

**GAGE HALL**  
**CLOSURE REPORT**

Prepared For:

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## I. INTRODUCTION

### **a. Site location**

The site is located in the Village of New Paltz in the Southeast portion of Ulster County in the State of New York. As indicated on the United States Geological Survey Topographical Maps of the Rosendale and Clintondale quadrangles, the site is approximately 0.5 miles East of the Wallkill River. Situated between Route 208 on the Western property line and Route 32S on the East, the site is located approximately 0.5 miles South of Route 299 (See Site Maps, Appendix A-1). The surrounding properties are primarily residential aside from a church and social order structure along the Southeast property line, across Route 32. The site is located approximately 0.5 miles due South of Main Street New Paltz and the downtown business district. There have been no known flood map studies within the area, yet the Village of New Paltz is encroached by the one hundred year flood plain in several locations along its Western boundary. The Village and the college are supplied with New York City water that comes from the Northern portion of the state. However, there are private drinking water wells beyond the Southern boundary of the Village (in the Town of New Paltz) within a one mile radius of the site.

### **b. Land ownership and current use of property**

The property is currently owned by State University of New York (SUNY). The site is a college campus serving the educational needs of approximately 8500 students. There are approximately 2500 student residents on the campus. Gage Hall is a dormitory which houses approximately 200 students on the Campus. Since its construction in 1962, Gage Hall (See Appendix A-1) has had a PCB transformer in the primary vault. Other hazardous materials utilized in the building are limited to standard cleaning and maintenance materials normally utilized to clean and maintain a college dormitory.

## II. BACKGROUND

### a. Incident description

On Sunday, December 29, 1991, the State University of New York College at New Paltz, was affected by an electrical power imbalance originating off the campus. The event caused damage to electrical transformers inside five campus buildings. [A sixth building, Capen Hall, registered a temperature spike in one of its transformer gages. It could not be proven that the spike was not a result of the power imbalance]. The six transformers, similar to most transformers manufactured before 1977, contained PCB insulating oil. Prior to 1977, insurance companies mandated that all indoor transformers contain PCB fluids because of their fire resistive properties. In 1976, legislation was enacted prohibiting the manufacture of PCBs and placed stringent restrictions on the use of existing PCB transformers.

As a safety precaution, all transformers within buildings on campus were encased in special secured vaults. Accordingly, when the transformers were damaged, PCBs in various quantities were released predominantly within the confines of the transformer vaults. This closure report will deal exclusively with activities conducted at Gage Hall. A chronological synopsis of events associated with Gage Hall is located in Appendix A - 2.

The Gage Hall transformer, manufactured by Westinghouse Serial #63B12780, had an estimated fluid capacity of 125 gallons of PCB oil. During the incident, the transformer overheated causing the pressure relief valve to open. PCBs escaped from the unit both in vapor form, which was released to the outside via the louvered doors, and in liquid form, which pooled on the vault room floor. A smoke plume was observed discharging from the vault area. Some condensation of the vapor is believed to have occurred, resulting in exterior soil contamination. Tracking of the contamination during the emergency response phase of the incident is another possible explanation for the exterior contamination.

**b. Prior site usage**

Prior to purchase by SUNY, the site was occupied by single family residences. No gas stations or other industrial buildings were noted in photographs taken of the site during this period. These residences appear to have been constructed between 1900 and 1930. Prior to this period, the area is believed to have been undeveloped.

**c. Prior incidents on record**

According to a SUNY memo dated December 10, 1992 (See Appendix A - 3), the site had not experienced a major (> 1 lb) PCB spill prior to the December 29th incident. Before 1985 contract service maintenance reports indicate minor leaks which were repaired immediately upon discovery. New Paltz Fire Department officials also indicate that there are no records of previous spills at the site.

**III. HYDRO-GEOLOGIC AND TOPOGRAPHICAL  
INFORMATION**

There were no geological studies made of the site as of the writing of this report. For geology encountered during subsurface operations, see Section Vb.



## IV. ANALYTICAL STRATEGY

### **a. Cleanup Criteria**

The EPA criteria for the cleanup of a PCB spill varies according to the mass of PCBs spilled and the location of the spill. For indoor surfaces, such as those found in Gage Hall, the criteria is ten (10) micrograms per one hundred (100) square centimeters (ug/ 100 sq. cm.). For soils, the criteria is ten (10) parts per million (ppm) expressed as milligrams PCBs per kilogram of soil, plus excavation to a minimum depth of ten (10) inches and restoration with clean soil (< 1.0 ppm PCBs). These criteria were also adapted by the New York Department of Environmental Conservation (DEC). The primary focus of the DEC was with exposure to the environment (i.e. soil, groundwater, etc.).

Cleanup criteria for the interior of the building were established by the Ulster County Department of Health (UCDOH), in consultation with the New York State Department of Health. The UCDOH required that, prior to re-occupancy, all PCB levels in wipe samples must be below 1.0 ug/ 100 sq. cm., well below the EPA standard.

The elevated temperatures within the transformer during the incident increased the volatility of the released PCB oil. As a result, there was an increased possibility of airborne PCB contamination. This potential for airborne PCB contamination led the New York State Department of Health to establish a re-occupancy criteria for PCB air concentration of less than 1.0 microgram per cubic meter (ug/ cu. m.), which is substantially below the Permissible Exposure Limit of 500 ug/ cu. m. established by the Occupational Health and Safety Administration for occupational exposures. Exposure of students in dorms to PCBs is not considered an occupational exposure.

Since PCB transformer fluids can form dioxins and furans when heated to high temperatures, the New York State Department of Health suggested a dioxin/furan wipe sample re-occupancy criteria of twenty-five (25) nanograms of 2,3,7,8 TCDD toxicity equivalents per square meter (ng/ sq. m.). The EPA toxicity equivalence procedure is explained in a fact sheet available from the New York State Department of Health.

A summary of the various cleanup and re-occupancy criteria is located below.

<u>Type of Sample</u>	<u>Criteria</u>	<u>Agency</u>
PCB wipe	10 ug/ 100 sq. cm.	EPA/DEC
PCB wipe	1.0 ug/ 100 sq. cm.	UCDOH
PCB air	1.0 ug/ cu. m.	NYSDOH
PCB air	500 ug/ cu. m.	OSHA
PCB soil	10 mg/ Kg	EPA/DEC
Dioxin/Furan wipe	25 ng/ sq. m.	NYSDOH
Dioxin/Furan air	10 pg/ cu. m.	NYSDOH

#### b. Wipe Sampling

PCB wipe samples were taken randomly in the immediate period after the incident to determine the lateral boundaries of the spill and the magnitude of contamination throughout the building. These samples were taken on various surfaces, including exhaust ducts. The re-occupancy criteria necessitated a minimum detection limit of 0.1 ug/ 100 sq. cm. In order to achieve this limit, the sampling area was increased from the standard EPA protocol of one hundred (100) sq. cm. to nine hundred (900) sq. cm.. The increased sampling area permitted composite sampling to be performed, thus allowing a better representation of the contamination in a particular room or area. For rooms which exhibited a four (4) part sample composite PCB result exceeding 0.2 ug/ 100 sq. cm. but less than 1.0 ug/ 100 sq. cm., there was a statistical possibility that one of the parts was above the UCDOH re-occupancy criteria of 1.0 ug/ 100 sq. cm..

As a result, an additional four (4) individual samples were taken in these areas. Since these samples were analyzed separately, each individual sample was nine hundred (900) sq. cm.. Samples were taken on horizontal and other high-contact surfaces where available.

From initial analytical results it appeared that the student rooms were isolated from the incident. In an effort to validate this assertion, 30% of the student rooms were wipe sampled. The sampling plan was further amended, at the request of the Ulster County Department of Health (UCDOH), and lead to the development of the Gage Cleanup Plan (See Appendix A - 4).

Dioxin/furan wipe samples were taken in several locations adjacent to the transformer vault and in Student Room 319, which is adjacent to the stairwell to determine the presence of those toxins. Post-clean dioxin/furan wipe sampling was taken in any area exhibiting dioxin/furan presence in excess of the New York State Department of Health re-occupancy criteria of twenty-five (25) ng/ sq. m. prior to remediation.

Post-clean PCB wipe sampling was conducted in all public areas that were cleaned, including janitor's closets. Samples were taken from high-contact horizontal surfaces where available. Post-clean sampling was not conducted in areas that tested below the established UCDOH re-occupancy criteria prior to cleaning. The post-clean sampling protocol was reviewed and approved by the UCDOH.

For ten (10) percent of the samples, a second sample was taken from an adjacent sampling location and sent for analysis to the New York State Department of Health laboratory in Albany in order to verify the integrity of the sample results. Field blanks were obtained throughout the sampling process and analyzed for PCB content at Clean Harbors and New York State Department of Health Labs. The blank analysis procedure was conducted to further verify sample result integrity, and to confirm that the solvent used in the sampling process was not contaminated.

### **c. Air Sampling**

During the initial phase of the cleanup, PCB air samples were taken immediately outside the vault area to determine the extent of airborne PCB contamination. Prior to re-occupancy for the Spring Semester, PCB air samples were taken outside the elevator on each floor to verify that the re-occupancy criteria of 1.0 ug/ cu. m. was satisfied.

Upon resumption of remedial activities at the conclusion of Spring Semester, Zone PCB air samples were taken inside the vault, in areas adjacent to the vault, and directly above the vault on the 1st floor. The PCB air samples were taken in clean areas throughout the remediation process to verify that PCB contamination had not penetrated the isolation measures and spread beyond the contaminated zones.

### **d. Chip Sampling**

Two chip samples were taken from the South grade beam in the transformer vault during the cleaning process and analyzed for PCB content. The results from these samples were not representative of the potential exposure from contact with the exposed surfaces. Therefore, wipe samples were used to characterize the area for the remainder of the operation.

### **e. Soil Sampling**

#### **Outside Soils**

In order to delineate the contaminant plume in the immediate surrounding areas of the transformer vault, grid sampling was conducted according to procedures outlined in the EPA "Field Manual for Grid Sampling of PCB Spill Sites to Verify Cleanup".

Initially, a grid was established to characterize the soil surface immediately outside the transformer vault. Sampling locations were staggered to assure a thorough and representative depiction of the contamination around the vault exterior. Samples were then taken and transported to Clean Harbors Analytical Services, Inc. in Braintree, MA for PCB analysis.

Once the boundaries of the affected area outside the vault had been set following standard EPA protocol, remedial measures were undertaken. Upon completion of each phase of remedial action, a verification grid was re-established and sampling conducted. This process was continued until applicable cleanup standards were achieved and verified by sample results.

### Interior Soils

As remedial activities in the vault area progressed, it was determined from analytical results of wipe sampling that the vault surfaces required scarification. When wipe sample results showed penetration through the slab, extensive demolition (i.e. floor removal, etc.) was performed. Due to the elevated concentrations of PCBs detected in the concrete floor, it was decided that soils beneath the concrete slab would also require grid sampling. As analytical results warranted, the same grid sampling/soil removal/verification procedure was followed as outlined above in the outside soils section. In an effort to evaluate the vertical extent of subsurface contamination below the concrete floor in the transformer vault and surrounding internal areas (i.e. corridor and electrical room), soil borings were manually advanced and split-spoon samples taken and analyzed for PCB content (See Gage Vault Perimeter PCB Sample Results, Appendix A - 5). The results of the samples assisted in determining the excavation depth.

The standard EPA grid sampling protocol was again initiated in the vault. A grid was established and the samples were taken and analyzed for PCB content. As remedial activity progressed (i.e. excavation depth advanced) the initial grid was re-established and samples taken. As results indicated PCB concentrations below the EPA cleanup criteria, the size of the grid decreased until all sections of the excavation were below the criteria. (See Gage Vault Excavation Grids, Appendix A - 6).

## V. SUBSURFACE INVESTIGATION

### a. Drilling Information

To assess both the lateral and vertical migration of the contamination, manual soil borings were also advanced in and around the perimeter of the transformer vault and electrical room where drill rig access was not practical. A split-spoon sampler was manually driven with a ten (10) pound sledgehammer. No blow count data was collected during this process. In general, samples were taken at 1-foot intervals and analyzed for PCB concentration.

To avoid the possible spread of contamination from the upper layers to the lower layers during the sampling process, the sampling device was decontaminated between samples using water and methanol.

### b. Geology Encountered

Information gathered during the split-spoon sampling revealed that the general geology of the area around Gage Hall consisted of a gray shale overlain by unconsolidated, well graded, poorly sorted deposits. The deposits consisted primarily of fine sand and silt.

## VI. PRE-CLEANING ANALYTICAL RESULTS

### a. PCB Wipes

As anticipated, the highest PCB wipe sample concentrations were detected in the basement areas adjacent to the transformer vault. Among the areas testing above the 1.0 ug/ 100 sq. cm. re-occupancy criteria were the hallway outside the transformer room (59 ug/ 100 sq. cm.), the bricks within the vault (55 and 27 ug/ 100 sq. cm.), the Recreation Room (1.1 ug/ 100 sq. cm.), the door strip near the Storage Room (8.8 ug/ 100 sq. cm.), the bathroom (3.6 ug/ 100 sq. cm.), and the Janitor's Closet (1.4 ug/ 100 sq. cm.).

In addition, several PCB wipe sample results from the Electrical Room were above the re-occupancy criteria, the highest results coming from inside the switch and fuse boxes.

The elevator car wipe sample results exceeded the re-occupancy criteria, both on the exterior (26 ug/ 100 sq. cm.) and the interior (2.6 ug/ 100 sq. cm.). The elevator shaft wipe sample results also exceeded the re-occupancy criteria on the first and second floors (See Gage Pre-Clean PCB Wipe Sample Results, Appendix A - 7)

All analytical results from the first, second, and third floors were below the re-occupancy criteria, with the exception of the phone booth across from Student Room 321 (1.2 ug/ 100 sq. cm.), and a third floor fire extinguisher ( 5.1 ug/ 100 sq. cm.). Based on the preceding result, all fire extinguishers were removed from the floor and disposed of at an approved facility.

**b. Dioxin/Furan Wipes**

All dioxin/furan wipe sample results were well below the New York State Department of Health re-occupancy criteria. (See Gage Pre-Clean Dioxin/Furan Wipe Sample Results, Appendix A-8). Based on these results, dioxin/furan air sampling was deemed unnecessary.

**c. PCB Air Samples**

All PCB air sample results were well below the established criteria of 1.0 ug/cu.m. (See Gage Pre-Clean PCB Air Sample Results, Appendix A-9).

**d. Soil Samples**

Split-spoon samples were taken from six (6) different locations around the transformer vault perimeter in July 1992 (See Gage Vault Perimeter PCB Sample Results, Appendix A - 5) . The samples were taken at depths of approximately one, two, and three feet below grade. Analytical results from each sample were below the EPA cleanup criteria.

Detailed descriptions of the analytical results associated with the transformer vault and external excavations are discussed in Section VIIc.



## VII. REMEDIAL ACTIVITIES

### **a. Initial short-term measures**

Power to the transformer was interrupted as a result of the initial incident. The remaining oil was pumped from the unit, generating two (2) 55-gallon drums of PCB oil. The transformer carcass was then flushed with diesel oil in an attempt to remove the remaining sludge, generating another three (3) drums of oil. The carcass was then removed and shipped off-site for disposal at an approved facility.

Outside areas where the potential for spilled material existed were covered with polyethylene sheeting to prevent rain or other surface water from driving any contamination further into the soil.

Cleaning activities in all student rooms and public access areas, with the exception of the elevator car and the Recreation Room, were completed prior to the beginning of the Spring Semester of 1992. Upon receipt and review of the analytical results, the UCDOH recommended opening the building for general admission, with the previously mentioned exceptions (See Gage Opening Letters, Appendix A - 10). Remaining contaminated areas were temporarily sealed off using plywood, caulking, and a polyethylene barrier.

At the completion of the Spring Semester, cleaning activities in the elevator car and vault areas were resumed.

### **b. Cleaning procedures**

Based on the pre-cleaning test results and building geometry, remedial activities were divided into five separate sections; the basement proper, the primary vault, the remainder of the building, the elevator, and outside areas. Activities undertaken in each area are individually described beginning on the following page.

During the cleaning process, access was restricted from non-public access areas within the buildings to eliminate the potential for contamination of clean rooms.

#### **Basement Proper**

PCB pre-clean wipe sample results for all Student Rooms in the basement were below the minimum detection limit of 0.1 ug/ 100 sq. cm.. Therefore these rooms were sealed with polyethylene sheeting to avoid cross-contamination during cleanup activities. Areas requiring remediation were subjected to a double wash/double rinse cleaning followed by an industrial wash. After all public access areas were remediated to the UCDOH criteria, rugs from the Student Rooms were removed and disposed of at an approved facility. Prior to re-occupancy, the floors in the Student Rooms were cleaned with an industrial wash as a precautionary measure.

#### **Remainder of the Building**

As previously mentioned, all fire extinguishers on the third floors were removed and disposed at an approved facility. Extinguishers on the remaining floors were also removed as a precautionary measure. Replacement extinguishers were provided for all levels. The phone booth across from Student Room 321 was isolated and cleaned using a double wash/double rinse. All public access areas on the first, second, and third levels were subjected to an industrial wash. Rugs in all Student Rooms were then removed and disposed of at an approved facility. Prior to re-occupancy, the Student Room floors were industrially washed as a precautionary measure.

#### **Elevator**

The following areas were initially cleaned using an industrial wash: the roof of the elevator shaft, the ceiling of the elevator car, the steel frame work within the shaft, the conduits, the bottom of the elevator car, the elevator shaft walls, and the elevator pit. Scaffolding and bracing were constructed within the shaft to facilitate the cleaning process.

### **Elevator(cont.)**

Post-clean wipe sample results indicated that all areas satisfied the re-occupancy criteria, with the exception of the elevator car roof. The roof was successfully re-cleaned with a solvent, followed by an industrial wash.

A paint stripping solvent was applied to the doors in the Electrical Room and the elevator. Following this step, the doors were subjected to a double wash/double rinse cleaning. The interior of the elevator car was also given a double wash/double rinse cleaning. Post-clean PCB wipe sample results from the shaft and the car met the re-occupancy criteria.

### **Outside Excavation**

As previously mentioned in Section IVe, exterior areas adjacent to the transformer vault were excavated and grid sampled until the cleanup criteria of ten (10) ppm was attained. In accordance with EPA criteria, the ten (10) ppm guideline was utilized because a minimum of 1 foot of soil was excavated prior to sampling. An additional description of these activities is located in Sub-part c of this section.

### **Primary Vault**

The primary vault area consisted of the Vault Room, the Electrical Room, the Lounge (also referred to as the Recreation Room), the Mechanical Room, and the hallway connecting these rooms.

Several surfaces within the primary vault area initially tested above the re-occupancy criteria (See Gage Pre-Clean PCB Wipe Sample Result, Appendix A-7) and were cleaned using the double wash/double rinse technique.

All electrical switchgear and conduit were removed from the Electrical Room and disposed of at an approved facility. Electrical panel covers were removed, cleaned, and replaced. Wipe sample results from the walls and floor of the Electrical Room failed to meet the re-occupancy criteria and were given a Penetone wash.

### **Primary Vault (cont.)**

When the PCB contamination on the floor continued to exceed the re-occupancy criteria (41 ug/ 100 sq. cm.), a 1/8-inch layer was removed from the floor surface, followed by a cleaning with high pressure steam and solvent solution. When this procedure was unsuccessful in meeting the re-occupancy criteria, the floor slab was demolished and removed for disposal at an approved facility.

Following the double wash/double rinse cleaning, all surfaces within the vault room received a Penetone wash. At the completion of this process, the analytical results of samples taken from these surfaces remained above the re-occupancy criteria, requiring a second Penetone wash. The second Penetone wash was successful on the vault ceiling, but not so on the walls and floor. When a subsequent cleaning with a solvent was also unsuccessful, the floors and walls were demolished. Prior to demolition, polyethylene barriers were erected and negative air systems were employed to prevent dust migration to non-contaminated areas.

### **c. Excavation**

Upon completion of the vault demolition, soil was excavated to a depth of 1-1/2 feet below grade. The vault was sub-divided into four (4) sections and an EPA sampling grid was established, comprised of two (2) foot by two (2) foot grids. As shown in the Gage Vault Excavation Grids, Appendix A - 6, results of three (3) of the samples exceeded the cleanup criteria of ten (10) mg/kg. Split-spoon samples were then taken at a depth of 2-1/2 feet below grade. Analytical results of these samples indicated that two (2) of the samples, taken in the middle and the Southwest corner of the vault, remained above the cleanup criteria. The excavation was then advanced to a depth of approximately 3-1/2 feet below grade and an EPA sampling grid was established. Results from all three (3) sections were below the established cleanup criteria. Excavation backfilling was then performed according to the backfill specifications outlined in document #7069202 dated 07/07/92 (See Appendix A-11).

#### **Excavation (cont.)**

As previously mentioned, excavation was also performed in the exterior area adjacent to the transformer vault. As shown in Gage External Excavation Grid, Appendix A-12, the area was sub-divided into twelve (12) sections, comprised of several two (2) foot by two (2) foot grids.

Initial grid samples were taken 1 foot below grade and the results indicated that, with the exception of section #5, all portions of the excavation were below the EPA cleanup criteria. Section #5 of the excavation was advanced to two (2) feet below grade. Grid samples were taken and analytical results indicated that the PCB cleanup criteria was attained.

#### **d. Encapsulation**

Repeated efforts at cleaning the inside and outside surfaces of the South grade beam in the vault were unsuccessful, despite using different cleaning solutions (See Gage Vault PCB Wipe Sample Results, Appendix A - 13). As a result, during a meeting on August 7, 1992 with representatives from the EPA, the New York DEC, and the UCDOH, it was agreed that all concrete surfaces exhibiting levels of PCB contamination above the UCDOH criteria of 1.0 ug/ 100 sq. cm. would be encapsulated with Dudick Inc. coating Protecto-Coat 800. Information regarding the encapsulant was forwarded to all parties for their review and comment. The South concrete block wall of the vault was also encapsulated. The total encapsulated area encompasses approximately seventy (70) square feet. At the time of this report, the encapsulated area is being wipe sampled on a monthly basis. Specifications on the encapsulant are contained in Appendix A-14. As shown on the following page, wipe samples taken on January 4, 1993 produced results in excess of the established criteria. The adjacent walls were then covered with a polyethylene barrier as a precautionary measure. Although subsequent wipe samples taken on January 15th and February 22nd once again produced results below the established criteria, it was recommended that a secondary encapsulant be applied to the contaminated areas as a precautionary measure.

Application of the secondary encapsulant, Horseysset 3, is tentatively scheduled for the completion of Spring Semester 1993. Information regarding Horseysset 3 is located in Appendix A - 14.

**ENCAPSULATION RESULTS (As of 2/22/93)**

<u>SAMPLE ID #</u>	<u>DATE</u>	<u>RESULTS (PCB Wipes)</u>
GE3	10/26/92	0.3 as 1260
GE4	10/26/92	0.4 as 1260
GE3	12/04/92	0.3 as 1260
GE4	12/04/92	0.5 as 1260
GE3	01/04/93	1.2 as 1260
GE4	01/04/93	1.6 as 1260
GE3	01/15/93	0.1 as 1260
GE4	01/15/93	0.2 as 1260
Wall	01/20/93	0.5 as 1260
GE3	02/22/93	0.1 as 1260
GE4	02/22/93	0.2 as 1260

Sample locations GE3 and GE4 are located to the right and left of the South entrance to the vault, respectively.

### **e. Post-Clean Analytical Summary**

#### **Basement Proper**

Remediation efforts in the basement proper were successful in attaining the PCB re-occupancy criteria (See Gage Post-Clean PCB Wipe Sample Results, Appendix A-15, and Gage Post-Clean PCB Air Sample Results, Appendix A-16).

#### **Remainder of Building**

Remediation efforts in the remainder of the building were successful in meeting the PCB re-occupancy criteria (See Gage Post-Clean Wipe Sample Results, Appendix A-15, and Gage Post-Clean Air Sample Results, Appendix A-16).

#### **Outside Excavation**

As described in Sub-part c of this section, remediation efforts were successful in meeting the PCB cleanup criteria for the external excavation.

#### **Primary Vault**

As previously described, all walls within the primary vault were removed and the vault was excavated to a depth of approximately 3-1/2 feet below grade. All analytical results from the excavation were below the EPA cleanup criteria. Remaining PCB contamination, encompassing approximately seventy (70) square feet on the South wall and grade beam, has been encapsulated.

#### **Elevator**

Post-clean wipe sample results from the elevator car interior and exterior, and the elevator shaft were all below the PCB re-occupancy criteria (See Appendix A - 15).

## VIII. DISPOSAL AND TREATMENT OF GENERATED WASTES

### a. Disposal criteria

Items that were located in rooms requiring remediation were categorized into the following groups:

- 1) Low value, porous, high contact items (i.e. magazines, paper towels)
- 2) High value, porous, high contact items (i.e. sofas, mattresses)
- 3) High value, impervious items: (i.e. plastic furniture, bicycles)
- 4) Low value, impervious items: (i.e. plastic crates, pens)

Items from categories 1,2, and 4 were removed and disposed of at an approved facility.

Category 3 items were cleaned and post-clean sampled in accordance with the Gage Cleanup Plan.

### b. Waste generated

Remediation and disposal activities at Gage Hall generated the following total wastes:

Hazardous Waste Solids	243.8 Cu. Yds.
Non-Hazardous Waste Solids	147.0 Cu. Yds.
Transformer Carcass	117.3 Cu. Ft.
Empty Drums (Haz. & Non-Haz.)	235 x 55 gal. drums
Penetone Rinse Water & PCB's	20.5 x 55 gal. drums
Safety Solvent & PCB's	1 x 55 gal. drum
PCB Oil	5 x 55 gal. drums
Non-Regulated Water	1,930 gallons



The waste disposal contract was held by Waste Technology Services, Inc. and wastes were transported by Buffalo Fuels Corporation.

Decontamination water was treated through a carbon filter system (See Appendix A-17) and shipped off-site as New York Industrial Waste. Prior to shipment, PCB analysis was performed to verify that the treated water met the discharge parameter of 3 ppb. A listing of the dates and descriptions of individual hazardous and non-hazardous waste shipments associated with Gage Hall are located in Appendix A-18.

## IX. CONCLUSIONS

With the exception of approximately seventy (70) square feet of the South wall and grade beam in the vault, all areas within Gage Hall have been remediated to the EPA and UCDOH re-occupancy criteria. The contaminated surfaces have been encapsulated and sealed off with a polyethylene barrier. The Ulster County Department of Health recommended in February 1992 that all Student Rooms and public access areas, not including the elevator and the Recreation Room, be opened for general admission (See Appendix A - 10). In August 1992, the UCDOH extended the opening to include the elevator.

Assuming that the remaining contamination is limited to the top 1/2 inch of the surface, and decreases linearly with depth, the PCBs remaining in the beam are estimated to be less than 0.1 pounds.

## X. RECOMMENDATIONS

Based on the available data and existing conditions at Gage Hall, the following recommendations are made:

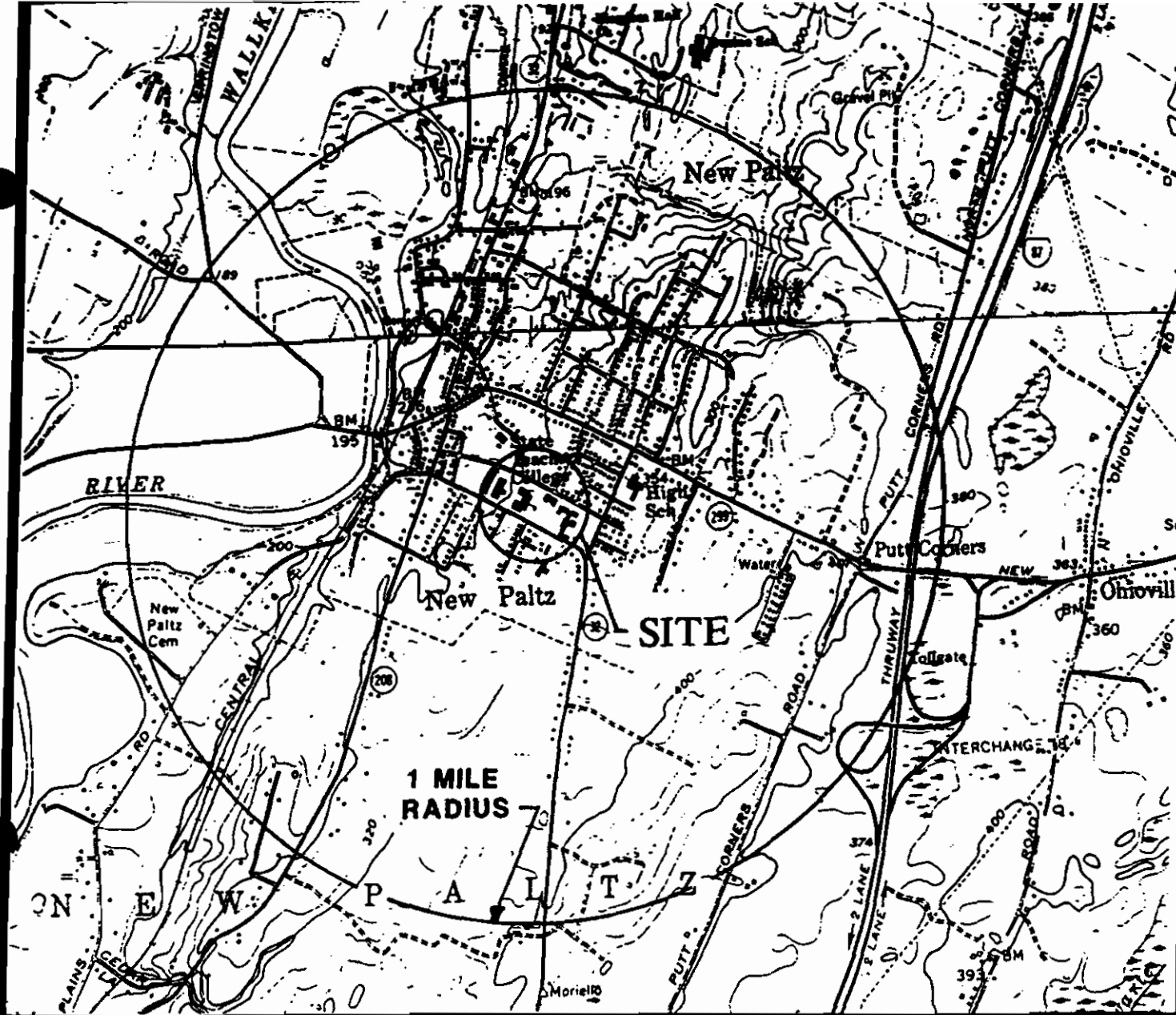
1. A second encapsulating material shall be applied to the contaminated area within the transformer vault. Continue monitoring the encapsulated area on a monthly basis for a period of one year. If at the conclusion of this period the PCB concentrations have not exceeded 1.0 ug/ 100 sq. cm., the encapsulant should be deemed effective. Long-term monitoring should then continue on an annual basis.

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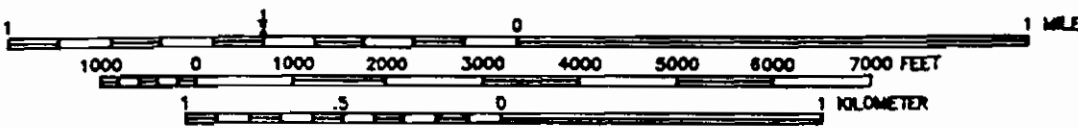
---

**APPENDIX  
A - 1**

**SITE MAPS**



SCALE 1:24 000



CONTOUR INTERVAL 20 FEET  
DATUM IS MEAN SEA LEVEL

QUADRANGLE LOCATION

**COORDINATES**

UTM: 4,521,484mN 576,368mE  
LONGITUDE : W 74° 05' 00"  
LATITUDE : N 41° 44' 31"

A	: SUNY LOCUS	NN	NN	SE	3/24
ISSUE	DESCRIPTION	DRWN	CHKD.	APPR.	DATE

BASE MAP: UNITED STATES GEOLOGICAL SURVEY (USGS) CLINTONDALE, N.Y.

**Clean Harbors**  
ENVIRONMENTAL ENGINEERING, INC.

325 Wood Road  
Braintree, Massachusetts 02184  
Telephone (617) 849-1200/1800

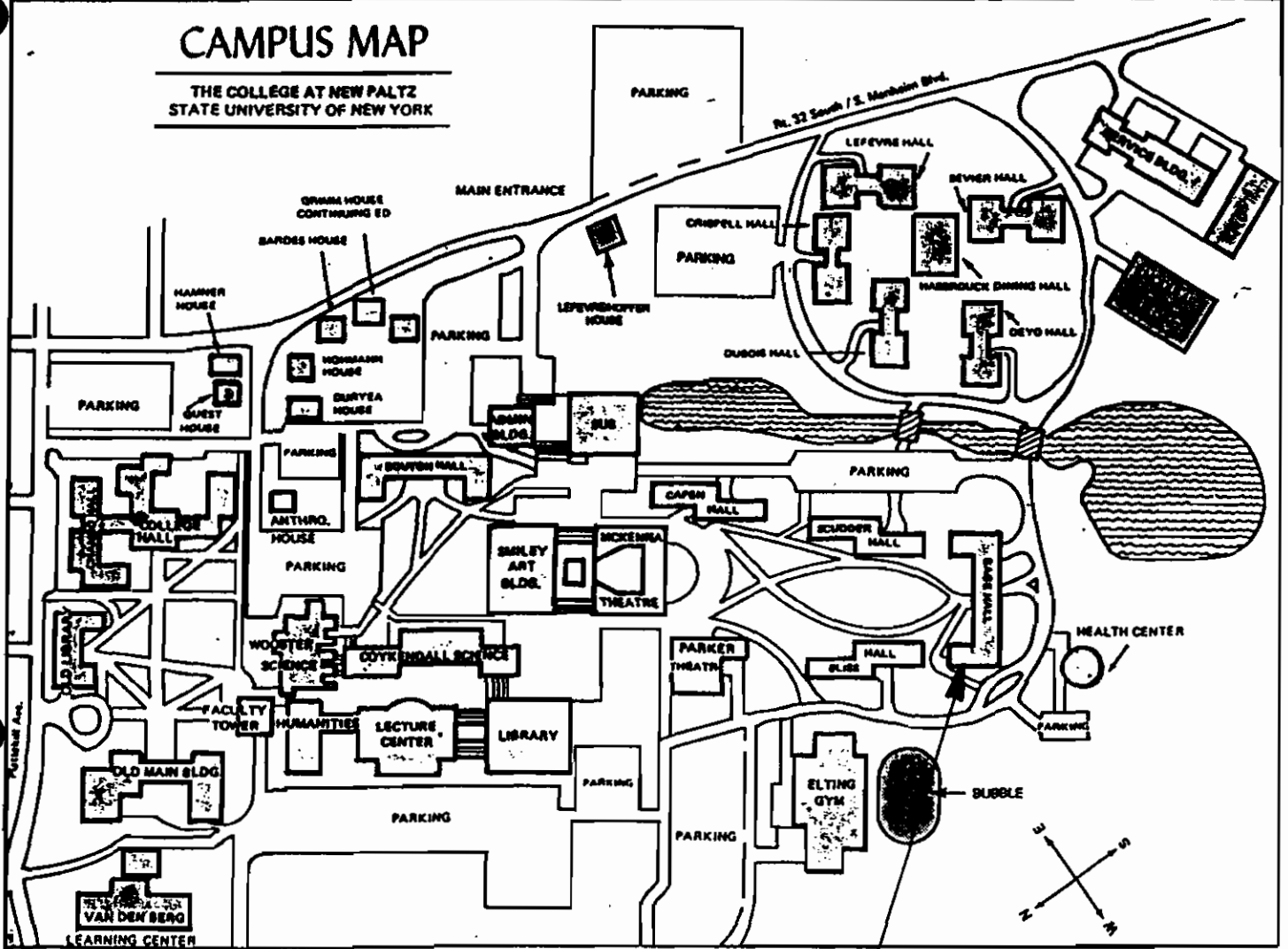
STATE UNIVERSITY OF NEW YORK  
NEW PALTZ CAMPUS  
ROUTE 32  
NEW PALTZ, NEW YORK

**LOCUS MAP**

PROJECT NO. E-3300	DRWG. NO. 3300-L-01	FIGURE 1
SCALE AS NOTED		

# CAMPUS MAP

THE COLLEGE AT NEW PALTZ  
STATE UNIVERSITY OF NEW YORK



GAGE HALL

1	SUNY-GAGE HALL	<i>[Signature]</i>	<i>[Signature]</i>	6/1
ISSUE	DESCRIPTION	DRWN	CHKD	APPR. DATE

# CleanHarbors

ENVIRONMENTAL ENGINEERING CORPORATION

325 Wood Road  
Braintree, Massachusetts 02184  
Telephone (617) 849-1200

## GAGE HALL

GAGE HALL LOCATION MAP.

PROJECT NO. NY5068

INV. NO.

SUNY-021-M2

SCALE NTS

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**APPENDIX**

**A - 2**

**CHRONOLOGICAL  
SYNOPSIS OF EVENTS**

**CleanHarbors**

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## CHRONOLOGY OF GAGE HALL EVENTS

- 12/29/91 Initial incident.
- 12/31/91 Pre-clean wipe sampling commences.
- 01/16/92 Ulster County Department of Health notifies NY State Office of General Services requiring PCB wipe samples to be taken from a desk surface in each Student Room.
- 01/31/92 Gage Hall Cleanup Plan approved by Ulster County Department of Health and NY State Office of General Services (Pre-clean).
- 02/01/92 Pre-clean sampling completed.
- 02/01/92 Gage Hall is opened for general admission, with the following exceptions: the basement level transformer vault, electrical room, recreation room, the first floor reception room, mail room, restrooms, and the elevator. Janitor's closets were locked and taped shut pending results of wipe samples taken on 02/01/92.
- 02/04/92 Ulster County Department of Health extends opening of Gage Hall to include the first floor reception room, mail room, and the restrooms.
- 05/13/92 Ulster County notifies SUNY officials that based on PCB wipe sample results, the bicycles located in the basement recreation room can be returned to the owners of record.
- Week of  
05/25/92 Remedial activities resumed in transformer vault, electrical room, recreation room, and elevator area.
- Week of  
08/03/92 External excavation and sampling conducted.



## CHRONOLOGY OF EVENTS (CONT.)

- Week of  
08/12/92      Encapsulant applied to remaining PCB-contaminated areas within transformer vault, with the exception of concrete underneath the threshold.
- 08/21/92      Clean Harbors notifies Ulster County Department of Health that post-clean analytical results satisfy established cleanup and re-occupancy criteria, with the exception of the isolated and encapsulated portion of the transformer vault area. The elevator and the basement recreation room were also not opened, pending renovations.
- 08/21/92      Gage Hall Cleanup Plan is approved by Ulster County Department of Health, and NY State Office of General Services (Post-clean).
- 08/21/92      Ulster County Department of Health recommends extending the opening of Gage Hall for general admission to include the elevator and the basement recreation room, pending renovations.
- 01/11/93      Gage Hall vault threshold encapsulation completed.

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**APPENDIX**

**A - 3**

**SUNY MEMO**

**CleanHarbors**

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STATE UNIVERSITY COLLEGE  
NEW PALTZ, NEW YORK 12561

MEMORANDUM

December 10, 1992

TO: Tom Kelley  
Clean Harbors

FROM: Peter Betley *Peter Betley*  
Coordinator, Environmental Health & Safety

RE: PCB Incidents at SUNY New Paltz  
(Your Memo Dated 12/8/92)

Before December 29, 1991, this campus did not experience a major (1 lb.) PCB spill (my records go back to April 1985). Any minor weeping discovered during scheduled quarterly maintenance inspections was routinely repaired.

The only records prior to 1985 are contract service maintenance reports which indicate minor leaks around bushings, valves, etc. which were also repaired immediately.

PB/lt

cc: A. Bernardini - Asst. VP for Facilities & Planning  
J. Grant - VP for Administration  
K. Edwards - OGS

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**APPENDIX  
A - 4**

**GAGE CLEANUP PLAN**

**CleanHarbors**

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January 31, 1992

Mr. Dean N. Palen, P.E., MBA  
Director of Environmental Sanitation Division  
Ulster County Health Department  
300 Flatbush Ave.  
Kingston, New York 12401

Please find attached the Cleaning and Opening plan for Gage Hall for the following building on the State University of New York campus in New Paltz:

Building: Gage hall

Revision 1.5  
with addendum 1.0 + 2.0

I have received, reviewed and approved this plan.

I have inspected the completed work and it meets my approval.

*Jyony for Paul Pokk*  
Paul Pokk  
Clean Harbors of Kingston

*Jyony for Paul Pokk*  
Paul Pokk  
Clean Harbors of Kingston

*Dean N. Palen 1/31/92*  
Dean N. Palen, P.E., MBA  
Ulster County Health Dept.

*Dean N. Palen 2/1/92, Allen D. ... 2/1/92*  
Dean N. Palen, P.E., MBA  
Ulster County Health Dept.

*K. Edwards 1/31/92*  
Kristine Edwards  
NYS Office of Gen. Services

*K. Edwards 2/1/92*  
Kristine Edwards  
NYS Office of Gen. Services

1) Perform Industrial Cleaning in public access areas such as hallways, bathrooms, stairs, handrails, etc., on levels 3, 2, 1 and the basement. This will consist of using a water based solution of Trisodium Phosphate and commercially available detergent and wet mopping the visibly clean areas or scrubbing the visually dirty areas until they appear "clean" In doing so only small amounts of solution will be used to minimize waste and avoid spreading the contamination. After mopping a section of floor, the mop will be rinsed in a dilute bucket of the same solution to partially clean mop. Then dipping the mop in the concentrated solution to continue the cleaning activities. Mops or brushes will be replaced often to eliminate the spread of contaminates. Levels of protection for this task will be modified level "C" protection, except in the immediate vicinity of the transformer vault which will be level "D". Level "B" will be used in the vault. Rinsing the area will be done with water from an entirely separate bucket. This water will be replaced often, at least once per level. Industrial cleaning will progress from top level to basement to avoid travel over cleaned areas. Foot protection will be changed from floor to floor. All wastes will be stored in drums, labeled properly for PCB wastes - 17L drums for liquids and 17H drums on registered hazardous waste hauler rolloffs for solids (with covers and intact tarps). Mats that are not attached will be disposed of. Carpeting will be washed and rinsed in the following fashion. Apply a dilute solution of the TSP and detergent to the carpet using a commercially available sprayer (the type that is used to apply pesticides to plants). Using a stiff bristled brush work the cleaning solution into the carpet. Remove as much of the wash solution as possible using a vacuum equipped with a HEPA filter. Apply water to the carpet using a different spray unit. Remove the excess water using a vacuum equipped with a HEPA filter. Allow carpet to dry, and treat, store, etc of all generated wastes as PCB contaminated.

\*\* Target Complete Date - 1/13/92

Wipe samples can be collected one per level in an area which is immediately adjacent to the pre-cleanup locations.

\*\* Target Complete Date - 1/14/92

When these activities are complete, the area which is delineated by the transformer vault plus a buffer zone of 3 feet will be cordoned off using copious amounts of caution tape. Air sampling results must be below the acceptable levels. The isolation measures for transformer removal must be in place prior to cleanup of the building.

\*\* Target Complete Date 1/14/92

The vault area will then be checked for power

\*\* Target Complete Date 1/14/92

In the case of Gage we believe the access door will be used rather than making a wall penetration. The transformer will be wiped down and then double wrapped in 6 mil polyethylene. The transformer will then be removed and stored in the indoor central storage area with proper markings and in PCB drip pans. All associated electrical equipment on the inside of the vault will then be removed and stored in an appropriate registered roll-off container. This will be in Level "B" protection inside the isolation measures and level "C" protection outside the isolation measures but inside the overall exclusion zone for the building.

\*\* Target Complete Date 1/13/92

Pull wires into transformer vault. (procedure in January 5 document - "Emergency Response Procedures") and place into proper container. The manholes will be addressed under a separate document.

\*\* Target Complete Date 1/30/92

Perform the double wash/double rinse procedures on all surfaces inside the vault (See Appendix B in January 5, 1992 "Emergency Response Procedures"). Remove and dispose of doors into the vaults. Replace these with a temporary wooden hinged door assembly to limit access. This will be a of sturdy construction. The ceiling, in the vault, contains asbestos. It will be removed before the decontamination activities are complete. The removal will comply with all applicable local, state and federal regulations and all applicable notifications will be made by the general contractor.

\*\* Target Complete Date 1/22/92

Perform required analysis

\*\* Target Complete Date 1/23/92

Receive PCB wipe sample results Draft

\*\* Target Complete Date 1/25/92

Receive Dickin wipe sample results

\*\* Target Complete Date 1/31/92

Open Gage for re-occupancy - Given DCH approval and acceptable analytic results.

\*\* Target Complete Date 1/31/92

First Cleaning Sampling- One sample per student room on one of the desks. Two samples per level at the corners of the building and one sample outside the vault all samples on horizontal surfaces not being the floor.



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**APPENDIX  
A - 5**

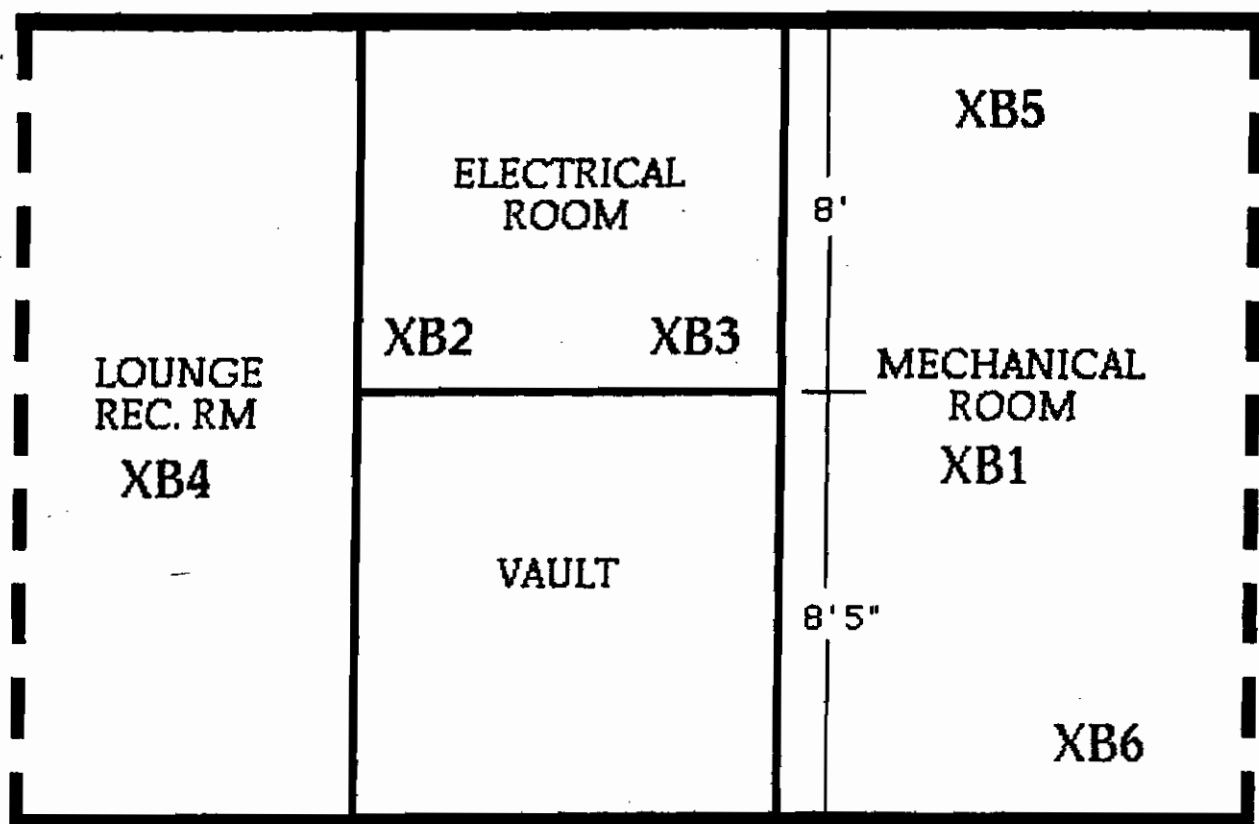
**GAGE VAULT  
PERIMETER PCB  
SAMPLE RESULTS**

**CleanHarbors**

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15'7"



SAMPLE LOCATION	DEPTH (FEET)	RESULTS IN ppm (mg/Kg)
B1	0-1	ND
B1	1-2	1.4
B2	0-1	ND
B2	1-2	1.1
B2	2-3	2.8
B3	0-1	ND
B3	1-2	ND
B3	2-3	ND
B4	0-1	ND
B4	1-2	ND
B5	0.5-1	ND
B5	1-2	ND
B5	2-3	ND
B5	3.25	ND
B6	0.5-1	ND
B6	1-2	ND
B6	2-3	ND



**KEY**  
 ppm = PARTS PER MILLION  
 mg/Kg = MILLIGRAM PER KILOGRAM  
 T.O.S. = TOP OF SLAB  
 ppm = mg/kg  
 ND = NON DETECT

NOTE: ALL SAMPLES WERE TAKEN FROM BELOW THE T.O.S.

1	SUNY GAGE HALL	MM	JE	6/1
ISSUE	DESCRIPTION	DRWN	CHKD.	APPR.



ENVIRONMENTAL SERVICES, INC  
 325 Wood Road  
 Braintree, Massachusetts 02184  
 Telephone (617) 849-1800

GAGE HALL VAULT PERIMETER SPLIT-SPOON PCB SAMPLE RESULTS  
 SAMPLES COLLECTED 6/17/92

PROJECT NO. NY5068	DWG. NO. SUNY-021-V3
SCALE NTS	

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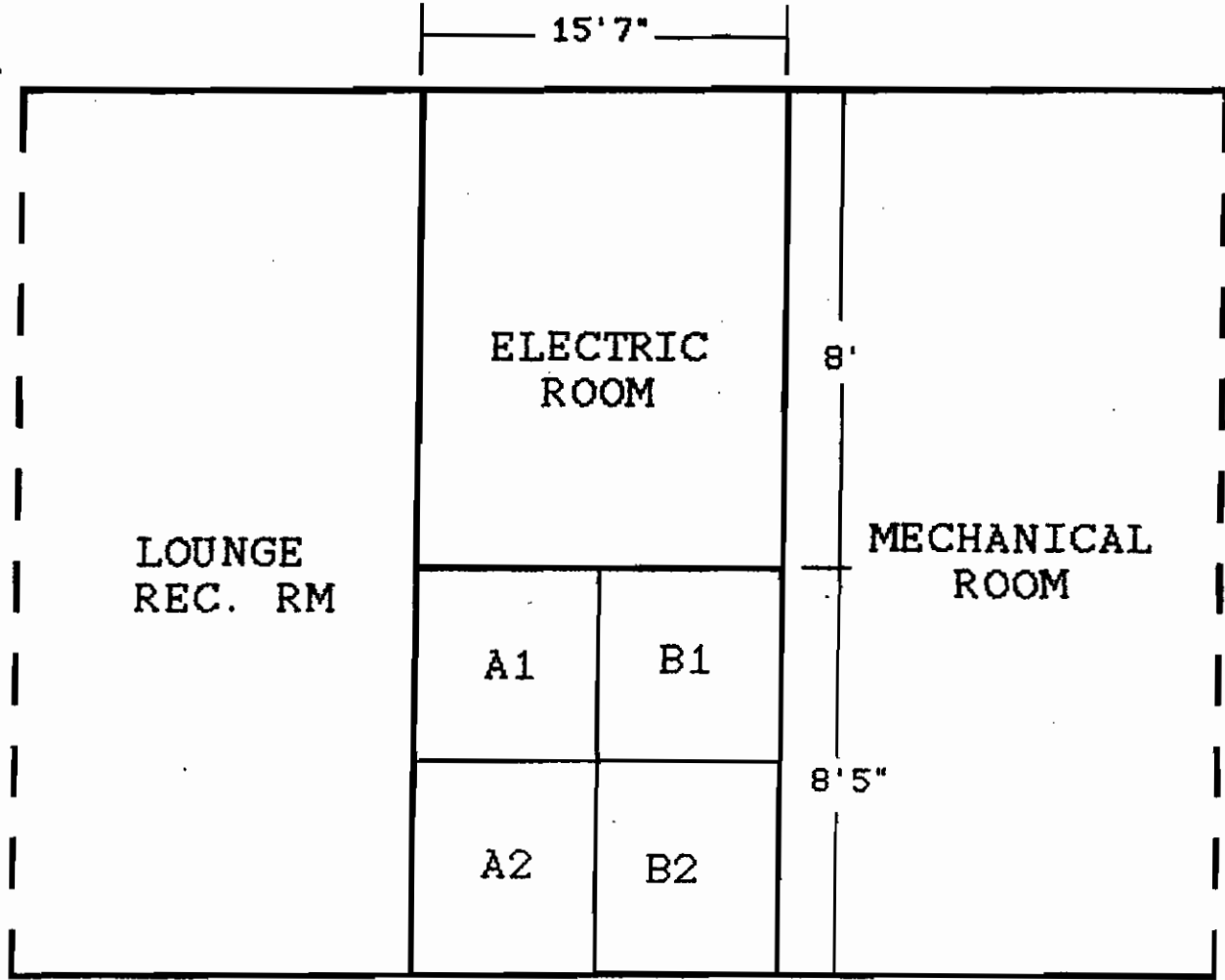
**APPENDIX  
A - 6**

**GAGE VAULT  
EXCAVATION GRIDS**

**CleanHarbors**

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SAMPLE LOCATION	DEPTH (FEET)	RESULTS IN ppm (mg/Kg)
A1	1'6"	47.0
A2	1'6"	3.0
B1	1'6"	40.0
B2	1'6"	1600.0



**KEY**

ppm = PARTS PER MILLION  
 mg/Kg = MILLIGRAM PER KILOGRAM  
 T.O.S. = TOP OF SLAB  
 ppm = mg/kg

1	SUNY GAGE HALL	<i>IN</i>		JE	6/1
ISSUE	DESCRIPTION	DRWN	CHKD.	APPR.	DATE

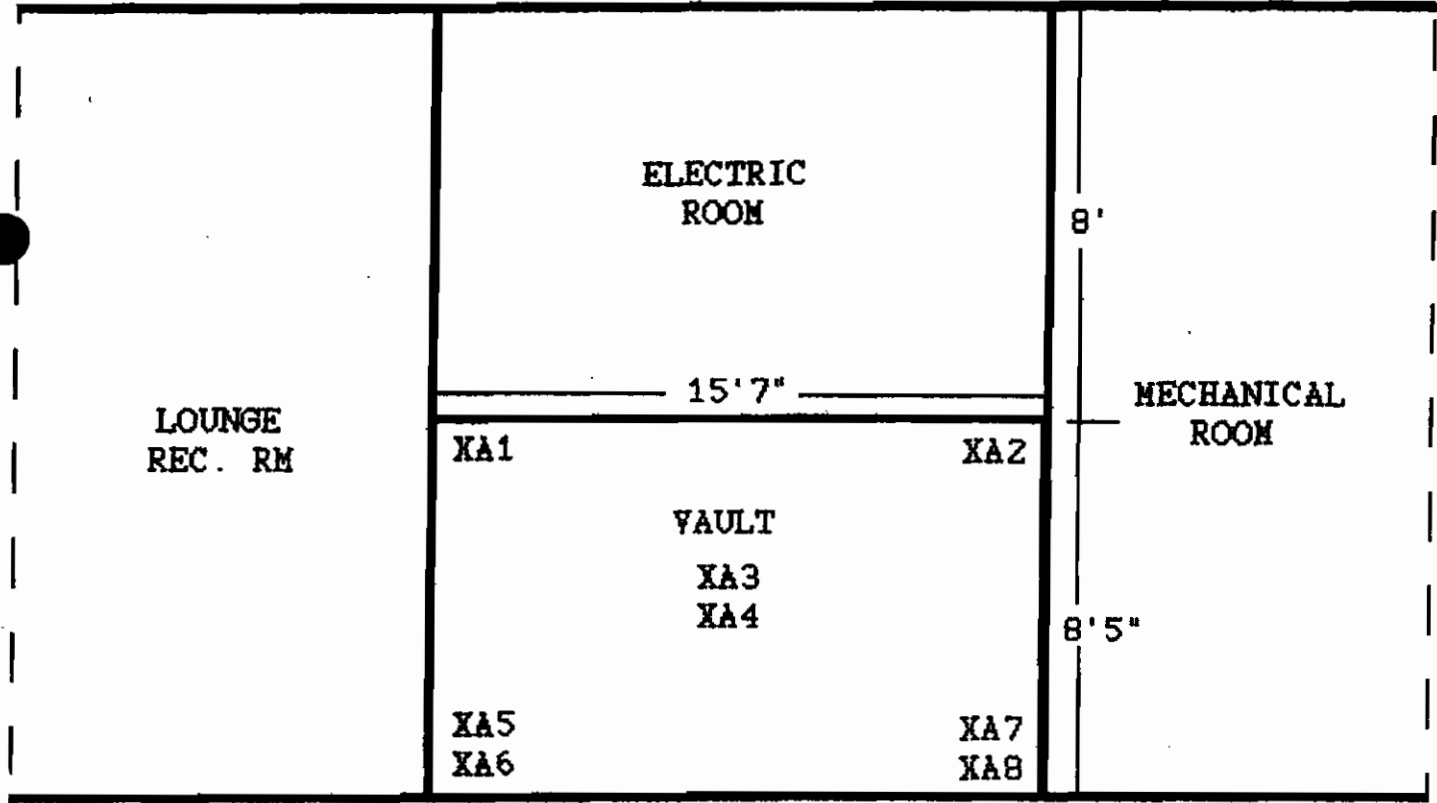


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 Braintree, Massachusetts 02184  
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GAGE VAULT EXCAVATION GRID-DEPTH  
 1'6" BELOW T.O.S.  
 PCB SAMPLES COLLECTED 6/5/92.

PROJECT NO. NY5068  
 SCALE NTS

DWG. NO. SUNY-021-V1



LOCATION	DEPTH (FEET)	RESULTS mg/kg
A1	2'6"	ND
A2	2'6"	4.2
A3	2'6"	23.0
A4	3'	1.1
A5	2'-3'	24.0
A6	3'-4'	2.7
A7	2'-3'	ND
A8	3'-4'	ND

KEY  
 mg/kg = milligrams per kilogram  
 ND = NON-DETECT  
 T.O.S. = TOP OF SLAB

NOTE:  
 ALL SAMPLES WERE TAKEN FROM BELOW THE T.O.S.

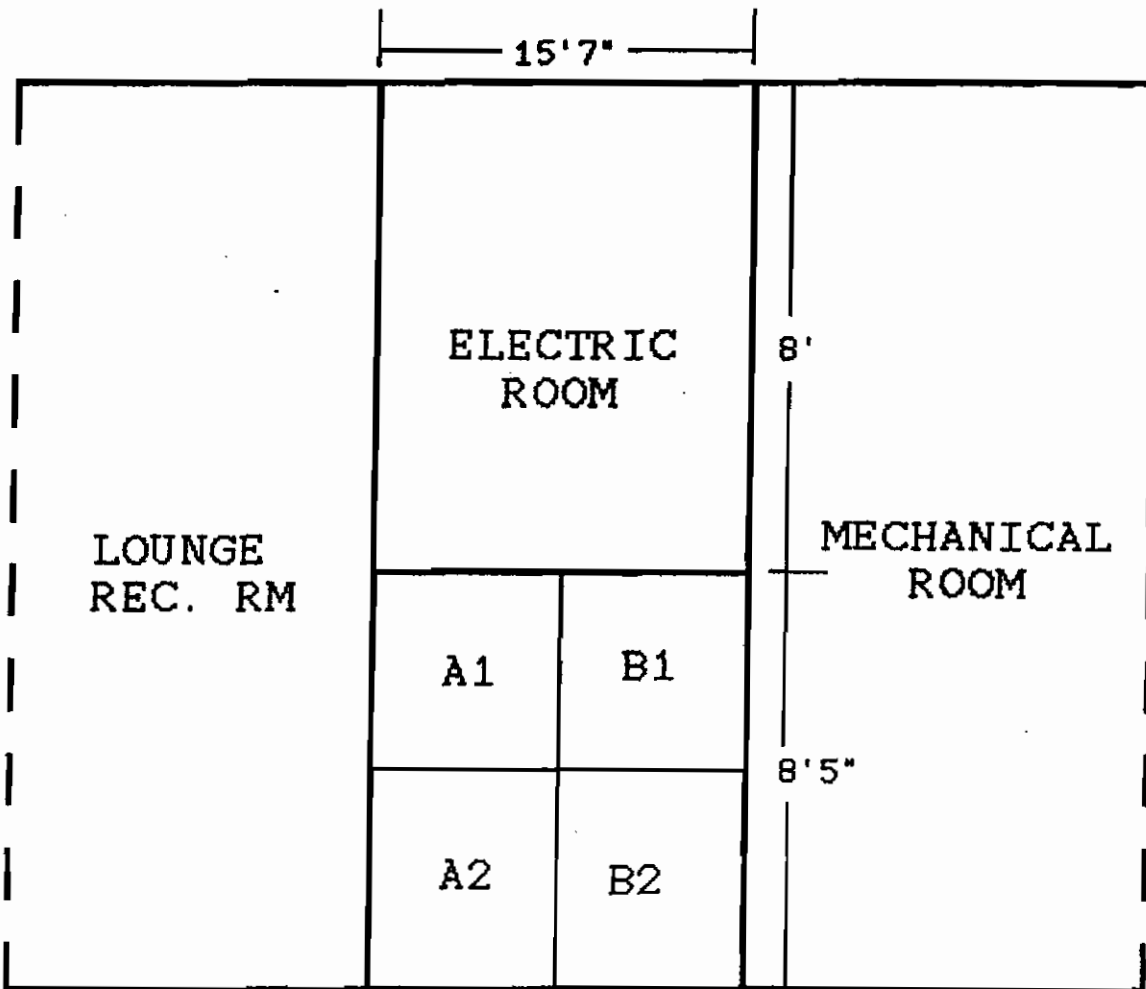


1	SUNY GAGE HALL	<i>MN</i>	<i>JE</i>	<i>6/11</i>
ISSUE	DESCRIPTION	DRWN	CHKD.	APPR. DATE

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 325 Wood Road  
 Braintree, Massachusetts 02184  
 Telephone (617) 849-1800

GAGE HALL VAULT EXCAVATION SPLIT-  
 SPOON PCB SAMPLE RESULTS.  
 SAMPLES TAKEN 6/9/92 & 6/11/92

PROJECT NO. NY5068	DWG. NO. SUNY-021-V4
SCALE NTS	



SAMPLE LOCATION	DEPTH (FEET)	RESULTS IN ppm (mg/Kg)
A1	3'3"	9.7
A2	3'3"	3.0
B1	3'3"	4.2
B2	3'7"	1.2

**KEY**

ppm = PARTS PER MILLION  
 mg/Kg = MILLIGRAM PER KILOGRAM  
 T.O.S. = TOP OF SLAB  
 ppm = mg/kg



1	SUNY GAGE HALL	<i>MN</i>		<i>JE</i>	<i>6/1</i>
ISSUE	DESCRIPTION	DRWN	CHKD.	APPR.	DATE



ENVIRONMENTAL SERVICES, Inc.  
 325 Wood Road  
 Braintree, Massachusetts 02184  
 Telephone (617) 849-1800

GAGE VAULT EXCAVATION GRID-DEPTH  
 OF 3'3" AND 3'7" BELOW T.O.S.  
 PCB SAMPLES COLLECTED 6/23/92

PROJECT NO. NY5068  
 SCALE NTS

DWG. NO. SUNY-021-V2

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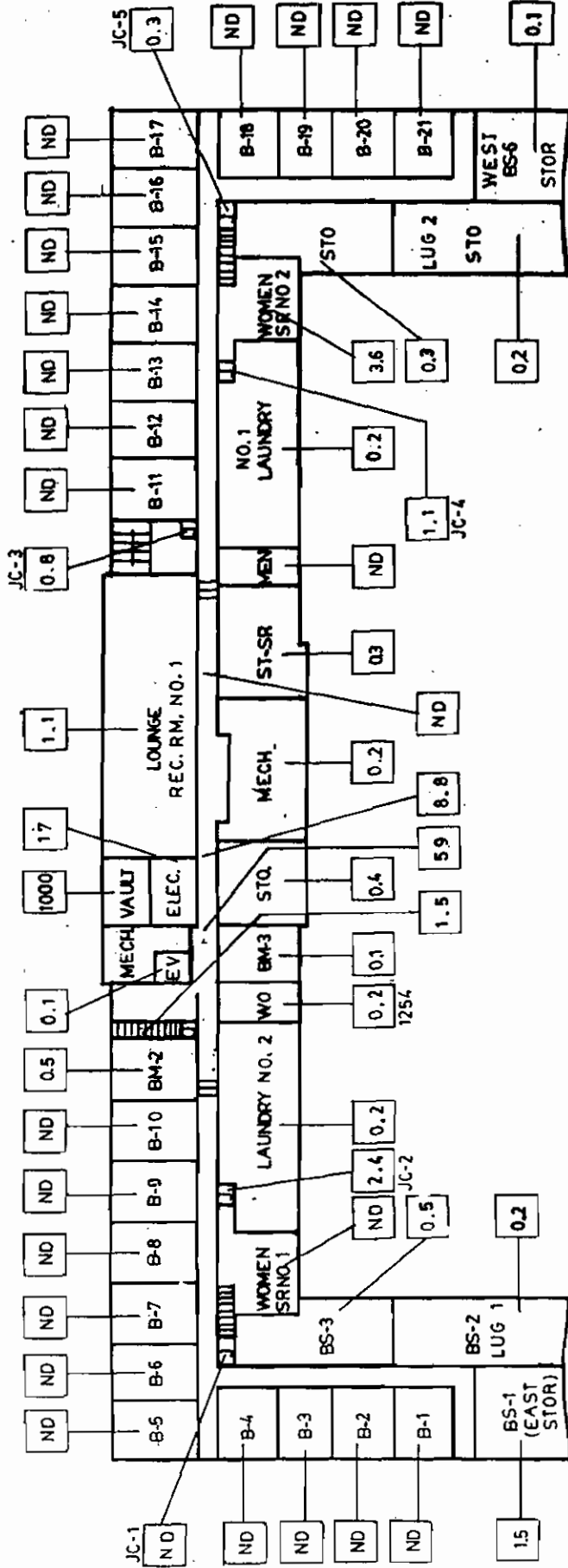
**APPENDIX  
A - 7**

**GAGE PRE-CLEAN PCB  
WIPE SAMPLE RESULTS**

**CleanHarbors**

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**KEY**

UNITS IN  $\mu\text{g}/100\text{sq cm}$   
 ND = NON DETECT  
 LEVELS OF AROCLOR 1260 UNLESS OTHERWISE NOTED



1	SUNY-GAGE HALL	DATE	BY
	DESCRIPTION	SCALE	APPR

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 ENVIRONMENTAL ENGINEERING, INC.

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 Braintree, Massachusetts 02184  
 Telephone (617) 849-1281/1889

**GAGE HALL, BASEMENT**

PRE-CLEAN PCB WIPE SAMPLE  
 RESULTS

PROJECT NO. NY 5068  
 SCALE N.T.S.

DRAW. NO. SUNY-021-AB



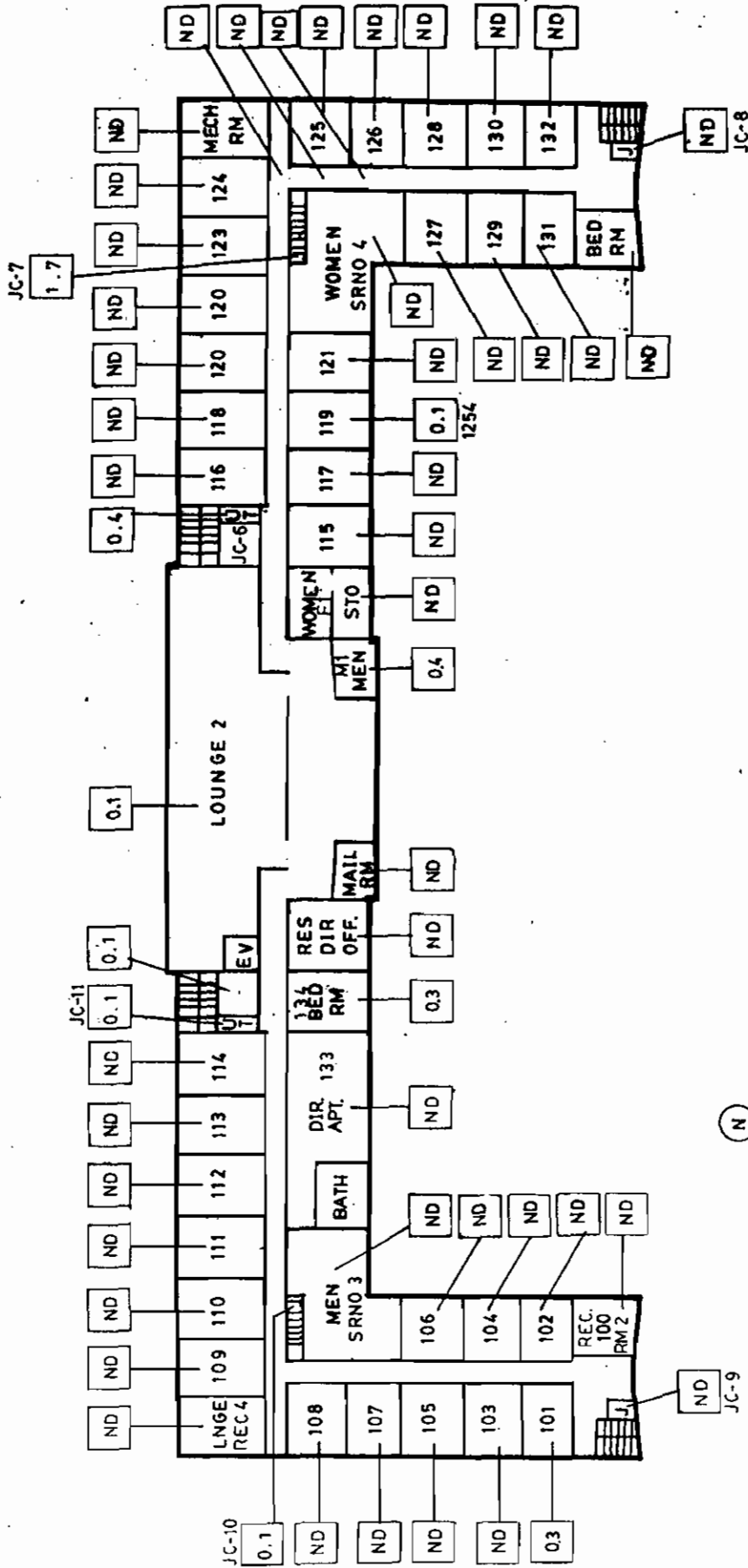


TABLE	DESCRIPTION	DATE	BY
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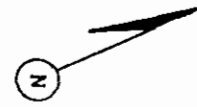
**GAGE HALL 1st FLOOR**  
 PRE-CLEAN PCB WIPE SAMPLE RESULTS

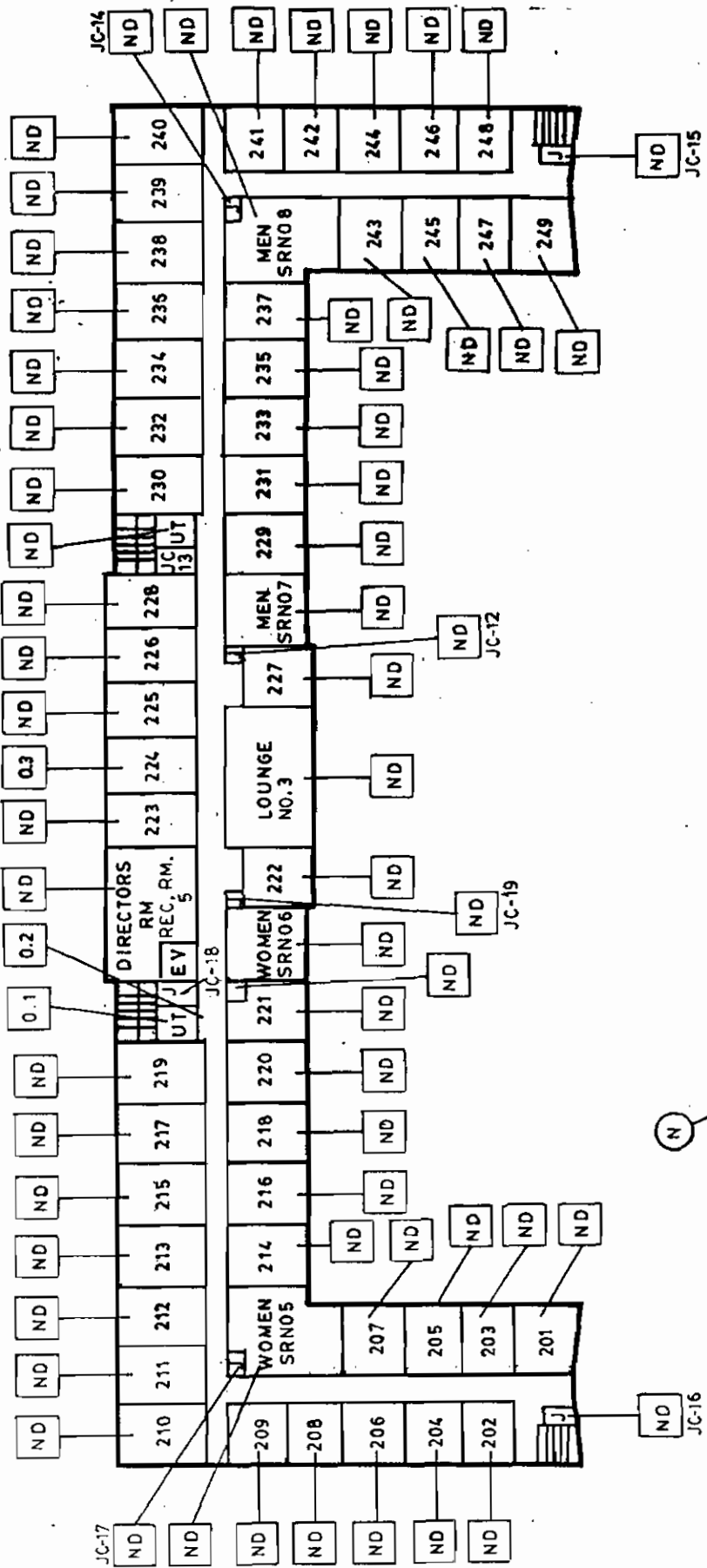
PROJECT NO. NY 6068 PIV. NO. SUNY-021-A1  
 SCALE: N.T.S.

**CleanHarbors**  
 ENVIRONMENTAL ENGINEERING, INC.

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 Braintree, Massachusetts 02184  
 Telephone (617) 849-1244/1899

KEY  
 UNITS IN  $\mu\text{g}/100 \text{ sq cm}$   
 ND = NON DETECT  
 LEVELS OF AROCLOR 1260 UNLESS OTHERWISE NOTED

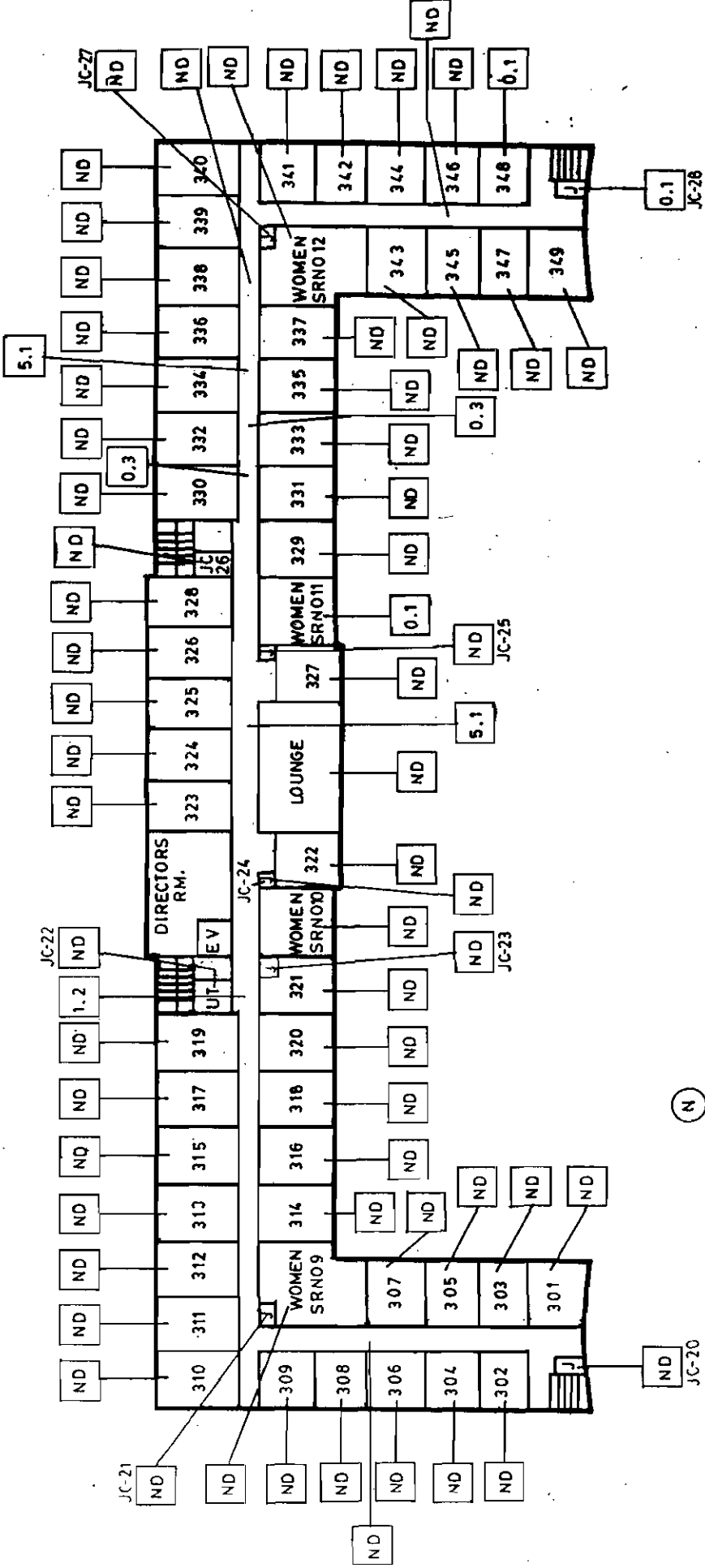




1	SUNY-GAGE HALL	DATE	1/11/84
	DESCRIPTION	ANALYST	CONC. UNIT
<b>GAGE HALL 2nd FLOOR</b>			
PRE-CLEAN PCB WIPE SAMPLE RESULTS			
PROJECT NO. NY 5068		PAGE NO. SUNY-021-A2	
ENV. N.Y.S.			

**Clean Harbors**  
 ENVIRONMENTAL ENGINEERING, INC.  
 325 Wood Road  
 Andover, Massachusetts 02914  
 Telephone (617) 949-1200/1300

KEY  
 UNITS IN A g / 100 sq cm  
 ND = NON DETECT  
 LEVELS OF AROCLOR 1260 UNLESS OTHERWISE NOTED



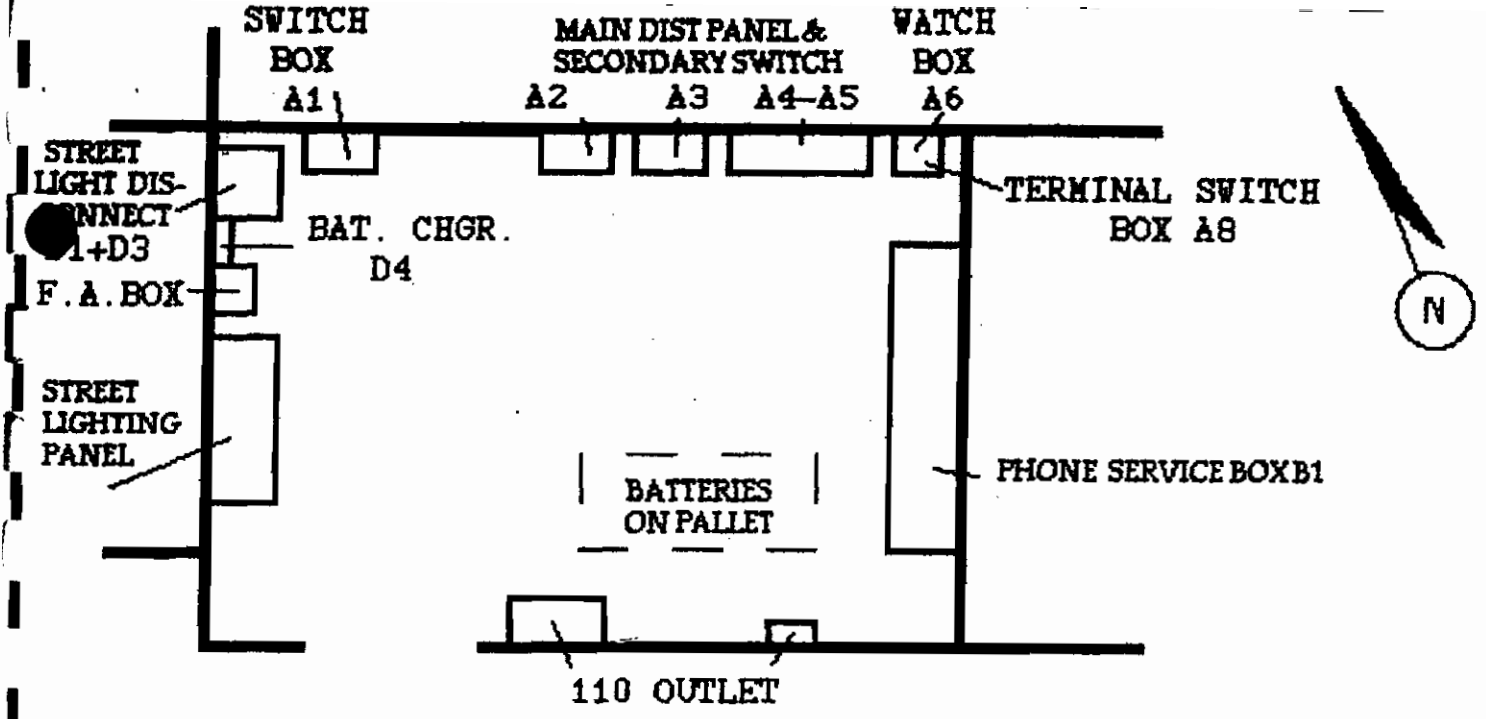
KEY  
 UNITS IN  $\mu\text{g}/100 \text{ sq cm}$   
 ND=NON DETECT  
 LEVELS OF AROCLOR 1260 UNLESS OTHERWISE NOTED



SUNY GAGE HALL		3rd FLO	
DATE	DESCRIPTION	ANALYST	LAB. NO.
1			
GAGE HALL 3rd FLO PRE-CLEAN PCB WIPE SAMPLE RESULTS.			
LABORATORY NO. NY 8058			FORM NO. SUNY-021-A3
STATE OF N.Y.			

**Clean Harbors**  
 ENVIRONMENTAL ENGINEERING, INC.

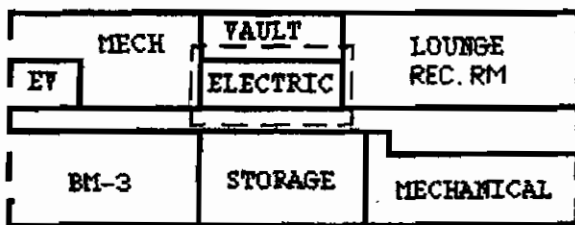
325 Wood Road  
 Brewster, Massachusetts 01824  
 Telephone (617) 849-1200/1201



KEY  
UNITS IN  $\mu\text{g}/100 \text{ sq cm}$

LOCATION	RESULTS
A1 SWITCH BOX	4900 as 1260
A2 MAIN DIST PANEL &	480 as 1260
A3 SECONDARY SWITCH	41 as 1260
A4 " " "	160 as 1260
A5 " " "	100 as 1260
A6 INSIDE OF WATCH BOX	1100 as 1260
A8 INSIDE TERMINAL SWITCH	200 as 1260
B1 INSIDE PHONE SERVICE BOX	2.2 as 1260
D1 STREET LIGHT DISCONNECT	11 as 1260
D3 " " " " "	67 as 1260
D4 INSIDE BATTERY CHGR BOX	25 as 1260
INSIDE STREET LIGHTING PANEL	17 as 1260
FIRE ALARM BOX	480 as 1260

ELECTRICAL ROOM  
DETAIL



1	SUNY GAGE HALL	<i>NN</i>	<i>JE</i>	<i>6/1</i>
ISSUE	DESCRIPTION	DRWN	CHKD.	APPR. DATE



ENVIRONMENTAL SERVICES, INC  
325 Wood Road  
Braintree, Massachusetts 02184  
Telephone (617) 849-1800

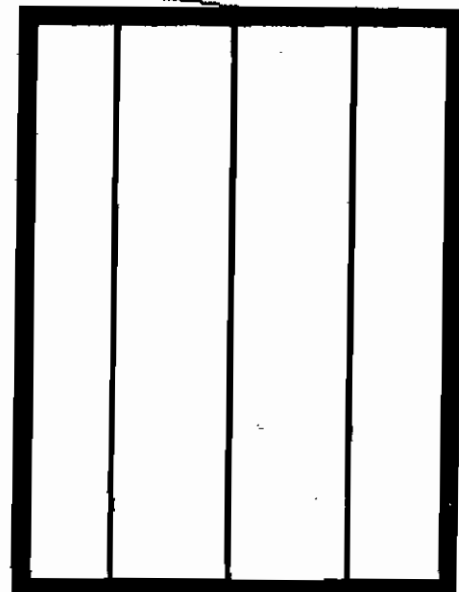
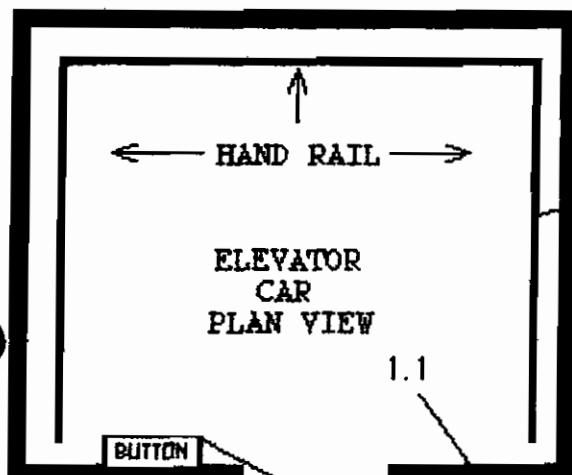
GAGE HALL PRE-CLEAN ELECTRIC  
ROOM PCB WIPE SAMPLE RESULTS.

PROJECT NO. NY5068	DWG. NO. SUNY-021-EL1
SCALE NTS	

SHAFT

3rd FLOOR	0.7	
2nd FLOOR	2.2	
1st FLOOR	0.1	

BUILDING SIDE VIEW (NTS)



26

2.6

2.6

KEY  
 UNITS IN ug/100 sq cm  
 NOTE: ALL SAMPLES ARE 1260  
 UNLESS NOTED.

ELEVATOR  
 CAR  
 FRONT VIEW

1	SUNY GAGE HALL	<i>MN</i>		<i>JE</i>	<i>6/1</i>
ISSUE	DESCRIPTION	DRWN	CHKD.	APPR.	DATE



ENVIRONMENTAL SERVICES, INC  
 325 Wood Road  
 Braintree, Massachusetts 02184  
 Telephone (617) 849-1800

GAGE HALL PRE-CLEAN ELEVATOR  
 SHAFT AND ELEVATOR CAR PCB WIPE  
 SAMPLE RESULTS.

PROJECT NO. NY5068	DWG. NO. SUNY-021-V7
SCALE NTS	

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**APPENDIX**

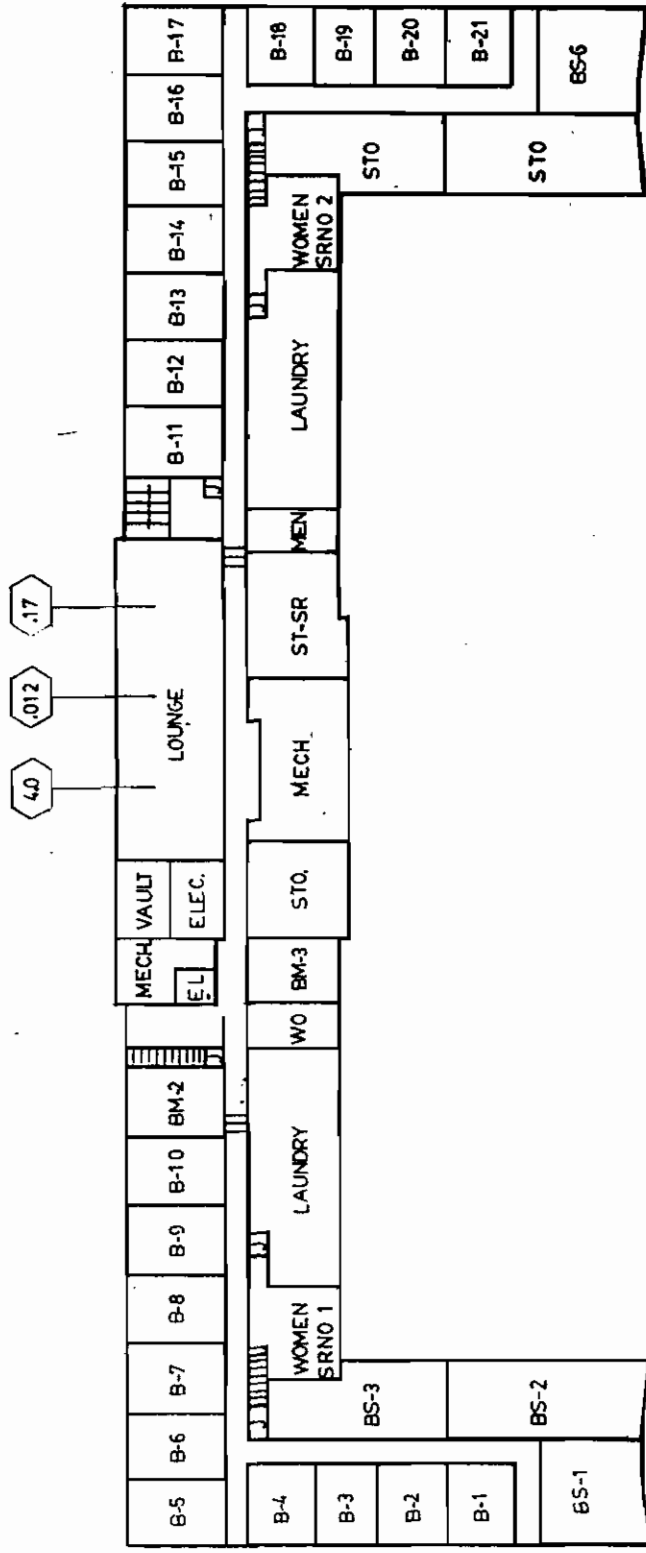
**A - 8**

**GAGE PRE-CLEAN  
DIOXIN / FURAN  
WIPE SAMPLE RESULTS**

**CleanHarbors**

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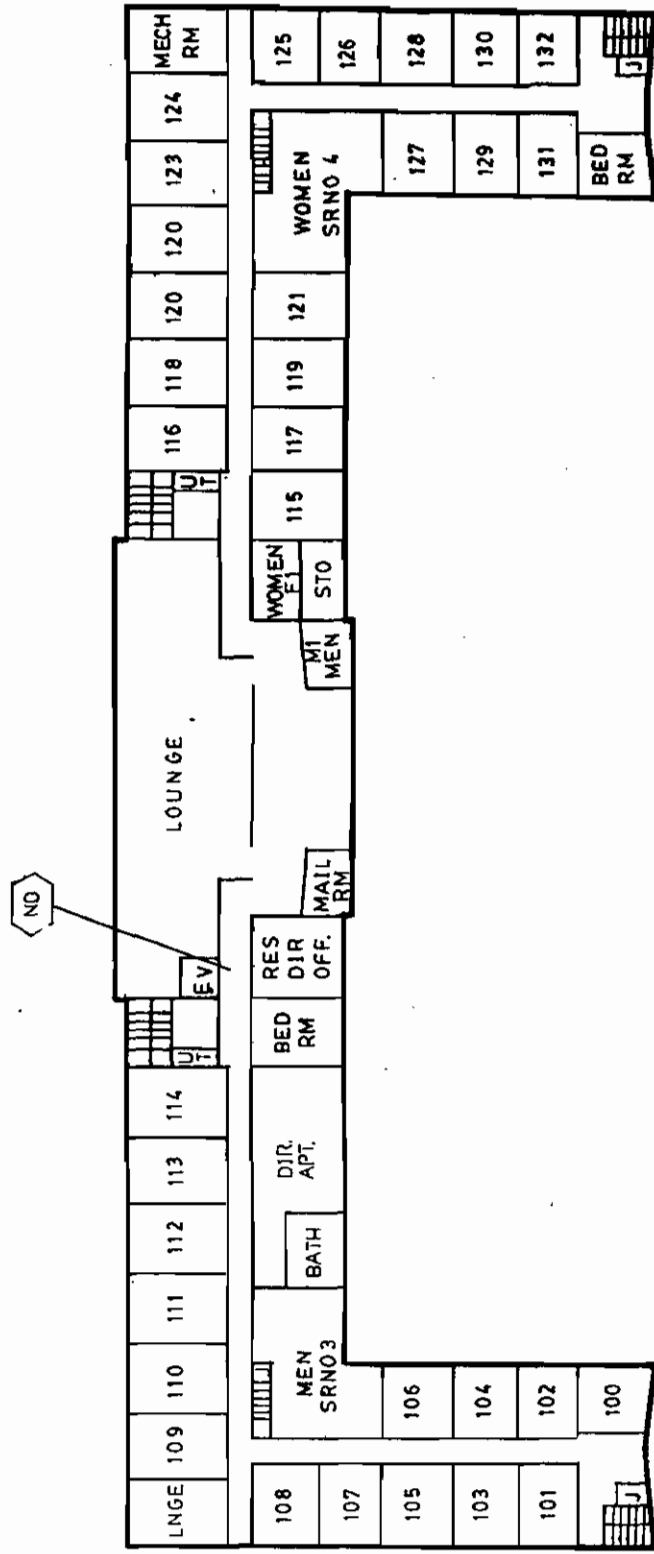
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KEY = UNITS IN ng/sq m

1	SUNY-GAGE HALL	DATE	REVISED	APP'D.
	DESCRIPTION			
<b>GAGE HALL, BASEMENT</b> PRE-CLEAN DIOXIN/FURAN WIPE SAMPLE RESULTS.				
PROJECT NO. NY 5068		PAGE NO. SUNY-021-JB		
SCALE NTS				

**CleanHarbors**  
 ENVIRONMENTAL ENGINEERING, INC.  
 325 Wood Road  
 Braintree, Massachusetts 02184  
 Telephone (617) 849-1290/1808



KEY  
ND=NON DETECT

ISSUE	DESCRIPTION	NOV	DEC	JAN	FEB	MAR	APR	MAY
1	SUNY-GAGE HALL							

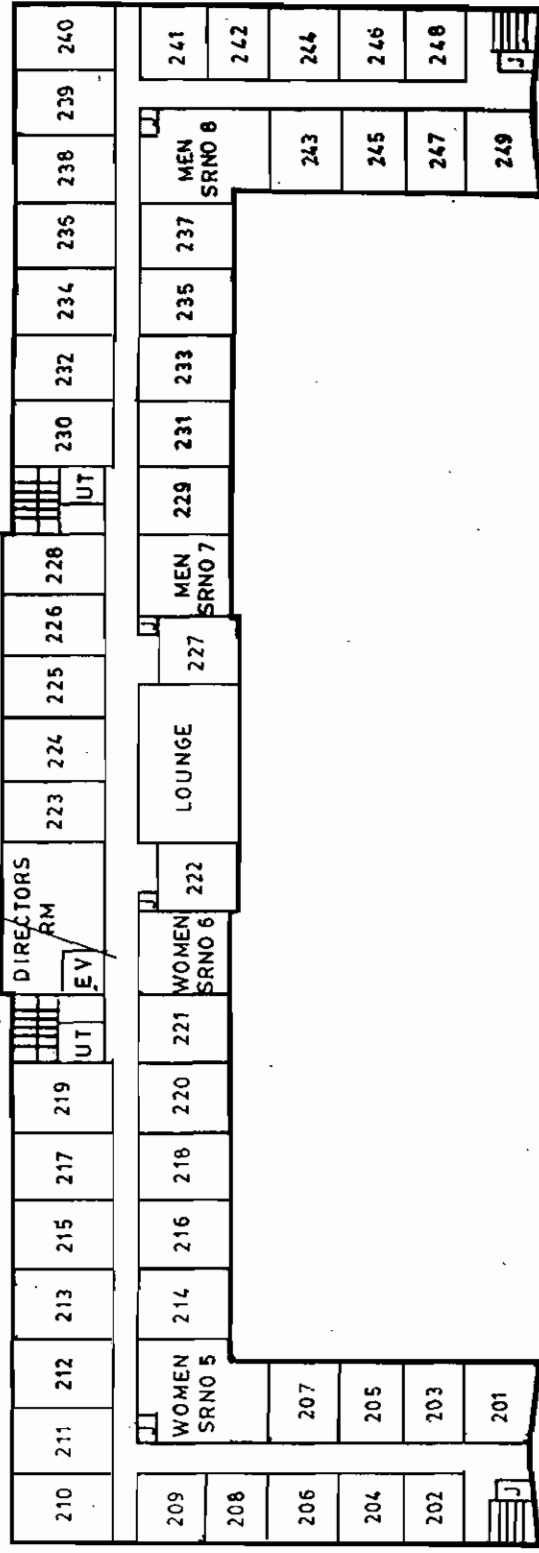
**GAGE HALL 1st FLOOR**  
 PRE-CLEAN DIOXIN/FURAN WIPE  
 SAMPLE RESULTS.

PROJECT NO. NY 5088 INV. NO. SUNY-021-J1  
 STATE, N.Y.S.

**CleanHarbors**  
 ENVIRONMENTAL ENGINEERING, INC.  
 325 Wood Road  
 Braintree, Massachusetts 02041  
 Telephone (617) 849-1200/1000

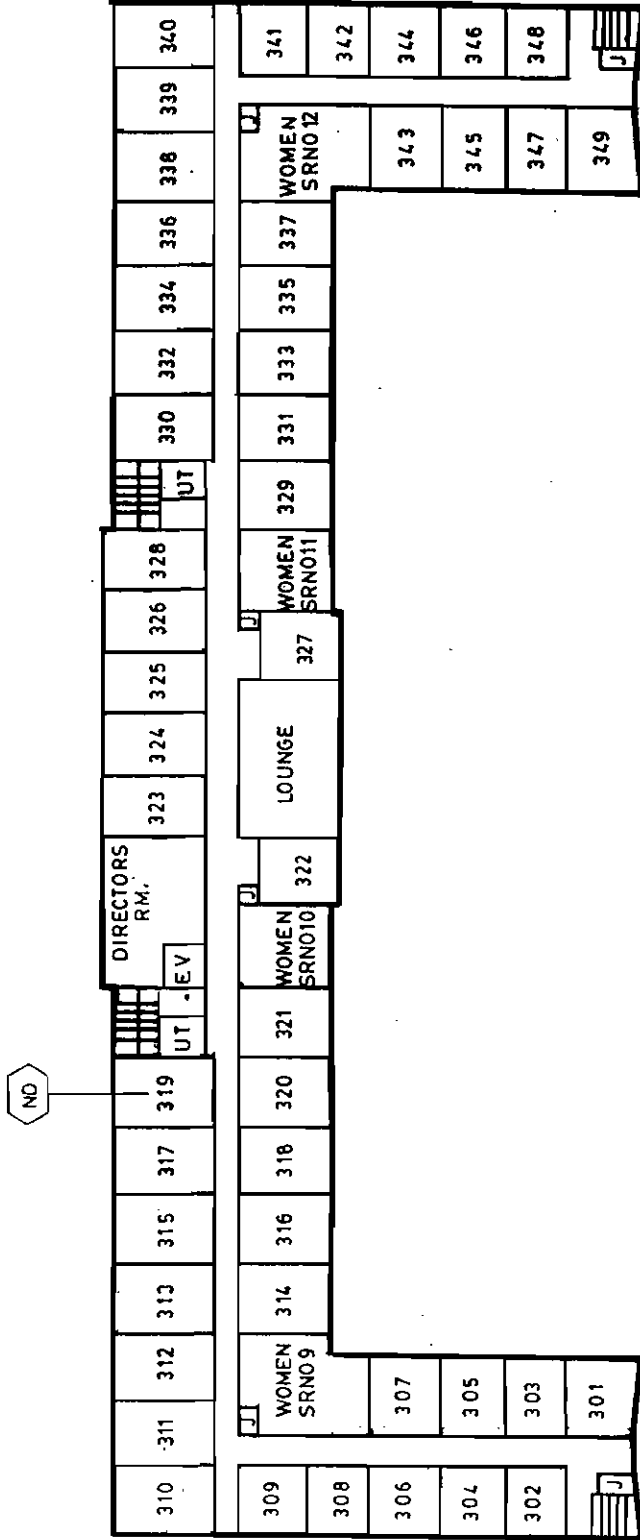


ND



1	SUNY-GAGE HALL	JE	9
DATE:	DESCRIPTION:	NOVA:	CODE:
GAGE HALL 2nd FLOOR			
PRE-CLEAN DIOXIN/FURAN WIPE			
SAMPLE RESULTS.			
PROJECT NO. NY 5068	AVE. NO.	SUNY-021-J2	
FRANC. NYS			

**CleanHarbors**  
 ENVIRONMENTAL ENGINEERING, INC.  
 325 Wood Road  
 Framingham, Massachusetts 01904  
 Telephone (617) 849-1200/1816



1	SUNY-GAGE HALL	AM	TE
ISSUE	DESCRIPTION	DATE	BY
<b>GAGE HALL 3rd FLOOR</b> PRE-CLEAN DIOXIN/FURAN WIPE SAMPLE RESULTS.			
PROJECT NO. NY 5058	DATE	SUNY-021-J3	
SCALE	NTS		

**CleanHarbors**  
 ENVIRONMENTAL ENGINEERING, INC.  
 325 Wood Road  
 Braintree, Massachusetts 02041  
 Telephone (617) 849-1200/1400

KEY  
 ND = NON DETECT

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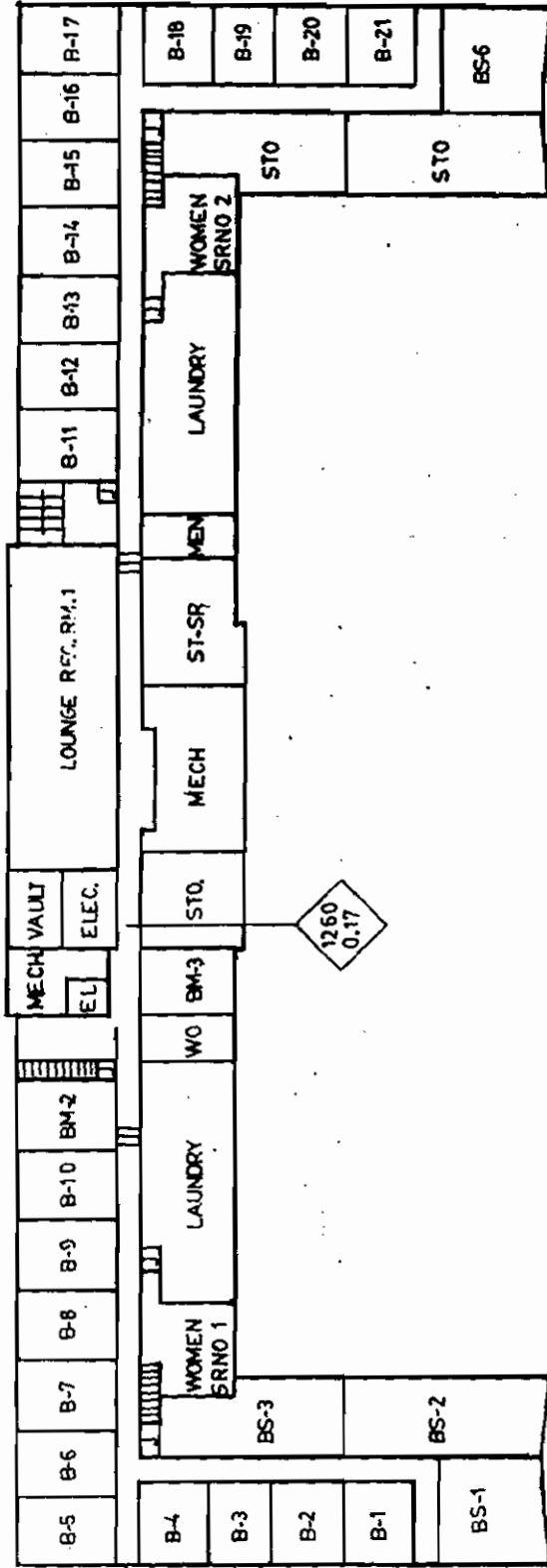
**APPENDIX  
A - 9**

**GAGE PRE-CLEAN PCB  
AIR SAMPLE RESULTS**

**CleanHarbors**

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NO.	DESCRIPTION	DATE	BY
1	SUNY GAGE HALL	MM/YY	JC

**GAGE HALL, BASEMENT**  
 PRE - CLEAN PCB AIR SAMPLE RESULTS.

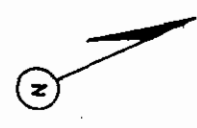
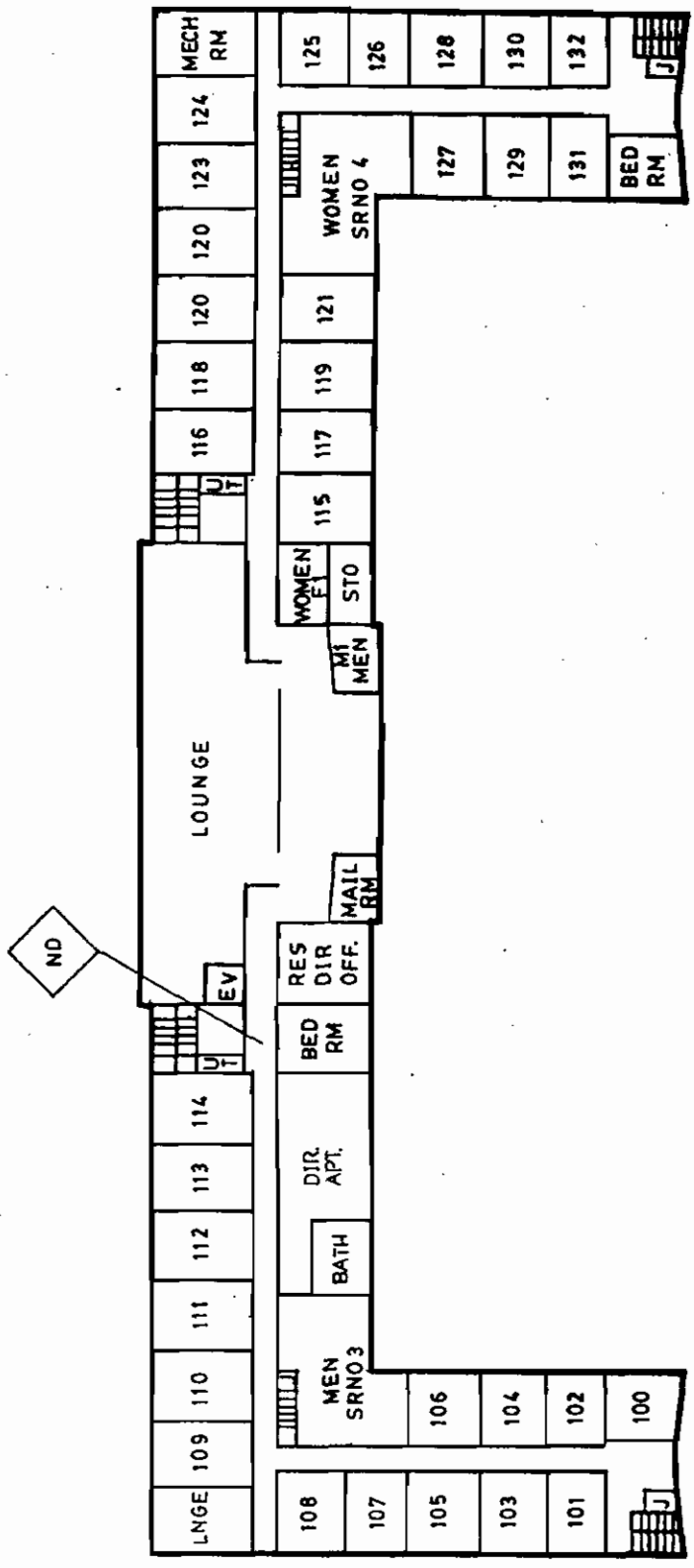
PROJECT NO. NY 5069      DWG. NO. SUNY-021-CB  
 DATE: NLS

**CleanHarbors**  
 ENVIRONMENTAL ENGINEERING, INC.

325 Wood Road  
 Andover, Massachusetts 02914  
 Telephone (617) 949-1200/1800

KEY  UNITS IN  $\mu\text{g}/\text{cu m}$   
 LEVELS OF AROCLOR 1260 UNLESS OTHERWISE NOTED





KEY  UNITS IN  $\mu\text{g}/\text{cu m}$

ND=NON DETECT  
LEVELS OF AROCLOR 1260 UNLESS OTHERWISE NOTED

**CleanHarbors**  
ENVIRONMENTAL ENGINEERING, INC.  
325 Wood Road  
Pawnee, Pennsylvania 15261  
Telephone (412) 949-1000/1001

1	SUNY GAGE HALL	DATE	TIME	OFFICER
	DESCRIPTION			
<b>GAGE HALL 1st FLOOR</b>				
PRE-CLEAN PCB AIR SAMPLE RESULTS.				
PROJECT: N.Y. 5068 PWS NO. SUNY-021-C1				

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**APPENDIX**

**A - 10**

**GAGE OPENING**

**LETTERS**

**CleanHarbors**

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# COUNTY OF ULSTER

300 Flatbush Avenue  
P.O. Box 1800  
Kingston, New York 12401

## HEALTH DEPARTMENT

Masood Ansari, M.D.  
Commissioner of Health  
Patricia J. Cicale, R.N., M.S.  
Director of Patient Services  
Dean N. Palen, P.E., M.B.A.  
Director of Environmental Sanitation  
Walter Dobushak, D.O.  
Medical Examiner



(914) 338-8443  
FAX (914) 338-8443 ext. 200

January 16, 1992

TO: Kristine Edwards, P.E.  
Sr. Building Construction Engineer  
Office of General Services

FROM: Dean Palen, P.E., MBA *Dean N. Palen*  
Director of Environmental Sanitation Division  
Ulster County Health Department

SUBJECT: PCB Wipe Samples in Individual Student Rooms -  
Capen and Gage Residence Halls

As soon as possible, the lead consultant (Clean Harbors) should be directed to take PCB wipes from a desk surface in each student's room in Capen and Gage Residence Halls.

Results of these wipes will be used to determine when these Residence Halls will be allowed to reopen.

DP/ds

cc: Dr. Ansari, Ulster County Dept. of Health  
Mark Knudsen, NYS Dept. of Health  
Dr. Alice Chandler, President, SUNY New Paltz

# Clean Harbors

ENVIRONMENTAL SERVICES COMPANIES  
1200 CROWN COLONY DRIVE  
P.O. BOX 9137  
QUINCY, MA 02269  
(617) 849-1800

February 3, 1992

Mr. Dean N. Palen, P.E., MBA  
Director of Environmental Sanitation Division  
Ulster County Health Department  
300 Flatbush Avenue  
Kingston, New York 12401

Dear Mr. Palen:

Additional analysis of samples taken in the first floor reception room and study #1, reception room and study room #2, mail room, men's room and ladies' room of Gage Hall are complete and based on the results received from, Clean Harbors Analytical Services Inc., and in consideration of the levels of contamination which are acceptable for occupancy, as developed by your Department, we feel that these rooms fulfill these requirements.

The vault, electrical room and recreation room are all properly sealed off from public access. The elevator is included within the sealed exclusion zone. This area should remain restricted until the final remediation of the enclosed areas and subsequent analysis that the area conforms to the re-occupancy criteria is completed.

Sincerely,

*Thony Kelly for Paul Pukk 2/3/92*

Paul Pukk  
Senior Project Manager  
Clean Harbors of Kingston, Inc.

cc: Kristine Edwards, NYS Office of General Services  
Mark Knudsen, NYS Department of Health  
Dr. Ansari, Ulster County Health Dept.



# COUNTY OF ULSTER

300 Flatbush Avenue  
P.O. Box 1800  
Kingston, New York 12401

## HEALTH DEPARTMENT

Masood Ansari, M.D.  
Commissioner of Health  
Patricia J. Cicale, R.N., M.S.  
Director of Patient Services  
Dean N. Palen, P.E., M.B.A.  
Director of Environmental Sanitation  
Walter Dobushak, D.O.  
Medical Examiner



(914) 338-8443  
FAX (914) 338-8443 ext. 200

February 4, 1992

Dr. Alice Chandler, President  
State University of New York  
College at New Paltz  
Route 32  
New Paltz, NY 12561

Dear Dr. Chandler:

In consultation with the New York State Department of Health, I have reviewed the PCB wipe sample results from Clean Harbors Analytical Services, Inc., for the first floor reception room and study #1, reception room and study #2, mail room, men's room and ladies' room of Gage Hall. In recognition of the PCB levels not being elevated above the cleanup level, the Department recommends that the above mentioned rooms of Gage Hall, Building #21, can be reopened for general admission. The basement level transformer room, electrical room, recreation room, and elevator, which have been sealed off, remain restricted.

If you have any questions regarding this recommendation, please contact me.

Sincerely yours,

A handwritten signature in cursive script that reads "Dean N. Palen".

Dean N. Palen, P.E., MBA  
Director of Environmental  
Sanitation Division  
Ulster County Health Department

DNP/ds

Attachment

cc: Dr. Ansari, Ulster County Health Dept.  
Mark Knudsen, NYS Department of Health  
Kristine Edwards, NYS Office of General Services  
Lindo Signorelli, SUNY Office for Capital Facilities  
Paul Pukk, Clean Harbors

# Clean Harbors

ENVIRONMENTAL SERVICES COMPANIES

24 HOUR SERVICE

P.O. BOX 1812

ALBANY, N.Y. 12201

(518) 434-0149

May 13, 1992

Mr. Dean N. Palen, P.E., MBA  
Director of Environmental Sanitation Division  
Ulster County Health Department  
300 Flatbush Avenue  
Kingston, New York 12401

Dear Mr. Palen:

Due to the recently received PCB wipe sample results I feel that the bicycles that were originally located in Gage Hall have conformed with the cleanup criteria designated for their evaluation. The final PCB composite wipe sample result was Non-Detect.

Please find the Sampling Plan for the bicycles attached.

Sincerely,



Paul Pukk  
Senior Project Manager  
Clean Harbors of Kingston, Inc.

cc: Kristine Edwards, NYS Office of General Services  
Mark Knudsen, NYS Department of Health  
Dr. Ansari, Ulster County Health Dept.

# COUNTY OF ULSTER

300 Flatbush Avenue  
P.O. Box 1800  
Kingston, New York 12401

## HEALTH DEPARTMENT

Masood Ansari, M.D.  
Commissioner of Health  
Patricia J. Cicale, R.N., M.S.  
Director of Patient Services  
Dean N. Palen, P.E., M.B.A.  
Director of Environmental Sanitation  
Walter Dobushak, D.O.  
Medical Examiner



(914) 338-5443  
FAX (914) 338-8443 ext. 200

May 13, 1992

Dr. Alice Chandler, President  
State University of New York  
College at New Paltz  
Route 32 South  
New Paltz, NY 12561

Dear Dr. Chandler:

In consultation with the New York State Department of Health, I have reviewed the latest PCB wipe sample results from the bicycles originally located in Recreation Room #1 in the basement of Gage Hall. In recognition of the PCB levels being non-detect, the bicycles can be returned immediately to the owners of record.

If you have any questions regarding this recommendation, please contact me.

Sincerely yours,

Dean N. Palen, P.E., MBA  
Director of Environmental  
Sanitation Division  
Ulster County Health Department

DNP/ds

Attachment

cc: Dr. Ansari, Ulster County Health Dept.  
Mark Knudsen, NYS Department of Health  
✓ Kristine Edwards, NYS Office of General Services  
Lindo Signorelli, SUNY Office for Capital Facilities  
Paul Pukk, Clean Harbors

FILE

GAGE Gen.  
CORR.

# Clean Harbors

ENVIRONMENTAL SERVICES COMPANIES

24 HOUR SERVICE

32 BASK ROAD

GLENMONT, NY 12077

(518) 434-0149

(518) 434-9118 (FAX)

Aug. 21, 1992

Mr. Dean N. Palen, P.E., MBA  
Director of Environmental Sanitation Division  
Ulster County Health Department  
300 Flatbush Avenue  
Kingston, New York 12401

Dear Mr. Palen:

Due to the recently received PCB wipe, Dioxin/Furan wipe and air sample results received from, Clean Harbors Analytical Services Inc., ETC. laboratories, the Wadsworth Center for Laboratories and Research, Twin City Testing Corp., and C.T. Male, and in consideration of the levels of contamination which are acceptable for occupancy, as developed by your Department, we feel that Gage Hall, except the former vault area, fulfills the requirements.

Access shall be restricted to the following areas:

- o The former transformer vault until additional evaluation has been performed.
- o The recreation room in the basement until renovations have been completed.

If you have any questions about these buildings or any other items pertaining to this job please do not hesitate to contact us.

Sincerely,



Paul Pukk  
Senior Project Manager  
Clean Harbors of Kingston, Inc.

cc: Kristine Edwards, NYS Office of General Services  
Mark Knudsen, NYS Department of Health  
Dr. Ansari, Ulster County Health Dept.

# COUNTY OF ULSTER

300 Flatbush Avenue  
P.O. Box 1800  
Kingston, New York 12401

## HEALTH DEPARTMENT

Masood Ansari, M.D.  
Commissioner of Health  
Patricia J. Cicale, R.N., M.S.  
Director of Patient Services  
Dean N. Palen, P.E., M.B.A.  
Director of Environmental Sanitation  
Walter Dobushak, D.O.  
Medical Examiner



(914) 338-8443  
FAX (914) 338-8443 ext. 200

August 21, 1992

Dr. Alice Chandler, President  
State University of New York  
College at New Paltz  
Route 32 South  
New Paltz, NY 12561

Dear Dr. Chandler:

In consultation with the New York State Department of Health, I have reviewed the recently received PCB wipe, Dioxin/Furan wipe and air sample results from Clean Harbors Analytical Services, Inc., ETC. Laboratories, Ltd., the Wadsworth Center for Laboratories and Research, Twin City Testing Corp. and C.T.M Analytical Labs. for Gage Hall.

In recognition of the sample results being below the clean up level, the department will allow the elevator to be placed back in service immediately. The recreation room in the basement may be reopened upon completion of renovations by College staff. The only area that remains restricted is the former transformer vault.

If you have any questions regarding this recommendation, please contact me.

Sincerely yours

A handwritten signature in black ink that reads "Dean N. Palen".

Dean N. Palen, P.E., MBA  
Director of Environmental  
Sanitation Division  
Ulster County Health Department

DNP/ds  
Attachment

cc: Dr. Ansari, Ulster County Health Dept.  
Mark Knudsen, NYS Department of Health  
Kristine Edwards, NYS Office of General Services  
Lindo Signorelli, SUNY Office for Capital Facilities  
Paul Pukk, Clean Harbors

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**APPENDIX**

**A - 11**

**BACKFILL SPECIFICATIONS**

**CleanHarbors**

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SUNY  
07/07/92  
Backfilling Specifications  
Page 1.0 Rev. 1.0  
Document # 7069202

Scope: To comprehensively outline the requirements necessary to complete the backfilling procedures associated with the soil remediation at buildings where excavation will take place.

## Backfilling

### 1.0 General Backfill

A. All backfill required for structures and trenches and required to provide the finished grades shown and as described herein shall be furnished, placed and compacted by the CONTRACTOR. Unless otherwise specified fill may be obtained from off-site sources. All materials used for filling and backfilling shall be clean soils of acceptable quality and shall be free from boulders, excessive clay, frozen lumps, wood, stumps, sludge or other organic material or deleterious materials. Clean excavated materials meeting these requirements may be used as backfill.

B. Backfill excavations as promptly as work permits, but not until completion of the following:

1. Acceptance by ENGINEER of construction below finish grade including dampproofing, waterproofing, and perimeter insulation.
2. Inspection, testing, approval, and recording of locations of underground utilities.
3. Removal of shoring, bracing and backfilling of voids with satisfactory materials.
4. Removal of trash and debris.

C. Excavation shall be kept dry during backfilling operations. Backfill around structures and piping shall be brought up evenly on all sides.

D. Unless otherwise specified or directed by the ENGINEER fill shall be placed in loose lifts not exceeding 12 inches in thickness and shall be mixed and spread in a manner assuring uniform lift thickness after placing.

E. The water content of fill material shall be controlled during placement within the range necessary to obtain the compaction specified. In general, the moisture content of the fill shall be within three (3) percent of the optimum water content for compaction as determined by laboratory tests. CONTRACTOR shall perform all necessary work to adjust the water content of the material to within the range necessary to permit the compaction specified. No fill material shall be placed when free water is standing on the surface of the area where the fill is to be placed. No compaction of fill will be permitted with free water on any portion of the fill to be compacted.

F. Compaction of fill shall be performed with equipment suitable for the type of material placed and which is capable of providing the densities required. CONTRACTOR shall select compaction equipment and submit it and his proposed procedure to the ENGINEER for approval.

G. Fill shall be compacted by at least two coverages of all portions of the surface of each lift by compaction equipment. One coverage is defined as the condition obtained when all portions of the surface of the fill material have been subjected to the direct contact of the compactor.

H. The effectiveness of the equipment selected by the CONTRACTOR shall be tested at the commencement of compacted fill work by construction of a small section of fill within the area where fill is to be placed. If tests on this section of fill show that the specified compaction is not obtained, the CONTRACTOR shall increase the amount of coverages, decrease the lift thicknesses or obtain a different type of compactor.

I. Backfill around structures shall be performed using the specified procedures, except that within ten (10) feet of foundations and underground structures, light compaction equipment should be used, with the gross weight of the equipment not exceeding 7,000 lbs. Provide equipment that is capable of the required compaction within restricted areas next to structures and around piping.

J. The minimum density for general backfill shall be 95 percent of the maximum density obtained in the laboratory in accordance with ASTM D 698 Method C including Note 2. This percentage is of standard Proctor density. Testing shall only be required if directed by the ENGINEER.



K. If the specified densities are not obtained because of improper control of placement or compaction procedures, or because of inadequately or improperly functioning compaction equipment, the CONTRACTOR shall perform whatever work is required to provide the required densities. This work shall include complete removal of unacceptable fill areas, replacement and recompaction until acceptable fill is provided.

## 2.0 Select Fill

A. Select fill shall be provided in the following locations:  
1. Support below and around piping and foundations.  
2. Where shown or directed by ENGINEER.

B. Subgrade surface shall be level, dry, firm and subject to ENGINEER'S approval. Fill shall not be placed if any water is on the surface of area to receive fill. Fill shall not be placed or compacted in a frozen condition or on top of frozen material.

C. Fill shall be placed in horizontal loose lifts of 12 inches maximum thickness. It shall be mixed and spread in a manner to assure uniform lift thickness after placing.

D. Each layer of fill shall be compacted before placement of the next lift.

E. Fill containing lumps, pockets or concentrations of silt or clay, rubble, debris, wood or other organic matter shall not be placed. Fill containing unacceptable material shall be removed and disposed of.

F. The water content of the fill being compacted shall be above the bulking water content for the material. CONTRACTOR shall wet the fill materials during placement to achieve water contents needed for effective compaction.

G. Compaction of fill shall be performed with equipment suitable for the type of material being placed. CONTRACTOR shall select equipment which is capable of providing the densities required and shall submit the equipment to the ENGINEER for approval.

H. Vibratory rollers or vibratory plate compactors are suitable for compaction of select fill. Each layer of fill material shall be compacted by at least two complete

coverages of all portions of the surface of each lift using approved compaction equipment. One coverage is defined as the condition reached when all portions of the fill lift have been subjected to the direct contact of the compacting surface of the compactor.

I. The minimum density to be obtained in compacting the select fill shall be 95 percent of maximum density obtained in the laboratory in accordance with ASTM D 698 Method C including Note 2. This percentage is of standard Proctor density. If the field and laboratory tests indicate unsatisfactory compaction, CONTRACTOR shall provide the additional compaction necessary to obtain the specified degree of compaction.

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**APPENDIX**

**A - 12**

**GAGE EXTERNAL  
EXCAVATION GRIDS**

**CleanHarbors**

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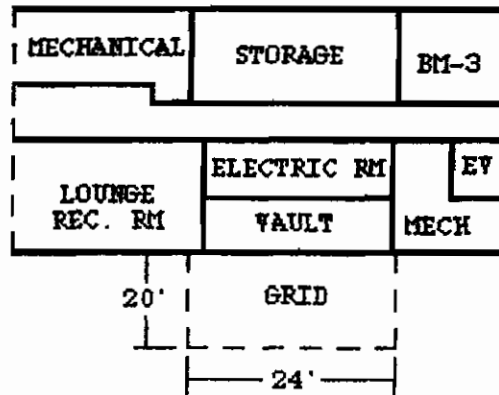
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1	4	4	4	7	7	7	10	10	10	10	3
1	5	5	5	8	8	8	11	11	11	11	3
1	5	5	5	8	8	8	11	11	11	11	3
1	5	5	5	8	8	8	11	11	11	11	3
1	6	6	6	9	9	9	12	12	12	12	3
1	6	6	6	9	9	9	12	12	12	12	3
1	6	6	6	9	9	9	12	12	12	12	3



RESULTS IN  
ppm (mg/Kg)

GRID SECTION

1	1.6
2	ND
3	ND
4	2.6
* 5	110.0
6	9.2
7	1.2
8	1.1
9	ND
10	ND
11	ND
12	ND



GRID LOCATION DETAIL

\* NOTE: GRID SECTION #5 WAS ADVANCED TO THE LEVEL OF TWO FEET. THE RESULT WAS (ND).

KEY

- ND = NON DETECT
- mg/kg = milligrams per kilogram
- T.O.G. = TOP OF GRADE
- ppm = parts per million
- ppm = mg/kg

NOTE: ALL SAMPLES WERE TAKEN AT ONE FOOT BELOW TOP OF GRADE.

1	SUNY GAGE HALL	MN	JE	6/1
ISSUE	DESCRIPTION	DRAWN	CHKD.	APPR. DATE



ENVIRONMENTAL SERVICES, INC  
325 Wood Road  
Braintree, Massachusetts 02184  
Telephone (617) 849-1800

GAGE HALL INITIAL EXTERNAL  
EXCAVATION GRID PCB SAMPLE  
RESULTS. SAMPLES COLLECTED  
8/7/92 & 8/11/92.

PROJECT NO. NY5068

DWG. NO.

SUNY-021-V5

SCALE NTS

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**APPENDIX**

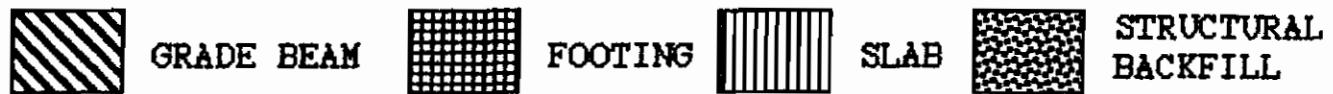
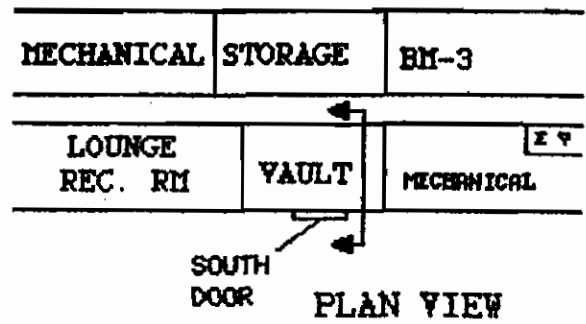
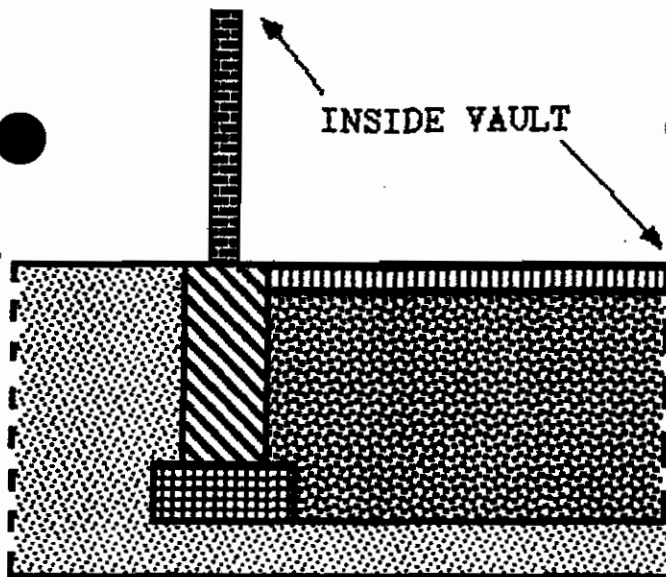
**A - 13**

**GAGE VAULT PCB  
WIPE SAMPLE RESULTS**

**CleanHarbors**

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SOUTH WALL	NORTH WALL	EAST WALL	WEST WALL	CEILING	SOUTH GRADE BEAM	SOUTH DOOR
16	26	56	24	1.0	41	32
46	64	58	20		140	
22 (WEST HALF OF WALL)					450 (CHIP)*	
26 (WEST HALF OF WALL)					940 (CHIP)*	
40 (EAST HALF OF WALL)						
21 (EAST HALF OF WALL)						

ALL PCB WIPE SAMPLE RESULTS ARE GIVEN IN ug/100 sq cm.  
 ALL (CHIP) SAMPLE RESULTS ARE GIVEN IN mg/kg.

**KEY**  
 mg/Kg = MILLIGRAM PER KILOGRAM  
 \* = CHIP SAMPLES

1	SUNY GAGE HALL	<i>NN</i>	<i>JE</i>	<i>6/1</i>
ISSUE	DESCRIPTION	DRWN	CHKD.	APPR. DATE



ENVIRONMENTAL SERVICES, INC  
 325 Wood Road  
 Braintree, Massachusetts 02184  
 Telephone (617) 849-1800

GAGE HALL VAULT PRE-CLEAN  
 GRADE BEAM, WALL, AND DOOR  
 PCB SAMPLE RESULTS.

PROJECT NO NY5068  
 SCALE NTS

DWG. NO. SUNY-021-V6

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**APPENDIX**

**A - 14**

**ENCAPSULANT  
SPECIFICATIONS**

**CleanHarbor<sup>®</sup>**

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# Dudick Inc.

Dudick Incorporated  
Corrosion-Proof Products  
1818 South Wason Drive  
Streetsboro, Ohio 44241

216-562-1970  
FAX No. 216-562-7638

## RECOMMENDED APPLICATIONS

Food Processing Floors	Dike Areas
Plating Room Floors	Chemical
Pickling Room Floors	Storage
Chemical Laboratories	
Truck Loading Platforms	

## CHEMICAL RESISTANCE

Organic Acids	Oils
Inorganic Acids	Salts
Alkali Solutions	
Solvents (900 SF only)	

A complete listing of substances and concentrations tested is available on request.

## PHYSICAL PROPERTIES

Compressive Strength ASTM C579	9,500 PSI
Tensile Strength ASTM D638	1,800 PSI
Flexural Strength ASTM C580	4,000 PSI
Thermal Shock Resistance	40°F-160°F

## SPECIFICATIONS

Topping shall be 1/16" thick, unreinforced vinyl ester material as manufactured by Dudick Inc., applied over primed concrete using a squeegee or notched trowel. Alternate successive layers of broadcast sand and resin to build a 1/16" layer. A pig-

## Protecto-Crete 800 SF/900 SF

SQUEEGEE-APPLIED, VINYL ESTER RESIN  
SEEDED FLOOR AT 1/16" (1.6 mm) - 1/8" (3.17 mm)

Protecto-Crete 800 SF is a high performance vinyl ester, non-slip floor topping with excellent resistance to a wide variety of acids and caustics.

Protecto-Crete 900 SF, in addition, will resist many of the organic solvents.

mented sealer coat is applied over the cured basecoat. Application and installation shall be according to the manufacturer's recommendations.

## THE PROTECTO-CRETE 800 SF/900 SF SYSTEM

The Protecto-Crete 800 SF and 900 SF System uses a primer and a heavily sand-filled, vinyl ester coat to achieve a strongly bonded monolithic topping with excellent physical and mechanical strength and chemical resistance.

**Primer:** The blasted or etched concrete surface must be primed to provide the "wetting out" required for good bonding. Priming is achieved with Primer 27 and Protecto-Crete 800 SF/900 SF should be applied while the primer is still tacky.

**Basecoat:** The sand-filled Protecto-Crete 800 SF/900 SF basecoat develops a cured strength two to three times that of the concrete base to which it is applied to provide exceptional durability and prolong the life of the substrate from corrosion and mechanical abuse.

**Broadcast:** Silica sand or assorted grit is provided for non-slip texture. The silica sand is broadcasted to complete saturation and the excess removed.

**Sealer Coat:** To achieve the desired finish, a pigmented sealer coat is applied. Available in 6 standard colors: Gray, Beige, Tan, Blue, Green, and Red.



This will produce a 1/16" thick topping. If additional thickness is needed, repeat the above steps.

When thicknesses of 1/8" - 1/4" are desired, it is highly recommended that the application be done in 2 successive layers (for example: 1/8" thickness requires 2-1/16" layers; 1/4" thickness requires 2-1/8" layers, etc.) Using 2 "seed coats" assures greater uniformity in both thickness as well as aesthetic quality.

#### SEALER COAT

Apply sealer coat with roller. Allow to cure overnight.

An optional second coat may be applied after the first coat has cured.

Allow Protecto-Crete 800 SF/900 SF to cure overnight before subjecting the area to foot traffic. Allow to cure 1-2 days at 70°F before permitting truck traffic.

#### Pot Life and Cure Cycles:

Protecto-Crete 800 SF/900 SF		
Temperature	Pot Life	Cure Time
50°F	50-60 Min.	72 Hrs.
75°F	30-40 Min.	48 Hrs.
90°F	20-30 Min.	24 Hrs.

Protecto-Crete 800 SF/900 SF Sealer		
Temperature	Pot Life	Cure Time
50°F	50-60 Min.	72 Hrs.
75°F	30-40 Min.	48 Hrs.
90°F	20-30 Min.	24 Hrs.

Do not attempt to store mixed material. Residual material should be properly disposed of at the end of each work period.

Recommended application temperatures should be between 50°F and 110°F substrate temperature.

Application of Protecto-Crete 800 SF/900 SF in direct sunlight may lead to blistering, pinholes, or wrinkling in the floor topping due to outgassing of air in the concrete and high substrate temperatures.

#### CLEANING

Use S-10 Cleaning Solvent to clean tools and equipment.

#### SHIPPING

The S-10 Cleaning Solvent is a red label item with a flash point of 52°F (PMCC). The hardener is classified as Organic Peroxide and carries a yellow warning label. Protecto-Crete liquids are red label items and classified flammable.

#### STORAGE

**Warning:** All Dudick products classified by DOT labels as either white, yellow or red labels must not be mixed or stored together as an explosive reaction may occur.

Protecto-Crete Liquid and Hardener are flammable and an oxidizer, respectively, and should be stored in a cool, dry place, away from open flame, sparks and other hazards. Protecto-Crete 800 SF/900 SF ingredients are stable for 3 months when properly stored under 75°F. Excessive heat may cause premature gelling and reduce available working time (pot life).

#### SAFETY

**M.S.D.S. - Sheets must always be read before using products.** Protecto-Crete systems are intended for application by experienced, professional personnel. Dudick Inc., can supply Protecto-Crete systems supervision to help determine that the surface has been properly prepared, the ingredients correctly mixed, and the materials properly and safely applied.

If Protecto-Crete materials are to be applied by your own personnel or by a third-party contractor, please be sure that they are aware of the following safety precautions:

- Exposure to vinyl ester resins and hardeners may cause severe dermatitis reactions in some people. Cleanliness of the skin and clothing is critical and must be of paramount concern.

## Protecto-Crete 800 SF/900 SF

Squeegee-Applied, Vinyl Ester Resin Seeded  
Floor at 1/16" (1.6 mm) - 1/8" (3.17 mm)

Dudick Incorporated  
Corrosion-Proof Products

Quantities shown are for estimating purposes only. Actual field usage may vary.

## APPLICATION INSTRUCTIONS

### SURFACE PREPARATION

**Concrete:** Concrete must be abrasive-blasted or etched with muriatic acid (solution of 1 part 20° Be HCl and 1 part water) to remove surface laitance and other contaminants. Concrete must be dry and free of curing compounds and form release agents. Surface texture should be similar to 40-60 grit sandpaper. The prepared surface should have a tensile strength of between 250 and 300 PSI per ASTM D4541.

Additional surface preparation will be required if a 40-60 grit texture is not achieved and the surface laitance not completely removed after a single application of acid or with the first mechanical preparation procedure.

### Hardener Amount/Gal. Resin:

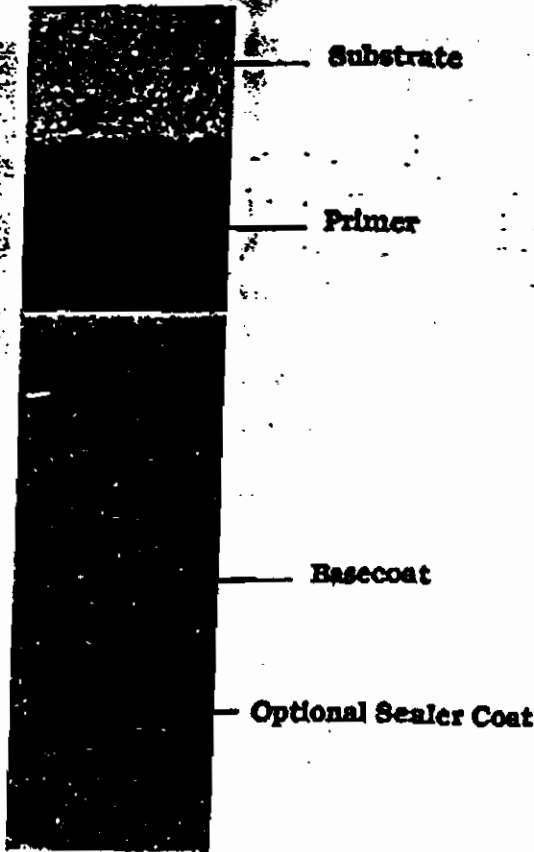
Hardener	Substrate Temperature	Primer 27	P-Crete 800/900SF Basecoat & Sealer
PH-1	60°-70°F	3-4 oz.	3-4 oz.
PH-1	70°-90°F	2-3 oz.	2-3 oz.

### PRIMING

**Concrete:** Concrete must always be primed to aid in the "wetting out" required for good bonding. Mix Primer 27 with PH-1 Hardener for 2-3 minutes and apply with brush, roller or spray. Do not allow the primer to puddle. We recommend the basecoat be applied over tacky primer.

### BASECOAT

Prior to adding catalyst, mix Component A for 1-2 minutes to assure that any pigment or filler which may have settled to the bottom is redispersed so that a uniform color is achieved. Add appropriate amount of hardener with 1 gallon of resin and mix thoroughly for 2-3 minutes. Squeegee 25-30 mils of catalyzed resin onto primed concrete. Immediately after spreading the material to the proper thickness, roll the material with a porcupine roller to level and deaerate the material. While still wet, broadcast 20-40 mesh sand into basecoat to excess. Once cured, remove sand with a broom.



## ESTIMATING QUANTITIES AND ORDER BILL OF MATERIAL

Note: Resin includes 3 oz./gal. hardener as standard.

SQUARE FEET PER GALLON CONCRETE		
Primer 27	150-200	
P-Crete 800SF/900SF		
Resin Basecoat	45-55/unit	1/16"
Broadcast Sand	3/4 lb./sq. ft.	
Sealer Coat	150-175	5-8 mils. WFT
S-10 Solvent	500	Clean-up

## Protecto-Crete 800 SF 900 SF

Squeegee-Applied, Vinyl Ester Resin Sealed Floor at 1/16" (1.6 mm) - 1/8" (3.17 mm) -

Dudick Incorporated  
Corrosion-Proof Products

If after abrasive blasting, honeycombs/voids appear on the concrete or steel, these have to be filled with a suitable material. Contact a Dudick Representative for this information.

**Hardener Amount/Gal. Resin.**

HARDENER	SUBSTRATE TEMPERATURE	PRIMER 27	P-C 800/900 BASECOAT/ TOPCOAT	P-C 805/905 BASECOAT/ TOPCOAT
PH-1	60°-70°F	3-4 oz.	3-4 oz.	3-4 oz.
PH-1	70°-90°F	2-3 oz.	2-3 oz.	2-3 oz.

Recommended application temperatures should be between 50°F and 110°F substrate temperature.

**PRIMING**

**Metal:** For maximum performance, prime all steel surfaces with Primer 27 3-4 mil. WFT, mixed with appropriate amount of PH-1 Hardener. For mild non-immersion service, priming of steel may be omitted.

**Concrete:** Concrete surfaces must be primed using Primer 27 and the appropriate amount of PH-1 Hardener. Concrete must be thoroughly dry before application of primer by spray, roller, or brush. Do not allow the primer to puddle.

**BASECOAT**

Add appropriate amount of PH-1 Hardener for each gallon of Protecto-Coat Liquid and mix thoroughly until uniform color is achieved. Apply a 15-20 mils thick basecoat using spray, brush or roller. Apply to an even, smooth finish.

Allow basecoat application to cure to at least a "firm" or slightly "tacky" feel before applying the topcoat.

**TOPCOAT**

Add appropriate amount of PH-1 Hardener for each gallon of Protecto-Coat Liquid and mix thoroughly until a uniform color is achieved. Apply a 15-20 mils thick topcoat using a spray brush or roller. Apply to an even, smooth finish.

Cure cycles for Protecto-Coat Coatings are:

Temperature	Recoat Time	Cure Time
50°F	12 Hours	96 Hours
75°F	4 Hours	48 Hours
90°F	3 Hours	24 Hours

Protecto-Coat 900 must be recoated within 8 hours when exposed to direct sunlight.

If these recoat times are exceeded, consult a Dudick representative. Sanding or abrasive blasting may be required before the next coat. Recoat times are dramatically reduced when the coating is exposed to direct sunlight.

Application of Protecto-Coat 800/900 in direct sunlight may lead to blistering, pinholes, or wrinkling in the copating due to outgassing of air in the concrete and high substrate temperatures.

**Standard Formulation:** (Brush, Roller or Pressure Pot) Spray applications can be made with conventional air spray equipment with a pressure pot. Binks #18 spray gun with #68 fluid nozzle and 68 air nozzle, or Binks #62 spray gun with #68 fluid nozzle and #68 air nozzle are recommended.

Plural component spray applications can be made with a Binks 8-to-1 Pump. A Binks Model 18 NC spray gun 59BSSX9-47 with a 102-3430 ACI valve. Catalyst would need to be supplied by a 101-5202 catalyst tank. 1/2" ID material supply hose is recommended.

Brush or roller application may require additional coats to meet specified dry film thickness.

Pot Life of the opened and mixed Protecto-Coat 800/900, 805/905 will depend on the temperature at the work site. To prevent material waste and avoid damage to equipment, do not open and mix more material than can be used according to the following table:

TEMPERATURE	POT LIFE
50°F	1 Hour
75°F	40 Min.
90°F	25 Min.

Do not attempt to store mixed material. Residual material should be properly disposed of at the end of each work period. Where immersion service is required, spark test the coating with a 5,000 volt AC spark tester. Mark and repair all pinholes. Use Protecto-Coat Liquid mixed with the amount of hardener appropriate for the substrate temperature. Retest only the repairs.

**CLEANING**

Use S10 Cleaning Solvent to clean tools and equipment.

**Protecto-Coat 800/900/805/905**

Flake-Filled High Performance Vinyl

Dudick Incorporated  
Corrosion-Proof Products

- Safety glasses, gloves, and suitable protective clothing must be worn at all times during application.
- Suitable respirators should be used.
- If contact with hardeners occurs, remove any clothing involved and wash the skin with large amounts of water. Discard the clothing. Do not attempt to wash and reuse it. Protecto-Crete liquid may be washed off with S-10 Solvent, MEK, or lacquer thinner. DO NOT USE ACETONE.
- Fumes are flammable and heavier than air. Proper ventilation should be maintained to minimize breathing of concentrated fumes.
- If a rash or dermatitis occurs, remove the individual from the work area and seek a physician's care for dermatitis.
- Keep open flames and sparks away from the area where toppings are being mixed and applied.
- In case of eye contact, wash with water for at least 15 minutes and consult a physician. If swallowed, do not induce vomiting; call a physician immediately.

**Note:**

Dudick Inc. ("Dudick") warrants all goods of its manufacture to be as represented in its catalogs and that the application of its products by its employees or sub-contractors shall be performed in a workmanlike manner. Dudick's obligation under this warranty shall be the repair to and replacement of any applications which its examination shall disclose to be defective. Dudick makes no warranty concerning the suitability of its product for application to any surface, it being understood that the goods have been selected and the application ordered by the purchaser. DUDICK INC. MAKES NO WARRANTY, EXPRESS OR IMPLIED, THAT THE GOODS SHALL BE MERCHANTABLE OR THAT THE GOODS ARE FIT FOR ANY PARTICULAR PURPOSE. THE WARRANTY OF REPAIR OR REPLACEMENT SET FORTH HEREIN IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES ARISING BY LAW OR OTHERWISE; AND DUDICK INC. SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOST PROFITS, DOWN TIME, DAMAGES TO PROPERTY OF THE PURCHASER OR OTHER PERSONS, OR DAMAGES FOR WHICH THE PURCHASER MAY BE LIABLE TO OTHER PERSONS, WHETHER OR NOT OCCASIONED BY DUDICK'S NEGLIGENCE. This warranty shall not be extended, altered or varied except by written instrument signed by Dudick and Purchaser.

**Protecto-Crete 800 SF/900 SF**

Squeegee-Applied, Vinyl Ester Resin Seeded  
Floor at 1/16" (1.6 mm) - 1/8" (3.17 mm)

Dudick Incorporated  
Corrosion-Proof Products

1818 South Wason Drive  
Streetsboro, Ohio 44241  
(12-91)

**M A T E R I A L   S A F E T Y   D A T A   S H E E T**

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**DUDICK, INCORPORATED**  
**1818 SOUTH WASON DRIVE**  
**STREETSBORO, OH 44241**

**INFORMATION TELEPHONE NO.: 216-562-1970**  
**EMERGENCY TELEPHONE NO.: 216-562-1970**

**PREPARATION DATE: 03/08/91**

**REPLACES DATE: NEW MSDS**

**PREPARER: KJP**

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**SECTION I - PRODUCT IDENTIFICATION**

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**P-COAT 800 WHITE**

PC800WHITE0A

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**SECTION II - HAZARDOUS INGREDIENTS**

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CHEMICAL NAME	CAS NUMBER	WT. PERCENT	OCCUPATIONAL EXPOSURE LIMITS		SKIN DESIG-NATION	VAPOR PRESSURE mmHg 20C	KNOWN OR SUSPECTED CARCINOGEN	SEC 313
			(TLV-TWA)	(TLV-STEL)				
STYRENE MONOMER, INHIBITED	100-42-5	40 %	50PPM	100PPM	YES	4.5	YES	YES
FUMED SILICA		5 %	10mg/m3	NO INFO	NO	0.0	NO	NO

THIS PRODUCT CONTAINS ONE OR MORE MATERIALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF THE EMERGENCY PLANNING AND THE COMMUNITY RIGHT-TO-KNOW ACTS OF 1986 AND OF 40 CFR 372.

N.A. - NOT APPLICABLE

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**SECTION III - PHYSICAL DATA**

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<b>BOILING RANGE</b> : 293- 0 F	<b>VAPOR DENSITY</b> : IS HEAVIER THAN AIR
<b>ODOR</b> : STYRENE	<b>EVAPORATION RATE</b> : IS SLOWER THAN ETHER
<b>APPEARANCE</b> : VISCOUS LIQUID	
<b>VOLATILE BY WEIGHT</b> : 35.7%	<b>SOLUBILITY</b> : NEGLIGIBLE
<b>VOLATILE BY VOLUME</b> : 42.1%	<b>PRODUCT DENSITY</b> : 10.3 LBS./GAL. (US)

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**SECTION IV - FIRE AND EXPLOSION HAZARD DATA**

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<b>FLAMMABILITY CLASSIFICATION:</b>	<b>FLASH POINT:</b> 88 F	<b>LEL:</b> 1.1 %
OSHA - FLAMMABLE LIQUID - CLASS IC	(TAGLIABUE CLOSED CUP)	<b>UEL:</b> 6.1 %
DOT - FLAMMABLE LIQUID OR SOLID		

**EXTINGUISHING MEDIA:** DRY CHEMICAL WATER FOG FOAM CARBON DIOXIDE

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**SECTION IV - FIRE AND EXPLOSION HAZARD DATA**

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**UNUSUAL FIRE AND EXPLOSION HAZARDS:** OPEN FLAMES, SPARKS, SMOKING, OR ANY SOURCES OF IGNITION SHOULD NOT BE PERMITTED NEAR THE WORK AREA WHEN VAPOR CONCENTRATIONS ARE ABOVE THE LOWER EXPLOSIVE LIMIT.

**SPECIAL FIREFIGHTING PROCEDURES:** WATER MAY BE INEFFECTIVE, BUT SHOULD BE USED TO COOL FIRE EXPOSED CONTAINERS. WEAR POSITIVE-PRESSURE BREATHING APPARATUS. FIGHT FIRE FROM A SAFE DISTANCE.

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**SECTION V - HEALTH HAZARD DATA**

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**EFFECTS OF OVER EXPOSURE:** SIGNS AND SYMPTOMS OF EXPOSURE MAY INCLUDE ANESTHETIC OR NARCOTIC EFFECTS AND IRRITATION TO UPPER RESPIRATORY TRACT. PROLONGED OR REPEATED EXPOSURE MAY CAUSE SKIN IRRITATION AND BURNS. REPEATED EXPOSURE MAY CAUSE DRYING AND FLAKING OF THE SKIN. EYE CONTACT MAY CAUSE SEVERE IRRITATION WITH CORNEAL INJURY. VAPORS MAY CAUSE IRRITATION AND TEARING. DERMAL LD50 HAS NOT BEEN DETERMINED. REPEATED SKIN EXPOSURE MAY RESULT IN ABSORPTION OF HARMFUL AMOUNTS. SINGLE DOSE ORAL TOXICITY IS LOW (5000MG/KG FOR RATS). AMOUNTS INGESTED INCIDENTAL TO INDUSTRIAL USE IS NOT LIKELY TO CAUSE INJURY. IF ASPIRATED, MAY BE ABSORBED THROUGH THE LUNGS AND CAUSE INJURY TO OTHER BODY SYSTEMS. HUMANS EXPOSED TO EXCESSIVE CONCENTRATIONS EXPERIENCE HEADACHE, NAUSEA, DECREASED DEXTERITY, AND OTHER SIGNS OR TRANSIENT NEUROLOGIC IMPAIRMENT.

**MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE:** RESPIRATORY DISORDERS. SKIN SENSITIVITY. LIVER MALFUNCTIONS. NERVOUS DISORDERS.

**PRIMARY ROUTE(S) OF ENTRY:** DERMAL INHALATION INGESTION

**EMERGENCY AND FIRST AID PROCEDURES:** MEDICAL ASSISTANCE IS ESSENTIAL FOR OVEREXPOSURE THROUGH ALL ROUTES OF ENTRY. IF BREATHING HAS STOPPED, APPLY MOUTH TO MOUTH RESUSCITATION. EYE CONTACT: FLUSH WITH COPIOUS AMOUNTS OF FLOWING WATER FOR AT LEAST 15 MINUTES. SKIN CONTACT: WASH AFFECTED AREAS WITH SOAP AND WATER. INGESTION: DO NOT INDUCE VOMITING. GIVE PLENTY OF MILK OR WATER IF AVAILABLE. INHALATION: REMOVE VICTIM TO FRESH AIR.

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**SECTION VI - REACTIVITY DATA**

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**STABILITY:** THIS PRODUCT IS STABLE UNDER NORMAL STORAGE CONDITIONS.

**HAZARDOUS POLYMERIZATION:** COULD OCCUR UNDER NORMAL CONDITIONS. CARE MUST BE TAKEN TO AVOID.

**HAZARDOUS DECOMPOSITION PRODUCTS:** ACRID FUMES EMITTED UPON DECOMPOSITION. INCOMPLETE COMBUSTION WILL PRODUCE CO AND POSSIBLY OTHER UNKNOWN TOXIC SUBSTANCES.

**CONDITIONS TO AVOID:** HEAT, FLAME, CONTAMINANTS. CORROSIVE TO COPPER AND ALLOYS. DISOLVES RUBBER.

**INCOMPATIBILITY:** STRONG ACIDS, OLEUM, ALUMINUM CHLORIDE, OXYDIZERS, PURE OXYGEN.

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**SECTION VII - SPILL OR LEAK PROCEDURES**

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STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: DIKE AREA TO CONTAIN SPILLAGE. ABSORB EXCESS WITH SAND, EARTH, OR VERMICULITE. SCRAPE UP AND PLACE IN SUITABLE CONTAINER FOR PROPER DISPOSAL.

WASTE DISPOSAL METHOD: REMOVE ALL WASTE PRODUCT AND CONTAMINATED MATERIALS TO A DISPOSAL AREA AND BURN BY ATOMIZING IN A SUITABLE COMBUSTION CHAMBER. INCINERATION IS MORE COMPLETE IF MATERIAL IS MIXED WITH A MORE FLAMMABLE SOLVENT.

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**SECTION VIII - SAFE HANDLING AND USE INFORMATION**

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RESPIRATORY PROTECTION: ATMOSPHERIC LEVELS SHOULD BE MAINTAINED BELOW EXPOSURE GUIDELINES USING FORCED VENTILATION OF THE WORK AREA. RESPIRATORY PROTECTION IS REQUIRED WHEN VAPOR CONCENTRATIONS ARE 50PPM OR HIGHER. USE A NIOSH APPROVED RESPIRATOR EQUIPPED WITH AN ORGANIC VAPOR CARTRIDGE.

VENTILATION: LOCAL EXHAUST OR DILUTION VENTILATION SHOULD BE USED FOR CONFINED WORK AREAS WHERE EXPOSURE LEVELS ARE EXPECTED TO EXCEED THE RECOMMENDED STANDARD.

PROTECTIVE GLOVES: NEOPRENE TYPE IF REPEATED CONTACT IS LIKELY. CLEAN CLOTH GLOVES OTHERWISE.

FACE PROTECTION: IF SPLASHING IS LIKELY, USE SPLASH-PROOF GOGGLES OR FACE SHIELD. OTHERWISE USE SAFETY GLASSES.

OTHER PROTECTIVE EQUIPMENT: CLEAN, FULL BODY COVERING TO MINIMIZE POSSIBLE SKIN CONTACT WITH MATERIAL.

HYGIENIC PRACTICES: SMOKING OR EATING MUST BE PROHIBITED IN THE WORK AREA. WASH THOROUGHLY AFTER USE.

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**SECTION IX - SPECIAL PRECAUTIONS**

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PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: PRODUCTS CONTAINING STYRENE SHOULD BE HANDLED AS HAZARDOUS MATERIALS. IF BODILY CONTACT OCCURS, REMOVE CONTAMINATED CLOTHING AT ONCE. WASH AFFECTED AREAS WITH SOAP AND WATER. LAUNDRY CLOTHING BEFORE REUSE. DESTROY CONTAMINATED SHOES.

OTHER PRECAUTIONS: CONTAINERS THAT HAVE HELD STYRENE MUST BE THOROUGHLY CLEANED AND DRIED. SMALL AMOUNTS MAY REMAIN AND PRESENT A FIRE HAZARD. DO NOT STORE EMPTY DRUMS IN AREAS OF EXCESSIVE HEAT OR NEAR SOURCES OF IGNITION DUE TO POSSIBLE CONTAINMENT OF EXPLOSIVE VAPORS. DRUM RECYCLING SHOULD BE PERFORMED BY EXPERIENCED, PROFESSIONAL RECLAIMERS. FOR INDUSTRIAL USE ONLY.

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**MATERIAL SAFETY DATA SHEET**

PRODUCT NAME: HorseySet.WDE - Part A

HMIS CODES: H F R P

PRODUCT CODE: 14001-005

2 1 0

PRODUCT USE : concrete curing, sealing or protective coatings.

HMIS CODES : D2B

**SECTION I - MANUFACTURER IDENTIFICATION**

MANUFACTURER'S NAME: WATSON BONMAN ACME CORP.

ADDRESS: 95 Pineview Drive, Amherst, NY 14228

EMERGENCY PHONE: (800) 424-9300

INFORMATION PHONE: (716)-691-7566

DATE REVISED : 05-13-91

NAME OF PREPARER : Martha J. Shafer

REASON REVISED : revised for WHMIS codes

**SECTION II - HAZARDOUS INGREDIENTS/SARA III INFORMATION**

HAZARDOUS COMPONENTS	OCCUPATIONAL EXPOSURE LIMITS					
	OSHA PEL	ACGIH TLV	OTHER	LD50 SPECIES & ROUTE	LC50 SPECIES & ROUTE	
Epichlorohydrin-Bisphenol A epoxy resin [CAS 25085-99-8]	NE	NE	NE	Not established	Not established	
Alkyl glycidyl ether [CAS 68609-97-2]	NE	NE	NE	>2000mg/kg oral rat	1030ppm/8hr inhal rat	

\*\*\* No toxic chemical(s) subject to the reporting requirements of section 313 of Title III and of 40 CFR 372 are present. \*\*\*

NA-not applicable. NE-not established.



**SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS**

**BOILING POINT:** >300 F      **SPECIFIC GRAVITY (H<sub>2</sub>O=1):** 0.9  
**APOR DENSITY:** HEAVIER THAN AIR  
**VAPORATION RATE:** SLOWER THAN n-BUTYL ACETATE  
**SOLUBILITY IN WATER:** slightly soluble  
**APPEARANCE AND ODOR:** clear amber liquid, faint epoxy odor  
**FREESING POINT:** NA      **pH:** NA  
**COEFFICIENT OF WATER/OIL DIST:** NE      **ODOR THRESHOLD:** NE

**SECTION IV - FIRE AND EXPLOSION HAZARD DATA**

**FLASH POINT:** 350-375 F      **METHOD USED:** PMCC  
**FLAMMABLE LIMITS IN AIR BY VOLUME-** LOWER: NO DATA UPPER: NO DATA

**EXTINGUISHING MEDIA:** FOAM, ALCOHOL FOAM, CO<sub>2</sub>, DRY CHEMICAL, WATER FOG

**SPECIAL FIREFIGHTING PROCEDURES**

Wear positive pressure self-contained breathing apparatus. Water may be used to cool closed containers to prevent pressure build-up and possible explosion. If water is used, fog nozzles are preferred.

**UNUSUAL FIRE AND EXPLOSION HAZARDS**

None recognized.

**FLAMMABILITY - T.D.G.R. CLASS**

Not established.

**SENSITIVITY TO IMPACT**

Not established.

**SENSITIVITY TO STATIC DISCHARGE**

Not established.

**SECTION V - REACTIVITY DATA****STABILITY: STABLE****CONDITIONS TO AVOID**

Excessive heating over long periods of time.

**INCOMPATIBILITY (MATERIALS TO AVOID)**

Acids, amines and oxidizing materials.

**HAZARDOUS DECOMPOSITION OR BYPRODUCTS**

Carbon monoxide, carbon dioxide and phenolics.

**HAZARDOUS POLYMERIZATION: WILL NOT OCCUR**

**SECTION VI - HEALTH HAZARD DATA****INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE**

risks are minimal due to physical properties. A single exposure is not likely to be hazardous.

**SKIN AND EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE**

Prolonged or repeated exposure is not likely to cause significant skin irritation. Some humans experience allergic skin reactions characterized by redness, itching and dryness. Temporary eye irritation.

**SKIN ABSORPTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE**

None recognized.

**INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE**

Possible gastrointestinal irritation characterized by nausea, vomiting and diarrhea.

**HEALTH HAZARDS (ACUTE AND CHRONIC)**

See notations listed above.

**CARCINOGENICITY:** NTP? NO IARC MONOGRAPHS? NO OSHA REGULATED? NO

None recognized.

**MUTAGENICITY**

None recognized.

**MUTAGENICITY**

None recognized.

**TOXICOLOGICALLY SYNERGISTIC PRODUCTS**

None recognized.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**

Preexisting skin conditions such as dermatitis.

**EMERGENCY AND FIRST AID PROCEDURES**

Eye contact-flush immediately with large quantities of water for at least 15 minutes. Contact a physician.

On contact-wash off with flowing water or shower. If irritation or redness develops, contact a physician.

Ingestion-if large amounts are ingested, induce vomiting. DO NOT give anything by mouth to an unconscious person.

Inhalation-remove from exposure to fresh air.

Consult physician-no specific antidote. Treatment based on judgement of physician in response to patient's reaction.

**SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE****STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Wipe and soak up spill with inert absorbents such as sand. Shovel into an appropriate container. Residual resin may be removed using steam or hot soapy water.

**WASTE DISPOSAL METHOD**

Burn in approved incinerator or bury in an approved landfill site in accordance with local, state, provincial or federal regulations.

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING**

Keep containers closed and upright when not in use. Do not store at temperatures above 120 F (49 C).

**OTHER PRECAUTIONS**

None recognized.

**SECTION VIII - CONTROL MEASURES****RESPIRATORY PROTECTION**

During spray application an organic vapor cartridge respirator, TC23C, is recommended. Follow respirator manufacturer's recommendations for use.

**VENTILATION**

Use local exhaust ventilation in volume and pattern to keep hazardous ingredients in Section II below the TLV.

**PROTECTIVE GLOVES**

Wear long-sleeved body covering clothing. Use impervious gloves during repeated and prolonged contact.

**EYE PROTECTION**

Use safety eyewear with sideshields to prevent splash of liquids.

**OTHER PROTECTIVE CLOTHING OR EQUIPMENT**

None recognized.

**WORK/HYGIENIC PRACTICES**

Wash hands before eating or smoking.

**SECTION IX - DISCLAIMER****DISCLAIMER**

The information contained in this MSDS has been obtained from sources believed by Watson Bowman Acme Corporation to be accurate and is accurate, to the best of Watson Bowman's knowledge, but Watson Bowman Acme Corp. makes no further warranty with respect thereto and disclaims all liability for reliance thereon.

**MATERIAL SAFETY DATA SHEET**

PRODUCT NAME: Horseysat.WDE - Part B

HMIS CODES: H F R P

PRODUCT CODE: 14000

2 1 0

PRODUCT USE : concrete curing, sealing or protective coating

HMIS CODES : D2B

**SECTION I - MANUFACTURER IDENTIFICATION**

MANUFACTURER'S NAME: WATSON BOWMAN ACME CORP.

ADDRESS: 95 Pineview Drive, Amherst, NY 14228

EMERGENCY PHONE: (800) 424-9300

INFORMATION PHONE: (716)-691-7566

DATE REVISED : 05-14-91

NAME OF PREPARER : Martha J. Shafer

REASON REVISED : revised for WHMIS codes

**SECTION II - HAZARDOUS INGREDIENTS/SARA III INFORMATION**

**OCCUPATIONAL EXPOSURE LIMITS**

HAZARDOUS COMPONENTS	OCCUPATIONAL EXPOSURE LIMITS			
	OSHA PEL	ACGIH TLV	OTHER	LC50 SPECIES & ROUTE
Modified Polyamide resin	NE	NE	NE	6.7gm/kg oral rat
AS **				Not established

\*\* No toxic chemical(s) subject to the reporting requirements of section 313 of Title III; and of 40 CFR 372 are present. \*\*\*

-not applicable NE-not established

- CAS number is registered trade secret of the manufacturer.

**SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS**

**BOILING POINT:** 212-300 F      **SPECIFIC GRAVITY (H<sub>2</sub>O=1):** 0.9  
**FOR DENSITY:** HEAVIER THAN AIR  
**EVAPORATION RATE:** SLOWER THAN n-BUTYL ACETATE  
**SOLUBILITY IN WATER:** soluble  
**APPEARANCE AND ODOR:** amber-colored, hazy liquid, amine odor  
**FREEZING POINT:** NA      **pH:** 9-10  
**COEFFICIENT OF WATER/OIL DIST:** NE      **ODOR THRESHOLD:** NA

**SECTION IV - FIRE AND EXPLOSION HAZARD DATA**

**FLASH POINT:** >212 F      **METHOD USED:** PMCC  
**FLAMMABLE LIMITS IN AIR BY VOLUME-** LOWER: NO DATA UPPER: NO DATA

**EXTINGUISHING MEDIA:** FOAM, ALCOHOL FOAM, CO<sub>2</sub>, DRY CHEMICAL, WATER FOG

**SPECIAL FIREFIGHTING PROCEDURES**

Wear positive pressure, self-contained breathing apparatus. Water may be used to cool closed containers to prevent pressure build-up and possible explosion. If water is used, fog nozzles are preferred.

**UNUSUAL FIRE AND EXPLOSION HAZARDS**

Containers may explode due to build-up of steam.

**FLAMMABILITY - T.D.G.R. CLASS**

Not established.

**SENSITIVITY TO IMPACT**

Not established.

**SENSITIVITY TO STATIC DISCHARGE**

Not established.

**SECTION V - REACTIVITY DATA****STABILITY: STABLE****CONDITIONS TO AVOID**

Excessive heating over long periods of time.

**INCOMPATIBILITY (MATERIALS TO AVOID)**

Strong oxidizing materials.

**HAZARDOUS DECOMPOSITION OR BYPRODUCTS**

Monoxide, carbon dioxide and nitrogen oxide compounds.

**HAZARDOUS POLYMERIZATION: WILL NOT OCCUR**

**SECTION VI - HEALTH HAZARD DATA****INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE**

May result in nose, throat and lung irritation.

**SKIN AND EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE**

Skin contact can result in allergic response characterized by redness, itching and swelling.

Eye contact can result in irritation characterized by redness and blurred vision.

**SKIN ABSORPTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE**

None recognized.

**INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE**

May cause gastrointestinal irritation characterized by nausea, vomiting and diarrhea.

**HEALTH HAZARDS (ACUTE AND CHRONIC)**

Irritation of eyes and skin at high vapor concentrations. Chronic exposure to this material may result in asthma, skin sensitization or other allergic response.

**CARCINOGENICITY:** NTP? NO IARC MONOGRAPHS? NO OSHA REGULATED? NO

None recognized.

**MUTAGENICITY**

None recognized.

**MUTAGENICITY**

None recognized.

**TOXICOLOGICALLY SYNERGISTIC PRODUCTS**

None recognized.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**

Persons with pre-existing conditions such as skin allergies, eczema or dermatitis.

**EMERGENCY AND FIRST AID PROCEDURES**

Eye contact - Immediately flush with large quantities of water for at least 15 minutes. Notify a physician.

Skin contact - Wash with soap and running water, such as a shower. Remove contaminated clothing and wash before reuse. If irritation or redness develop, contact a physician.

Inhalation - Remove from exposure to fresh air. Restore breathing if necessary.

Ingestion - Rinse mouth with water. DO NOT induce vomiting. Notify a physician.

**SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE****STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Id contact with the material. Dike and absorb with clay or diatomaceous earth and shovel into appropriate container. Soiling material can be rinsed with water but do not flush into storm drain or water supply.

**WASTE DISPOSAL METHOD**

Dispose of according to applicable local, state, provincial or federal regulations.

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING**

Keep containers closed and upright when not in use. DO NOT store above 120 F (49 C).

**OTHER PRECAUTIONS**

None recognized.

**SECTION VIII - CONTROL MEASURES****RESPIRATORY PROTECTION**

During spray application, an organic vapor, chemical cartridge respirator, TC23C, is recommended. Follow respirator manufacturer's recommendations for use.

**VENTILATION**

Use local exhaust ventilation in volume and pattern to keep hazardous ingredients in Section II below the TLV.

**PROTECTIVE GLOVES**

Wear long-sleeved body covering clothing. Use impervious gloves during repeated and prolonged contact.

**EYE PROTECTION**

Use safety eyewear with side-shields to prevent splash of liquids.

**OTHER PROTECTIVE CLOTHING OR EQUIPMENT**

None recognized.

**WORK/HYGIENIC PRACTICES**

Wash hands before eating or smoking.

**SECTION IX - DISCLAIMER****DISCLAIMER**

The information contained in this MSDS has been obtained from sources believed by Watson Bowman Acme Corporation to be accurate and is accurate, to the best of Watson Bowman's knowledge, but Watson Bowman Acme Corp. makes no further warranty with respect thereto and disclaims all liability for reliance thereon.

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**APPENDIX**

**A - 15**

**GAGE POST-CLEAN PCB**

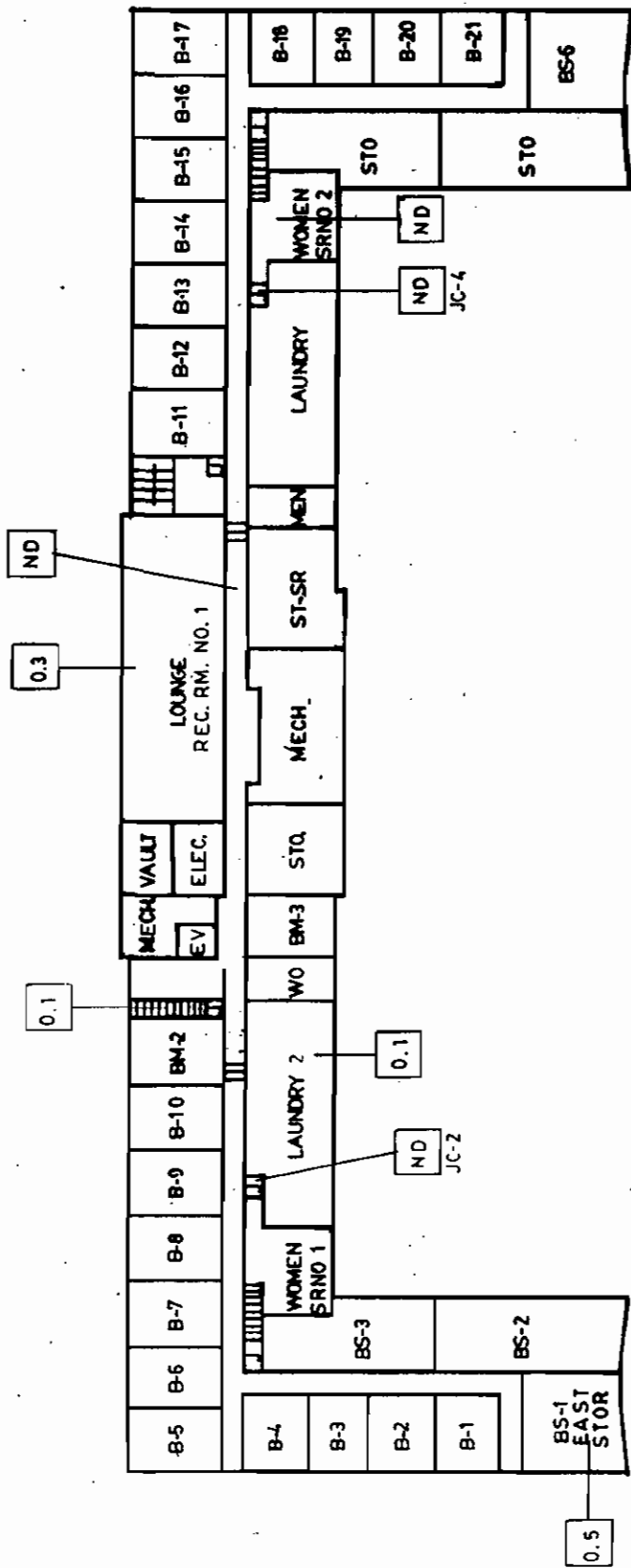
**WIPE SAMPLE RESULTS**

**CleanHarbors**

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KEY  
 UNITS IN  $\mu\text{g}/100 \text{ sq cm}$   
 ND = NON DETECT  
 LEVELS OF AROCLOR 1260 UNLESS OTHERWISE NOTED

ISSUE	DESCRIPTION	DATE	BY
1	SUNY GAGE HALL	4/1/85	DE

**GAGE HALL, BASEMENT**  
 POST-CLEAN PCB WIPE SAMPLE RESULTS.

PROJECT NO. NY 5068  
 SCALE: NTS

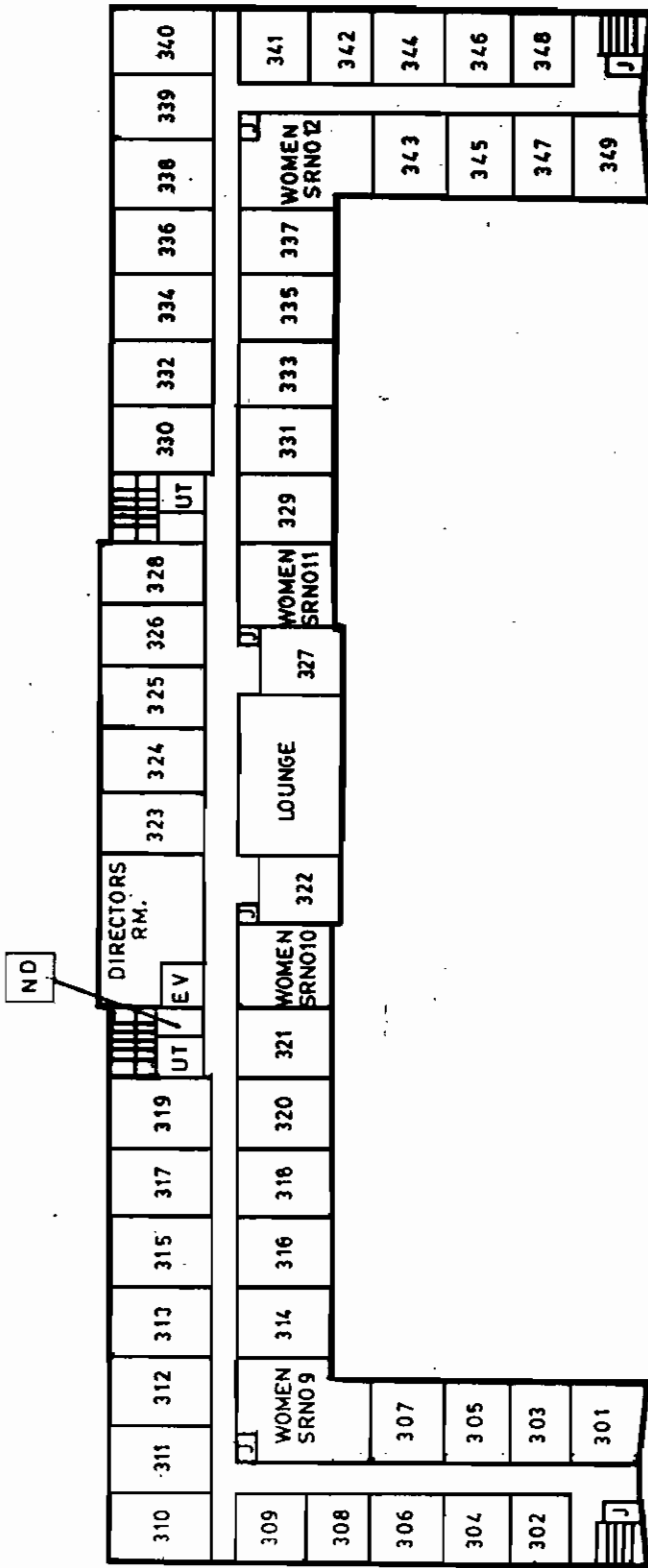
325 Wood Road  
 Framingham, Massachusetts 01904  
 Telephone (617) 849-1200/1808

ENVIRONMENTAL ENGINEERING, INC.

**CleanHarbors**  
 ENVIRONMENTAL ENGINEERING, INC.

NYC NO. SUNY-021-BB





1	SUNY GAGE HALL	SE 13
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**GAGE HALL 3rd FLOOR**  
 POST-CLEAN PCB WIPE SAMPLE  
 RESULTS

**CleanHarbors**  
 ENVIRONMENTAL ENGINEERING, INC.  
 205 Wood Road  
 Fairport, New York 14455  
 Telephone (517) 647-1234/800

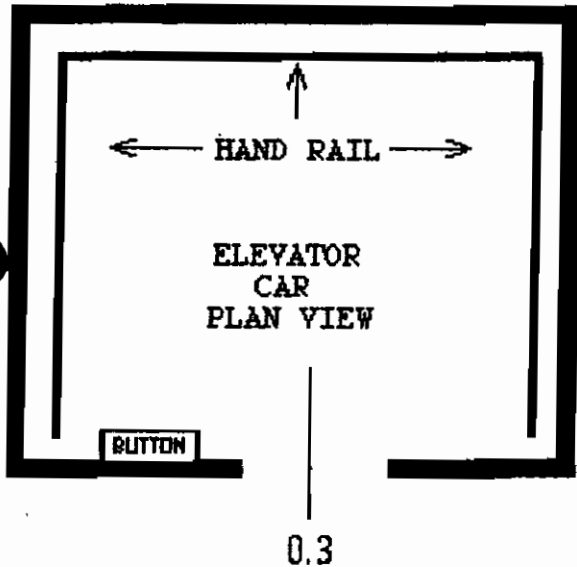
PROJECT NO. NY 5048  
 DATE: 11/83  
 SUNY-021-83

**KEY**  
 UNITS IN 4.9/100 sq cm  
 ND=NON DETECT  
 LEVELS OF AROCLOR 1260 UNLESS OTHERWISE NOTED

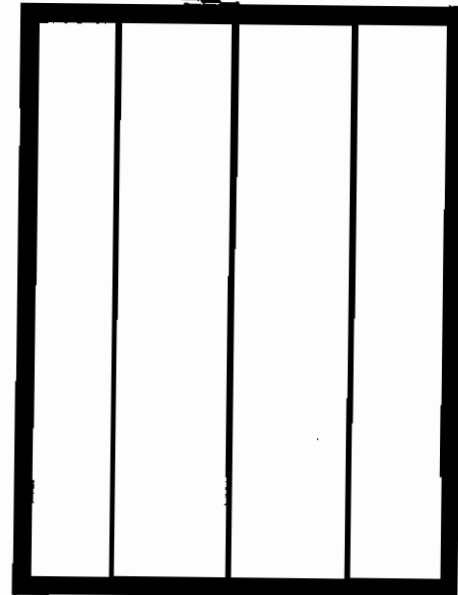
SHAFT

3rd FLOOR	0.7	
2nd FLOOR	0.3	
1st FLOOR	0.3	

BUILDING SIDE VIEW (NTS)



0.2



ELEVATOR CAR FRONT VIEW

KEY

UNITS IN ug/100 sq cm  
NOTE: ALL SAMPLES ARE 1260 UNLESS NOTED.

1	SUNY GAGE HALL	<i>MV</i>		<i>JE</i>	<i>6/1</i>
ISSUE	DESCRIPTION	DRY	CHKD.	APPR.	DATE

GAGE HALL POST-CLEAN ELEVATOR SHAFT AND ELEVATOR CAR PCB WIPE SAMPLE RESULTS.



ENVIRONMENTAL SERVICES, INC  
325 Wood Road  
Braintree, Massachusetts 02184  
Telephone (617) 849-1800

PROJECT NO. NY5068  
SCALE NTS

DWG. NO. SUNY-021-V8

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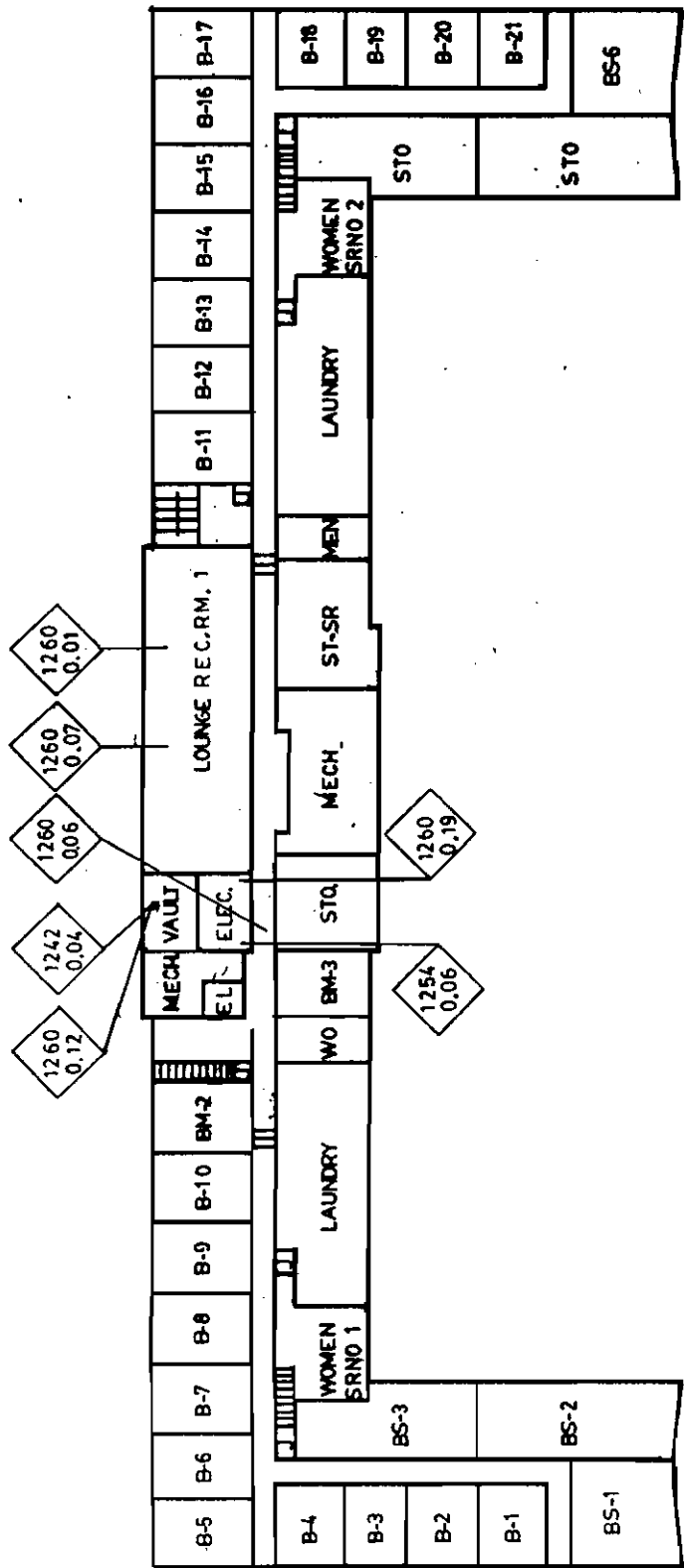
**APPENDIX  
A - 16**

**GAGE POST-CLEAN  
PCB AIR SAMPLE RESULTS**

**CleanHarbors**

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KEY



UNITS IN  $\mu\text{g}/\text{cu m}$

LEVELS OF APOCLOL 1260 UNLESS OTHERWISE NOTED

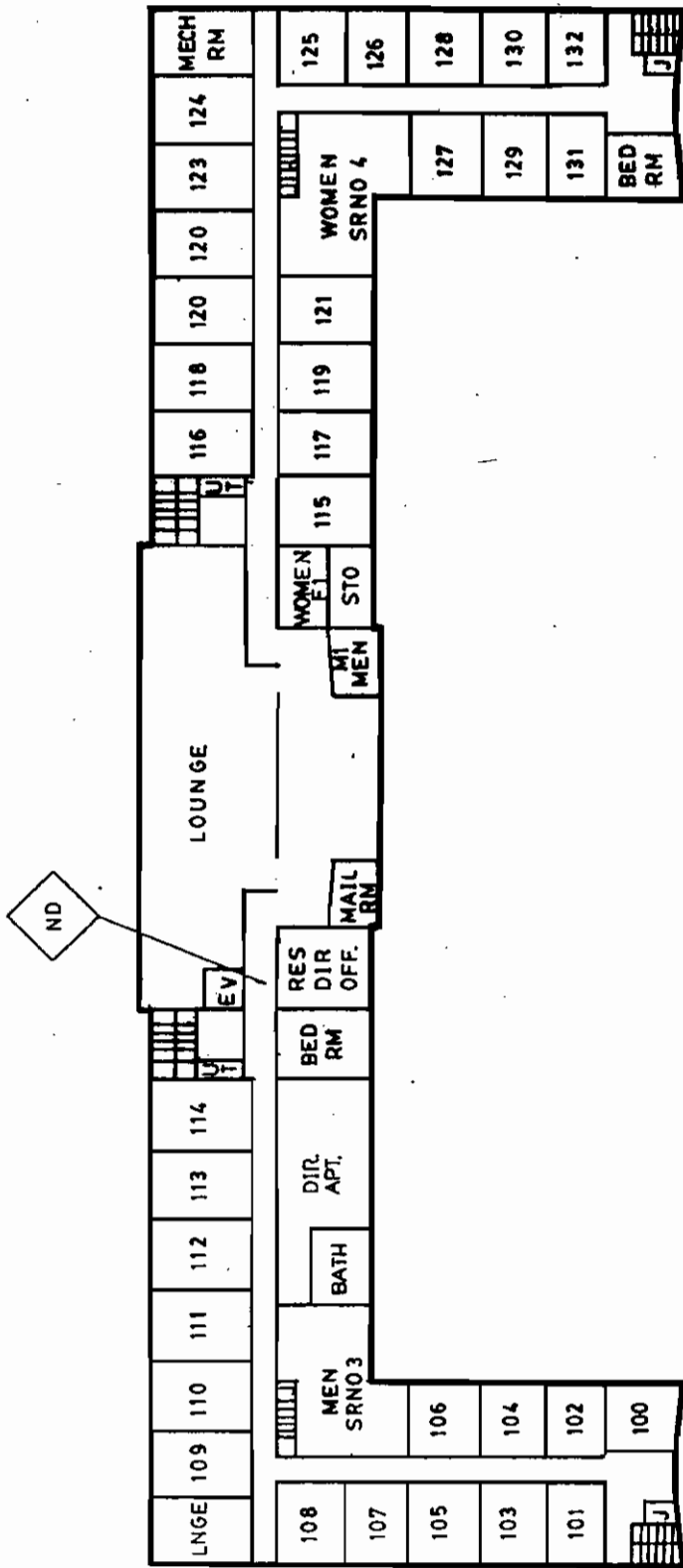
ISSUE	DESCRIPTION	DATE	BY	DATE
1	SUNY GAGE HALL	11/11/83	SE	11/11/83

**GAGE HALL, BASEMENT**  
 POST-CLEAN PCB AIR SAMPLE RESULTS:

PROJECT NO. NY 5068  
 SCALE: NTS  
 325 Wood Road  
 Framingham, Massachusetts 01904  
 Telephone (617) 849-1200/1800

**CleanHarbors**  
 ENVIRONMENTAL ENGINEERING, INC.

PROJECT NO. NY 5068  
 SCALE: NTS  
 325 Wood Road  
 Framingham, Massachusetts 01904  
 Telephone (617) 849-1200/1800



KEY



UNITS IN  $\mu\text{g}/\text{cu m}$

ND=NON DETECT  
LEVELS OF AROCLOR 1260 UNLESS OTHERWISE NOTED

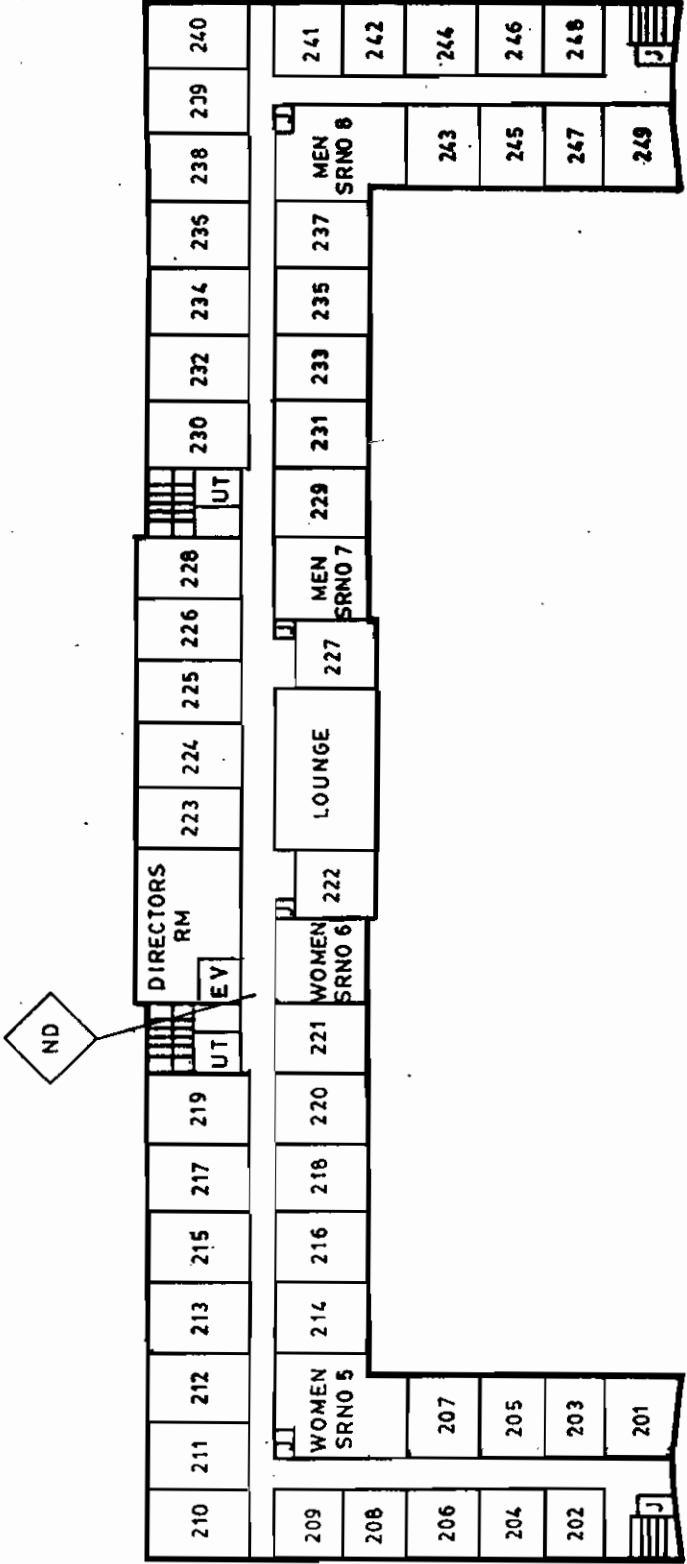
NO.	NAME	DESCRIPTION	DATE	TIME	BY	DATE
1	SUNY GAGE HALL					

**CleanHarbors**  
ENVIRONMENTAL ENGINEERING, INC.

225 Wood Road  
Beverly, Massachusetts 01914  
Telephone (617) 949-1280/1689

**GAGE HALL 1st FLOOR**  
POST-CLEAN PCB AIR SAMPLE RESULTS.

PROJECT NO. NY 5068  
PAGE NO. SUNY-021-D1



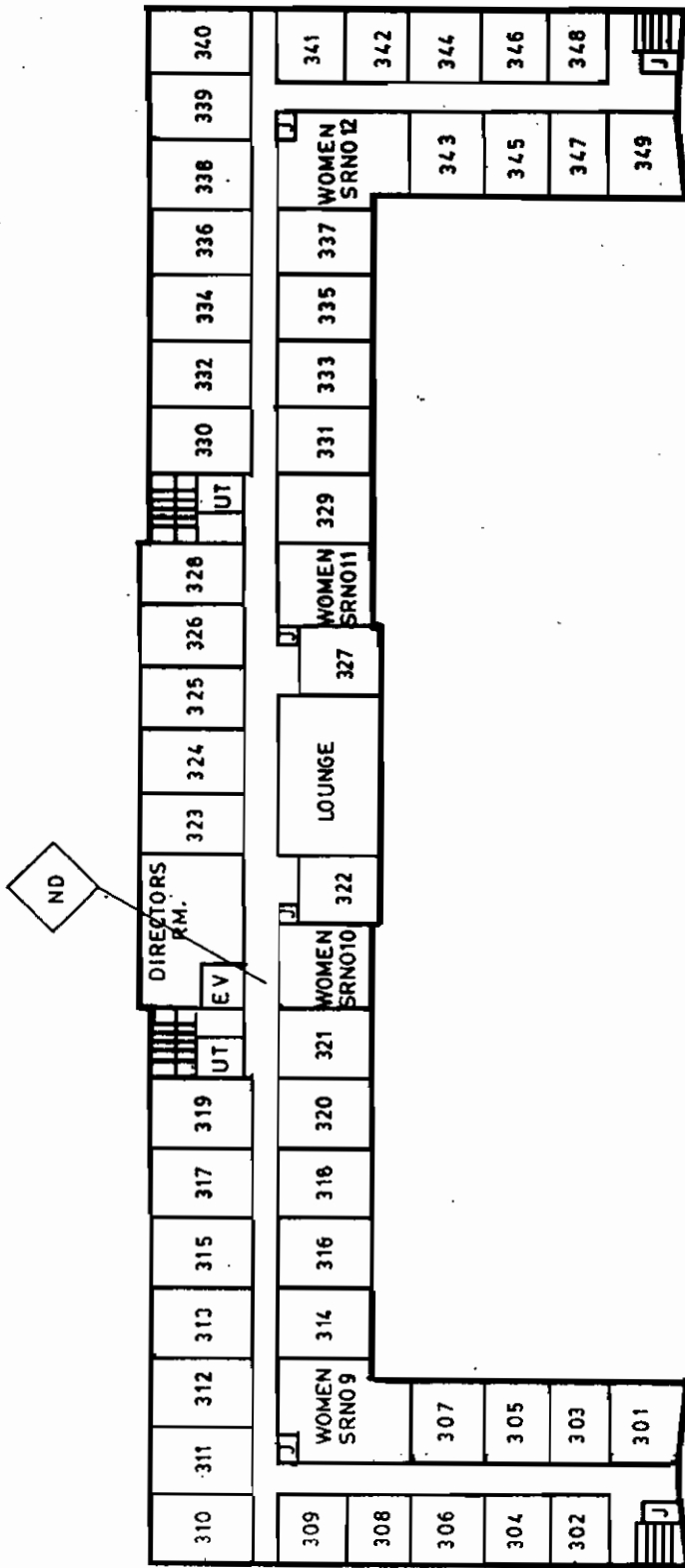
1	SUNY GAGE HALL	WUJ	1/15	1/15
ISSUE	DESCRIPTION	ISSUED	CHG.	APPR.

**GAGE HALL 2nd FLOOR**  
 POST-CLEAN PCB AIR SAMPLE RESULTS.

**CleanHarbors**  
 ENVIRONMENTAL ENGINEERING, INC.  
 325 Wood Road  
 Fairport, Massachusetts 01754  
 Telephone (617) 647-2507/800

KEY UNITS IN  $\mu\text{g}/\text{cu m}$   
 ND=NON DETECT  
 LEVELS OF AROCLOR 1260 UNLESS OTHERWISE NOTED





1	SUNY GAGE HALL	NY	NY
		NY	NY
		NY	NY
		NY	NY

**CleanHarbors**  
 ENVIRONMENTAL ENGINEERING, INC.  
 265 Wood Road  
 Westbury, New York 11591  
 Telephone (516) 349-1200/200

**GAGE HALL 3rd FLOOR**  
 POST-CLEAN PCB AIR SAMPLE RESULTS.

KEY UNITS IN  $\mu\text{g}/\text{cu m}$   
 ND=NON DETECT  
 LEVELS OF AROCLOR 1260 UNLESS OTHERWISE NOTED

NY 11591  
 SUNY-021-03

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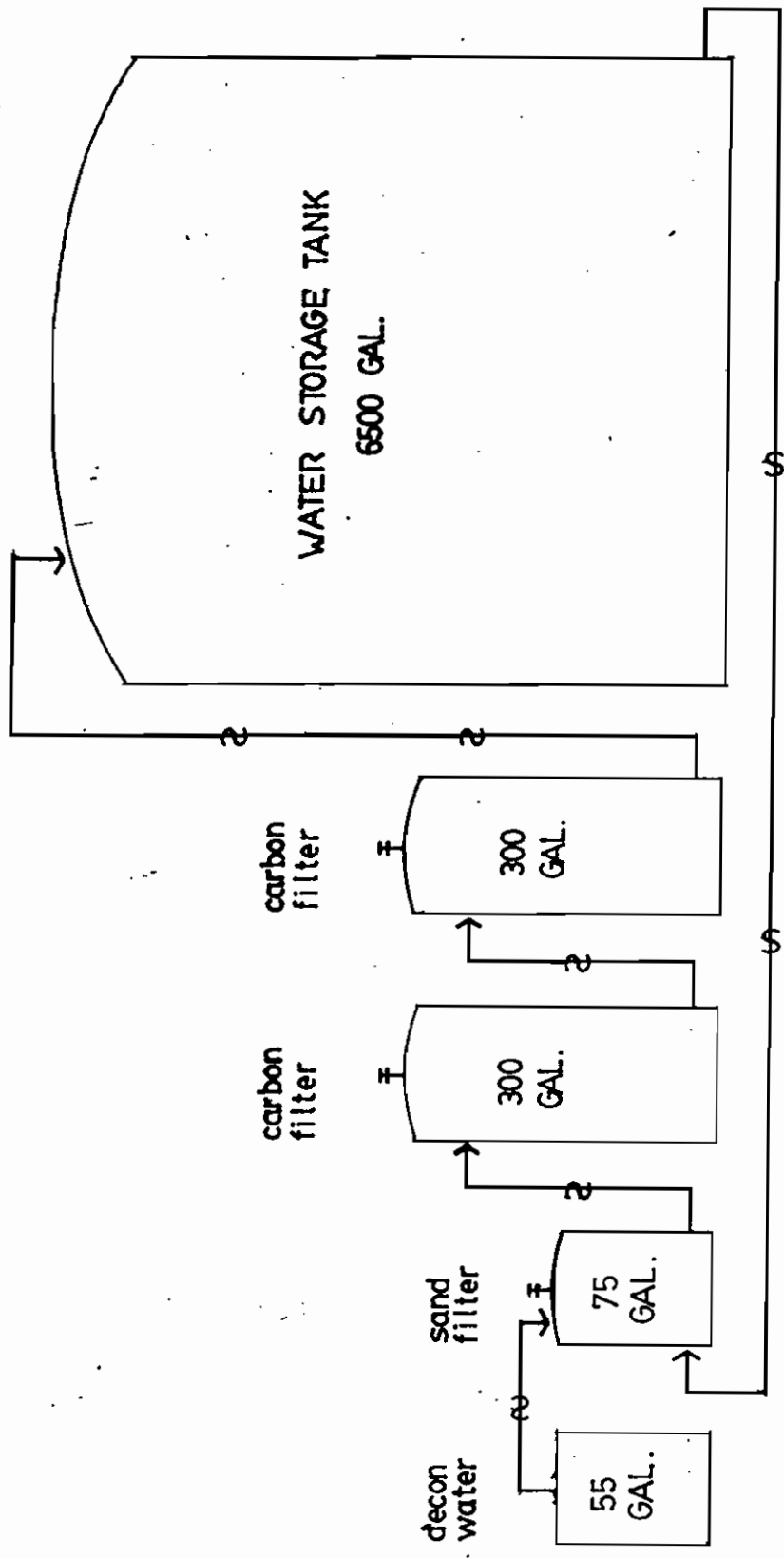
**APPENDIX  
A - 17**

**CARBON FILTRATION  
SYSTEM**

**CleanHarbors**

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∞ = heat traced and insulated

T = air bleed valve

1	original	DATE	BY	CHKD	DATE
ISSUE	DESCRIPTION	ISSUED	DATE	APPROV.	DATE

**CleanHarbors**  
 ENVIRONMENTAL ENGINEERING, INC.  
 325 Wood Road  
 Braintree, Massachusetts 02184  
 Telephone (617) 849-1200/1800

PROCESS FLOW DIAGRAM  
 decon water treatment system

PROJECT NO. NY5068 PWS NO. SUNY - 001  
 SCALE: N.T.S.

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**APPENDIX  
A - 18**

**GAGE WASTE  
SHIPMENTS**

**CleanHarbors**

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## GAGE HALL WASTE SHIPMENTS

<u>WASTE</u>	<u>DATE</u>	<u>MANIFEST#</u>	<u>DISPOSAL FACILITY</u>
Transformer	05/18/92	NYB4593942	Aptus Inc. Coffeyville, KS
PCB Oil	05/18/92	NYB4593672	Aptus Inc. Coffeyville, KS
Penetone/PCBs	07/09/92	NYB2554902	Aptus Inc. Coffeyville, KS
Safety Solvent/PCBs	10/09/92	CWMA583366	CWM Emelle AL
Decon. Water	*	Not Applicable	CWM Newark, NJ
Non-Haz. Solids	*	Not Applicable	Ketstone Landfill Dunmore, PA
Empty Non-Haz. Drums	*	Not Applicable	Hartford Cooperage Hart, CT or Hyman Barrel Buffalo, NY

Hazardous Solids (See following page)

### NOTES:

- \* Non-Hazardous waste streams from several buildings were consolidated prior to shipment. As a result, specific shipment dates can only be estimated. The exception was a thirty (30) cubic yard roll-off that contained mattresses from Gage Hall, shipped on 01/11/93.
1. Safety solvent/PCB waste stream was sent to CWM-Emelle facility where it was consolidated into bulk shipments. Bulk shipments were then sent to CWM-Port Arthur, TX facility for final disposal (incineration).

## GAGE HALL WASTE SHIPMENTS (cont.)

Hazardous solids generated from activities associated with Gage Hall are listed below.

<u>Manifest#</u>	<u>Date</u>	<u>Description of Waste</u>	<u>Cubic Yards</u>
NYB4594338	04/10/92	Excess material	6.25
NYB4593789	06/12/92	Soil	12.5
NYB4593681	06/18/92	Soil and concrete	12.5
NYB4592934	07/28/92	Soil and concrete	12.5
NYB4592997	07/31/92	Soil	25
NYB4556835	08/04/92	Soil	25
NYB4556826	08/05/92	Soil and concrete	25
NYB4556817	08/06/92	Soil and crushed drums	25
NYB4556808	08/07/92	Soil and PPE	25
NYB4556799	08/07/92	Furniture, PPE, soil	25
NYB4556763	08/12/92	Furniture, PPE, soil	25
NYB4556736	08/27/92	Electrical, soil, concrete	<u>25</u>
			243.75

### NOTES:

Loads of 12.5 and 8.3 cubic yards were consolidated with waste generated from other buildings.