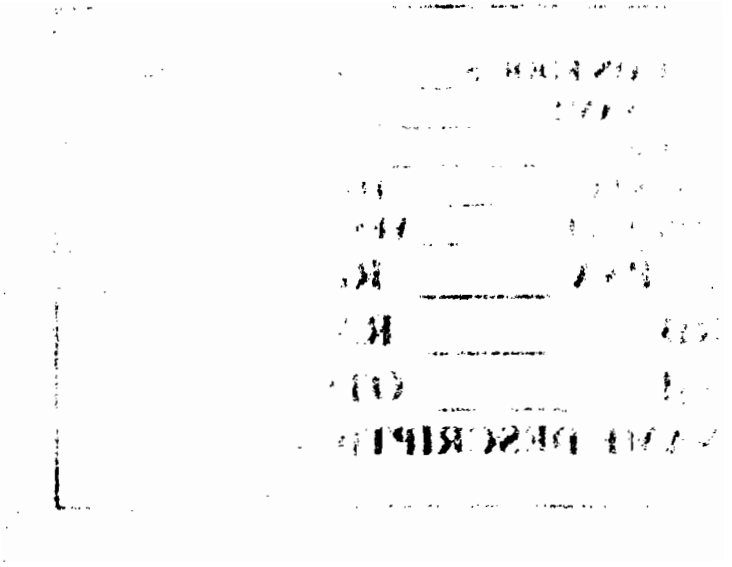

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