FORMER CLINTON TERRACE SHOPPING CENTER

78 CROTON AVENUE

OSSINING, NEW YORK

WESTCHESTER COUNTY

FINAL ENGINEERING REPORT

NYSDEC Site Number: C360110

Prepared for:

Ossining Rx Development, LLC

580 White Plains Road

Tarrytown, New York 10591

Prepared by:

Jade Environmental

Hopewell Junction, New York

(845) 897-2188

NOVEMBER 2011

CERTIFICATIONS

I, Dave Pelletier, P.E., am currently a registered professional engineer licensed by the State of New York, I had primary direct responsibility for implementation of the remedial program activities, and I certify that the Remedial Work was implemented and that all construction activities were completed in substantial conformance with the Department-approved Remedial Action Work Plan

I certify that the data submitted to the Department with this Final Engineering Report demonstrates that the remediation requirements set forth in the Remedial Action Work Plan and in all applicable statutes and regulations have been or will be achieved in accordance with the time frames, if any, established in for the remedy.

I certify that all use restrictions, Institutional Controls, Engineering Controls, and/or any operation and maintenance requirements applicable to the Site are contained in an environmental easement created and recorded pursuant ECL 71-3605 and that all affected local governments, as defined in ECL 71-3603, have been notified that such easement has been recorded.

I certify that a Site Management Plan has been submitted for the continual and proper operation, maintenance, and monitoring of all Engineering Controls employed at the Site, including the proper maintenance of all remaining monitoring wells, and that such plan has been approved by Department.

I certify that all documents generated in support of this report have been submitted in accordance with the DER's electronic submission protocols and have been accepted by the Department.

I certify that all data generated in support of this report have been submitted in accordance with the Department's electronic data deliverable and have been accepted by the Department.

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class “A” misdemeanor, pursuant to Section 210.45 of the Penal Law. I, Dave Pelletier, P.E., of Jade Environmental, Inc. Hopewell Junction, New York, am certifying as Owner’s Designated Site Representative and I have been authorized and designated by all site owners to sign this certification for the site.

CERTIFICATIONS – CONT.

082127-1	November 28, 2011
NYS Professional Engineer #	Date

Signature

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LIST OF ACRONYMS

Acronym	Definition
SMP	Site Management Plan
FER	Final Engineering Report
VOC	Volatile Organic Compound
SVOC	Semi-volatile Organic Compound
PCE	Tetrachlorethene
TCE	Trichloroethyelene
xDCE	Dichloroethyelene
VC	Vinyl Chloride
NYSDEC	New York State Department of Environmental Conser.
EE	Environmental Easement
EC/IC	Environmental Control / Institutional Control
ppm/ppb	Parts per million / parts per billion solid
BCA	Brownfield Clean-up Agreement
RAO	Remedial Action Objectives
μg/L	Parts per billion liquid

FINAL ENGINEERING REPORT

1.0 BACKGROUND AND SITE DESCRIPTION

Anne and Robert Mehlich and Ossining Rx Development, LLC entered into a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC) in October 18, 2009, to investigate and remediate an approximately 1.0-acre parcel of commercial property located in the Village of Ossining, Westchester County, New York. The property was remediated to commercial use and will be used for retail purposes by a Walgreens pharmacy.

The site is located in the County of Westchester, New York and is identified as Block 7 and Lot 1 on the Westchester County Clerk Tax Map # 89.16. The Site is bounded by Croton Avenue to the west, Clinton Avenue to the south, an up gradient single family residential development to the east, and a single family home, a multi-story residential apartment building with street level commercial retail space and a commercial strip center anchored by a grocery to the north (see Figure 1). The boundaries of the site are fully described and depicted in maps and surveys provided in Appendix A.

2.0 SUMMARY OF SITE REMEDY

2.1 REMEDIAL ACTION OBJECTIVES

Based on the results of the Remedial Investigation, the following Remedial Action Objectives (RAOs) were identified for this site.

2.1.1 Groundwater RAOs

RAOs for Public Health Protection

- Prevent ingestion of groundwater containing regulated contaminants at levels exceeding drinking water standards.
- Prevent contact with, or inhalation of, contaminants volatizing from contaminated groundwater.

RAOs for Environmental Protection

- Restore the aquifer to the extent practicable to pre-release conditions.
- Prevent / discontinue the discharge of contaminants to surface water.

2.1.2 Soil RAOs

RAOs for Public Health Protection

- Prevent ingestion/direct dermal contact with contaminated soil.
- Prevent inhalation of, or exposure to, contaminants volatilizing from contaminated soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.
- Prevent impacts to biota due to ingestion/direct contact with contaminated soil that would cause toxicity or bioaccumulation through the food chain.
- Remove the “source” of ground or surface water contamination.

2.2 DESCRIPTION OF SELECTED REMEDY

The site was remediated in accordance with the remedy selected by the NYSDEC in the February 2011 Decision Document. The factors considered during the selection of the remedy are those listed in 6NYCRR 375-1.8. The following are the components of the selected remedy:

1. Excavation of soil/fill exceeding unrestricted residential SCOs (e.g. PCE – 1,300 ppb), to a depth of approximately 13' below grade or the extent feasible after depression of the upper aquifer via site dewatering;

2. The excavation was backfilled with highly permeable crushed stone to an elevation a few feet above the static water level and application of HRC throughout the excavation to enhance biodegradation of residual chlorinated solvents in soil and groundwater not physically removed by excavation or dewatering;

3. Construction and maintenance of a soil cover system consisting of a minimum of 4" of asphaltic or cementitious concrete or minimum of 12" of certified clean fill (i.e. top soil) in areas where no flat work is proposed (i.e. landscaped areas);

4. Installation of a sub-slab depressurization system comprised of two lateral sub-slab, perforated vacuum lines imbedded in a minimum 6" layer of highly permeable crushed stone. The laterals were connected to solid piping that traversed beneath the building foundation and up the back wall of the new building and vent over the roof line. A low voltage in-line fan will be connected to induce a vacuum on the perforated laterals which in-turn will draw soil gas from the gravel bed, resulting in a pressure differential between the above slab breathing zone and sub-slab atmospheres;

2.2 DESCRIPTION OF SELECTED REMEDY - CONT

5. Installation of a vapor barrier between the gravel pack and concrete floor slab to further protect the above slab atmosphere from soil vapor intrusion, should the depressurization system (i.e. in-line fans) fail as a result of wear or power outage. The vapor barrier is comprised of a layer of 6 mil polyethylene sheeting that extends throughout the foot print of the building. Where seams are required, the sheeting overlaps by a minimum of 2' and is adhered together by a continuous double 1/3" bead of 100% silicone;

6. The execution and recording of an Environmental Easement to restrict land use to commercial use which allows for industrial use, and prevent future exposure to any contamination remaining at the site;

7. Application of Hydrogen Releasing compound to enhance the attenuation (breakdown) of residual chlorinated hydrocarbons remaining in the formation after the physical remedial efforts are complete; and

8. Development and implementation of a Site Management Plan for long term management of remaining contamination as required by the Environmental Easement, which includes plans for:

   (1) Institutional and Engineering Controls;

   (2) groundwater monitoring;

   (3) operation and maintenance of the sub-slab depressurization system; and,

   (4) periodic inspection and reporting, including annual certifications filed with the NYSDEC by the Site Engineer.

3.0 INTERIM REMEDIAL MEASURES, OPERABLE UNITS AND REMEDIAL CONTRACTS

The remedy for this site was performed as a single project, and no interim remedial measures, operable units or separate construction contracts were performed.

The information and certifications made in the August 2010 Remedial Action Work Plan was relied upon to prepare this report and certify that the remediation requirements for the site have been met.

4.0 DESCRIPTION OF REMEDIAL ACTIONS PERFORMED

Remedial activities completed at the Site were conducted in accordance with the NYSDEC-approved August 2010 Remedial Action Work Plan (RAWP) for the Clinton Terrace Shopping Center site.

4.1 GOVERNING DOCUMENTS

The following documents were used to direct and guide this remedial process.

4.1.1 Site Specific Health & Safety Plan (HASP)

All remedial work performed under this Remedial Action was in full compliance with governmental requirements, including Site and worker safety requirements mandated by Federal OSHA.

The Health and Safety Plan (HASP) was compiled for all remedial work performed at the Site.

4.1.2 Quality Assurance Project Plan (QAPP)

The QAPP was included as Appendix D of the RAWP approved by the NYSDEC. The QAPP describes the specific policies, objectives, organization, functional activities and quality assurance/ quality control activities designed to achieve the project data quality objectives.

4.1.3 Soil/Materials Management Plan (S/MMP)

All excavated soil was heaped into stocklpiles atop 6 mil polyethylene sheeting and covered by same at the end of the stockpiling efforts. Stockpiles were between 70 and 100 feet long, 10-12’ wide and up to 6 ft high.

4.1.4 Storm-Water Pollution Prevention Plan (SWPPP)

The erosion and sediment controls for all remedial construction were performed in conformance with requirements presented in the New York State Guidelines for Urban Erosion and Sediment Control and the site-specific Storm Water Pollution Prevention Plan

4.1 GOVERNING DOCUMENTS– cont.

4.1.5 Community Air Monitoring Plan (CAMP)

A CAMP was implemented during the remedial work which included real time monitoring of up and down wind areas of the project site for both VOCs and particulates (i.e. dust).

Real time dust monitoring was conducted utilizing a MiniRAM equipped with an audible alarm capable of measuring particulate matter less than 10 micrometers in diameter.

Real time VOC monitoring was conducted utilizing a calibrated photo-ionization detector fitted with a 11.7 eV detector lamp.

During the project the Site Safety Manager charged with operating the monitoring equipment did not report a single exceedance of dust and/or VOC criteria. Worthy of note, consistent rainfall during the course of the excavation activities hampered the effort but aided in keeping dust and VOC emissions low.

4.1.6 Contractors Site Operations Plans (SOPs)

The Remediation Engineer reviewed all plans and submittals for this remedial project (i.e. those listed above plus contractor and subcontractor submittals) and confirmed that they were in compliance with the RAWP. All remedial documents were submitted to NYSDEC and NYSDOH in a timely manner and prior to the start of work.

4.1.7 Community Participation Plan (CPP)

A Community Participation Plan was implemented that included providing public access to all relevant project documents at the Ossining Public Library and allowing for public comment prior to final approval of every stage of this project by the NYSDEC. The CPP included notification of state decisions in local papers and via mailings to all public officials and organizations throughout the municipality and lower Hudson Valley.

4.2 REMEDIAL PROGRAM ELEMENTS

4.2.1 Contractors and Consultants

- All work was organized and directed by

  Jade Environmental, Inc.

  59 Circle Dr.

  Hopewell Junction, NY 12533

- Non-Hazardous contaminated soil transport was provided by

  Mangiardi Trucking

  4139 State Rt 20

  Castleton, New York 12033 and

- Hazardous contaminated soil transport was provided by

  Transport Rollex LTEE'
  910 Boul Lionel Boulet
  Varennes, QU J3X1P7

- Non-hazardous soil disposal was provided by

  Chemung County Landfill

  1690 Lake Street

  Elmira, NY 14901-1219

- Hazardous soil disposal was provided by

  STABLEX CANADA INC.
  760, Boulevard Industrial
  Blainville, Québec, Canada

- Liquid waste transported by

  Safety Kleen

  50 Snake Hill Road

  West Nyack, NY 10994

4.2 REMEDIAL PROGRAM ELEMENTS

4.2.1 Contractors and Consultants - cont

- Liquid Waste Treatment / Disposal by

  Westchester County Dept. of Public Works

- The Certifying Engineer of Record responsible for inspection

  Dave Pelletier, P.E.

  59 Circle Dr.

  Hopewell Junction, NY 12533

4.2.2 Site Preparation

All remedial work was performed between May 15 and July 15, 2011. A pre-construction meeting was held with NYSDEC on-site on May 16 and Inspector John Miller was on-site overseeing remedial efforts on most days.

All SEQRA requirements and all substantive compliance requirements for attainment of applicable natural resource or other permits were achieved during this Remedial Action.

4.2.3 General Site Controls

- Site security was provided by a 6' high chain link fence that wrapped the entire site. The fence was fitted with three 16' swing gates – one provided egress to Croton Avenue to the west, another to Clinton avenue to the south and a third to the retail shopping center to the northeast;
- Job site record keeping was provided by the Site Safety Officer;

4.2 REMEDIAL PROGRAM ELEMENTS

4.2.3 General Site Controls – cont.

- Erosion and sedimentation control included silt sacks around storm drains. All stock piles were placed on and covered by a minimum one layer of 6 mil polyethylene sheeting anchored to prevent blow off by wind;
- Soil screening was conducted by the Site Engineer utilizing a properly calibrated photo-ionization detector that measured VOC emissions in parts per million (ppm); the PID alarm was programmed to go off at 100 ppm. During field screening, the alarm sounded in various locations of stockpile #1 which was ultimately disposed of as hazardous waste; and
- Stockpiles were generated utilizing a 20 ton hydraulic excavator fitted with a 5 yard bucket. The stock piles were organized in the form of four 70' to 100' long by 10' wide mounds underlain by a layer of 6 mil polyethylene sheeting to protect the underlying formation and covered with a layer of 6 mil poly to protect the breathing zone from volatilizing VOC. The layout provided for an organized stockpile characterization by laying out a survey tape and sectioning the piles into 10 ft sections, each of which would have its own composite sample.

The process was effective in determining which portions of the stockpiled soil would have to be managed as hazardous as a result of toxicity and which could be disposed as non-hazardous based on results of toxicity screening.

4.2.4 Nuisance controls

- Truck wash and egress housekeeping - A rip rap bed was installed at the exit to the facility used to capture any soil stuck to truck tires before they were permitted to leave the site. In addition, the entire site was swept clean to minimize potential tracking of potentially contaminated soil off the site ;
- Dust control – dust control was provided by surface wetting and sweeping;
- Odor control – odor control was not required;

4.2 REMEDIAL PROGRAM ELEMENTS

4.2.4 Nuisance controls –cont.

- Truck routing – the minimal amount of soil disposed did not require any significant truck route planning; and
- Responding to complaints – not a single complaint was logged during the remedial work.

4.2.5 CAMP results

During, CAMP activities, there were no exceedances of VOC or dust criteria. No complaints were received during the remedial work as a result of dust or odors.

4.2.6 Reporting

Other than daily sampling and analysis of groundwater being discharged from the frac tank to the local POTW, no daily reporting was conducted. Site photos were collected and daily logs of employees present and activities conducted were collected by the Site Engineer.

4.3 CONTAMINATED MATERIALS REMOVAL

The source area for the primary contaminant, PCE, was removed during the excavation process. The break down components of PCE, (e.g. TCE xDCE and VC) remaining at the site will be significantly reduced as a result of the PCE mitigation efforts.

A figure of the location of original sources and areas where excavations were performed is provided on the Remedial Map provided in Appendix A.

4.3.1 Contaminated Soil Removal

In all 1150 tons of soil was excavated and removed from the site to the Chemung county landfill to be used as daily cover as permitted by the landfill state awarded operating permit. In addition, 112 tons of soil was characterized as hazardous as a result of its total PCE concentrations exceeding 12 ppm and/or its TCLP extract analysis exceeded 700 ppb for PCE. All hazardous soil was transported to Quebec Canada for absorption with activated carbon and then solidification by mixing with cementitious products. The final mixture was placed in a sealed cell to harden.

4.3 CONTAMINATED MATERIALS REMOVAL

4.3.1 Contaminated Soil Removal - cont

Table 1- Disposal Summary Table

Source	Waste	Transported	Disposal Facility/ Disposal Method /Id
Buried Overflow Tank	PCE/water	Safety Kleen / Transporter Part 364 Permit #SC-017	Recycler / Burner
Groundwater	Cont. water	NA – Discharged to sewer through existing connection	Westchester County Department of Environmental Facilities / Sewage Treatment
Soil	Soil	Mangiardi Brothers 4139 State Rt 20 Castleton, NY 12033 / Part 364 Transporter Permit # 4A-209 Mark - (518) 477-8940	Chemung landfill / daily cover /
Soil	Soil	Transport Rollex LTEE' 910 Boul Lionel Boulet Varennes, QU J3X1P7 USEPA ID # NYF006000053 (450) 652-4282	STABLEX CANADA INC. 760, Boulevard Industrial Blainville, Quebec, Canada Solidification/fixation and land filling / USEPA ID # NYD980756415 Mr. Claude Forte (450) 970-1340

4.3.2 On-Site Reuse

Soil contaminated above SCOs was not permitted for reuse on-site. Soil excavated after the remedial work was completed by the foundation contractor was stockpiled in the designated areas and then sampled to ascertain PCE levels. In all 12 composite samples that were collected from the contractor's stockpile. Each sample was collected using a shovel to remove the 12" of cover to access soils deeper than 12" in the contractor's stockpile. The lab analytical results for the 12 samples are summarized below. No concentrations of any CVOCs other than PCE were detected in any of the soil samples above the laboratory reporting limit. The protection of groundwater/unrestricted use SCO for PCE is 1,300 ppb (1.3 ppm).

4.3 CONTAMINATED MATERIALS REMOVAL

4.3.2 On-site reuse – cont.

Table 2- Summary of Stockpile Analysis

Sample Id	PCE Concentration (ppb)
#1	6.7
#2	<5.8
#3	<5.8
#4	6.9
#5	16
#6	11
#7	<19
#8	29
#9	7.0
#10	10
#11	19
#12	6.9

As can be seen in the summary table, although trace concentrations of PCE were detected in site soils, none of the composite samples collected from the stockpile identified any soil contaminated above SCOs for PCE. As such, the foundation engineer was permitted to reuse the stockpiled soil on-site as long as it was left a minimum 12" below grade so that it could be capped with certified clean top soil or covered with concrete and/or asphalt and base. At the concentrations identified, it is highly unlikely the reused soil represents a concern with respect to soil vapor intrusion, dermal contact and/or future impact to groundwater or nearby surface water (e.g. Sing Sing Creek to the north and west).

4.4 REMEDIAL PERFORMANCE/DOCUMENTATION SAMPLING

The following table summarizes SCOs used to meet Unrestricted Use Soil Clean-up Objectives.

Table 3- Applicable SCOs

Constituent	Unrestricted Use Soil Clean-up Objective (ppb)
1,2-Dichloroethane	20
cis-1,2-Dichloroethene	250
trans-1,2-Dichloroethene	190
Tetrachloroethene	1,300
Trichloroethene	470
Vinyl chloride	20

As PCE was the Primary contaminant on this site, soil clean-up proceeded with a focus on this primary contaminant with the expectation being that if all soil contaminated with PCE above applicable SCOs could be removed, similar reductions could be expected in its break down components. As noted above, the SCO for PCE used during this process was 1,300 ppb.

The following table summarizes the results of end point soil sampling conducted under the oversight of the NYSDEC during the expected end of the excavation and stockpiling program. As noted, several inches of soil was excavated before a sample was collected to remove oxidized soil and representative sampling. As can be seen in the summary table only trace concentrations of PCEs primary degradation products were quantified as a result of the lab analysis.

4.4 REMEDIAL PERFORMANCE/DOCUMENTATION SAMPLING - CONT

Table 4- Post Excavation End-point Soil Sample Analysis Results

End-Point Sample Id	Contaminant SCO (ppb)			
	PCE (1,300)	TCE (470)	DCE	VC (20)
North Wall	5,700 (1,300)	<5.7	<5.7	<5.7
South Wall	<5.5	<5.5	<5.5	<5.5
East Wall	4,000 (1,800)	<5.6	<5.6	<5.6
West Wall	420	<150	<150	<150
North Bottom	9,800 (42)	<280	<280	<280
South Bottom	11	<5.9	<5.9	<5.9

Notes:

1. All concentrations reported in parts per billion (ppb)

2. Concentrations in parenthesis include results from resampling after additional excavation/stockpiling was deemed required based on end-point sampling results exceeding applicable SCOs.

3. No third sampling of the east wall was conducted after obtaining the 1800 ppb result as additional excavation extended to the basement wall of the building, so additional sampling was not possible.

Round 1 End Point Sampling

As can be seen in the summary table, the first round of end point samples confirmed adequate excavation of the "source" laterally to south and east and vertically in the south half of the excavation. The sampling revealed contaminated soil above the SCOs in the north and west directions and vertically on the north side of the excavation still existed above unrestricted SCOS.

As such, Jade proceeded to continue excavation in the north and west directions and vertically (>13' below grade in the north half of the excavation. Soil screening utilizing the PID continued during this effort. Once complete, the north and west walls of the excavation were resampled as well as the bottom of the north half of the excavation which was now to a depth of approximately 15' below grade (approximately 5' into the static saturated zone).

4.4 REMEDIAL PERFORMANCE/DOCUMENTATION SAMPLING - CONT

Round 2 End Point Sampling

Resampling in these areas resulted in an additional 300 tons of soil being stockpiled. Resampling of the north wall, west wall and north bottom resulted in end point results of 1,300, 1800 and 54 ppb respectively. The results indicated that the source area had been predominately removed and that additional excavation was not warranted.

A map with tables summarizing all end-point sampling is included in Appendix A. The map depicts the approximate locations samples were collected from, the limits of the excavation relative to the building foundation and

4.5 IMPORTED BACKFILL

Imported backfill included 413 yards of ¾" crushed quarry stone to an elevation of approximately 2' above the static water table. The remainder of the excavation was filled to grade with a manufactured item #4 which was not permitted to include any asphalt based on client foundation requirements Jade observed the vibratory compaction of the backfill in 6" lifts with a 15,000 pound vibratory roller by Cortese to an elevation of approximately 7' below grade.

Because the crushed stone and item #4 was quarry manufactured, no analysis environmental analysis was required. The item #4 was tested for degradation and moisture content. A copy of the lab report is provided in the appendices. Table 5 below summarizes the type and source of materials imported to the site for the purposes' of back filing and site redevelopment.

4.5 IMPORTED BACKFILL

Table 5- Backfill Quantities / Sources

Backfill type	Quantity	Source	Testing Results
¾" Crushed Stone	413 yds	Route 9 Quarry Rt 9 Fishkill, New York	Not Required
Item #4	275 yds	Delia Equipment Corp	See Appendix J for Geotechnical analysis
Top Soil	TBD	TBD	TBD

The excavation was lined with filter fabric before backfilling with crushed stone. The stone backfill extended from the bottom of the excavation at about 13-14' below grade in areas to an elevation of approximately 2' above the static water level or 8" below grade. Backfill was placed in 12" lifts and compacted using a 15,000 pound vibratory compactor.

4.6 CONTAMINATION REMAINING AT THE SITE

Based on the end point sampling results, limited soil remains on-site contaminated with PCE or its degradation products above their unrestricted SCOs. Excavation of this soil was not practicable. Table 4 summarizes the results of all soil samples remaining at the site after completion of Remedial Action that exceed the Track 1 (unrestricted) SCOs.

Since contaminated groundwater/soil vapor remains beneath the site after completion of the Remedial Action, Institutional and Engineering Controls are required to protect human health and the environment. These Engineering and Institutional Controls (ECs/ICs) are described in the following sections. Long-term management of these EC/ICs and residual contamination will be performed under the Site Management Plan (SMP) approved by the NYSDEC.

4.7 SOIL COVER SYSTEM

Exposure to remaining low levels of contamination in soil at the site is being prevented by a cover system placed over the site. This cover system is comprised of a minimum of 12 inches of certified clean top-soil, 4" of asphalt pavement and/or 4" of concrete-(e.g. sidewalks building slabs) both a top a 6" bed of quarry gravel. Figure 2 shows the as-

4.7 SOIL COVER SYSTEM

built cross sections for each remedial cover type used on the site. Appendix A provides mapping which depicts the location of each cover type applied to the Site. An Excavation Work Plan, which outlines the procedures required in the event the cover system and/or underlying residual contamination are disturbed, is provided in Appendix A of the SMP.

4.8 OTHER ENGINEERING CONTROLS

In addition to the soil cover, the SMP calls for the installation of a vapor barrier and sub-slab depressurization system to prevent volatilization of VOCs in groundwater into the building breathing zone. As summarized in section 2.2, these additional controls include

1. Installation of a sub-slab depressurization system comprised of two lateral sub-slab, perforated vacuum lines imbedded in a minimum 6" layer of highly permeable crushed stone. The laterals are connected to solid piping that traverse beneath the building foundation and up the back wall of the new building and vent over the roof line. A low voltage in-line fan induces a vacuum on the perforated laterals which in-turn draws soil gas from the gravel bed, resulting in a pressure differential between the above slab breathing zone and sub-slab atmospheres.

2. Installation of a vapor barrier between the gravel pack and concrete floor slab to further protect future occupants from soil vapor intrusion, should the depressurization system (i.e. in-line fans) fail as a result of wear or power outage. The vapor barrier is comprised of a layer of 6 mil polyethylene sheeting that will extend throughout the foot print of the building. Where seams are required, the sheeting will overlap by a minimum of 2' and be adhered together by a continuous double 1/3" bead of 100% silicone ;

Procedures for monitoring, operating and maintaining the soil cap, sub-slab depressurization system, etc. are provided in the Operation and Maintenance Plan in Section 4 of the Site Management Plan (SMP). The Monitoring Plan also addresses inspection procedures that must occur after any severe weather condition has taken place that may affect on-site ECs.

4.9 INSTITUTIONAL CONTROLS

The site remedy requires that an environmental easement [or deed restriction] be placed on the property to (1) implement, maintain and monitor the Engineering Controls; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface; and, (3) limit the use and development of the site to [usage type] uses only.

The environmental easement for the site was executed by the Department and filed with the County Clerk on October 20, 2011 at 1:38 am. The County Recording Control number for this filing is 512923533. A copy of the easement and proof of filing is provided in Appendix C.

4.10 DEVIATION FROM THE REMEDIAL ACTION WORK PLAN

The only derivation from the remedial work plan during the Remedial Action was elimination of the aeration/vapor recovery system. The original purpose of the aeration/vapor recovery system was to remove VOCs from the formation for surface treatment.

The derivation resulted for the following reasons:

1. The excavation was at a perpetual point of oversaturation as a result of consistent heavy rains during the project. The saturation resulted in instability in the excavation walls resulting in a safety condition to workers that would have to enter the excavation to install the piping;
2. During the remedial effort it became apparent that more contaminated soil would be accessible for excavation and disposal than originally anticipated. End point sampling indicated limited soil remains at the site above the unrestricted SCO (PCE concentration > 1.3 ppm). As such, the need for aeration and vapor recovery was diminished;
3. Consultation with Regenisis revealed aeration would be counter effective to the anaerobic degradation process their HRC formulation would generate. As the Regenisis process was expected to be more effective than aeration/vapor extraction, it was selected over aeration/vapor extraction; and
4. The foundation of the new building was designed to be water tight and therefore vapor tight and includes two (2) sub-slab depressurization laterals buried in the gravel bed the vapor barrier and the concrete floor slab. Any VOCs that find their way through the vapor barrier will be picked up by the sub-slab depressurization system and be discharged above the roof line.

4.11 ENHANCED ATTENUATION

To address residual hydrocarbons remaining in soil and groundwater after the physical remedial processes were complete, Jade inoculated the gravel bed (upper aquifer at source) with 110 gallons of an enhanced formulation of hydrogen releasing compound designed to spread faster than prior formulations. The new less viscous formulation in conjunction with the highly permeable crushed stone backfill, insured good distribution of the HRC through the upper aquifer. Another 55 gallons of HRC will be applied over the next 12 to 18 months as needed based on quarterly monitoring result. Bills of laden for the HRC applied are provided in the appendices.

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Front View Of Shopping Center

Fuel Oil Tank For Former Dry Cleaners Steam Generator

Location of 550-gallon Fuel Oil Tank

May 16, 2011 West Wall Slope

More Final Excavation

Oil Tank Pull

Appendix H

Soil /Waste Characterization Documentation

- Soil Disposal Manifests – Non Hazardous – Chemung County Landfill
- Soil Disposal Manifests – Hazardous - StableX
- Groundwater Discharge Permit / WCDEF
- Liquid Disposal Manifests – Safety Kleen
- Disposal Facility Approval and Approval Letters
- Facility Permit Certificates

Dear customer,

Regulation 40 CFR 264.12(b) requires the owner or operator of a facility that receives hazardous wastes from an off-site source to inform the generator in writing that it has the appropriate permits for, and will accept, the waste the generator is shipping. This is accomplished by service documents and/or profiles.

The purpose of this correspondence is to re-emphasize in writing that the Safety-Kleen Systems, Inc. Cranston RI facility (RID084802842) has all the appropriate permits and capacity to accept all the Safety-Kleen core hazardous waste streams or properly profiled hazardous waste.

If you have any questions or need additional information, please contact me at 401-467-3820.

Sincerely,

Antonio Boiano
Facility Manager
Safety-Kleen Systems, Inc.

SAFETY-KLEEN SYSTEMS, INC.

167 Mill Street Cranston, RI 02905 401 781-0808 FAX 401 781-7693

5400 Legacy Drive, Cluster II, B3
Plano, Texas 75024
800-669-5740
www.safety-kleen.com

CUSTOMER NO. 1 0 0 6 5 6 3 6

CLINTON TERRACE
74 CROTON AVE
OSSINING, NY 10562-4201 US

DUNS NO. 05-397-6551 FED. ID NO. 396090019

ELGIN OFFICE

FOR SERVICE CALL	BRANCH MANAGER	DOC. EXP.	SCHEDULED SERVICE WEEK	SCHEDULED TERRITORY	REFERENCE NUMBER
845-353-0900			11-19	1	54009942

CREDIT CODE	PREVIOUS BALANCE	BAL. OVER 60 DAYS
3		

CUSTOMER SEGMENT	CHAIN	OUTER COUNTY	SVC. P/C	PROD. P/C
54				

LOCATION	TAX EXEMPTION NO.
7036	

BILL TO:
10065636
JADE ENVIRONMENTAL
59 Circle Dr
ATTN: DAVE PELLETIER
Hopewell Junction NY US 12533-5830

SERVICE DATE	SALES REP NO.	CUSTOMER P.O. NUMBER	CUSTOMER PHONE #	TAX CODE	DATE EQPT/PROD ORDERED	SERVICE TAX	C.O.M.S. TAX	PRODUCT TAX
5-5-11	4130987		814-304-5624					

DEPT	SERVICE/ PRODUCT		REMARKS/ UNIT PRICE	QUAN.	CHARGE	SALES TAX	TOTAL CHARGE	WASTE MIN.	CLEAN	SPENT	% CONT.	SK DOT	CC	SERVICE TERM	CHANGE SERVICE TERM (WEEKS)(INITIAL)	CHANGE SCH. DATE (YY WW)	INV. CODE	PROMO NO.		MSDS GIVEN
	55361	150621	250.00	~~10~~	~~250.00~~	~~18.44~~	~~268.44~~					14906		24					DC SIGN-U	☐
	100001		17.11	1	17.11	1.26	18.37													☐
					$2000	~~[illegible]~~														☐
							$2,665.87													☐
					2500.00	184.38	2684.38													☐
							$2,665.87													☐
TOTAL-SERVICE/PRODUCTS					~~267.11~~	~~19.70~~	~~286.81~~													

USEPA TRANSPORTER 1 ID NO.	USEPA TRANSPORTER 2 ID NO.	GENERATOR USEPA ID NO.	GENERATOR STATE ID NO.

CHECK APPROPRIATE BOXES

	GOOD	POOR
MACHINE CONDITION & CLEANLINESS	☐	☐
LAMP ASSEMBLY CONDITION	☐	☐

	YES	NO
DECALS IN PLACE AND LEGIBLE	☐	☐
FUSIBLE LINK INSTALLED	☐	☐
EMERGENCY CLOSING OF LID UNOBSTRUCTED	☐	☐
MACHINE PROPERLY GROUNDED	☐	☐
LOCAL PHONE NO. STICKER AFFIXED TO MACHINE	☐	☐
SPENT SOLVENT MEETS ACCEPTANCE CRITERIA	☐	☐

11. US DOT DESCRIPTION (INCLUDING PROPER SHIPPING NAME, HAZARD CLASS, AND ID.)

Tax Free Cert
To be forwarded

12. CONTAINERS NO.	TYPE	13. TOTAL QUANTITY	14. UNIT WT/VOL	SK DOT NUMBER

I CERTIFY THAT MY TOTAL WASTE STREAMS ARE WITHIN ONE OF THE FOLLOWING CATEGORIES:
0 TO 220 LBS./MONTH ______ INITIALS
220 LBS. TO 2,200 LBS./MONTH ______ INITIALS
GREATER THAN 2,200 LBS./MONTH ______ INITIALS

DESIGNATED FACILITY NAME AND ADDRESS

I CERTIFY THAT NO MATERIAL CHANGE HAS OCCURRED EITHER IN THE CHARACTERISTICS OF THE WASTE MATERIALS OR IN THE PROCESS GENERATING THE WASTE MATERIALS.

USA EPA ID NO.
STATE ID NO.

PAYMENT RECEIVED SECTION

CASH ☐ | TOTAL RECEIVED | APPLY PAYMENT TO:
CHECK NUMBER | | ☐ TODAY'S SERVICE/SALE ☐ PREVIOUS BALANCE AS FOLLOWS

INVOICE #	AMOUNT $	INVOICE #	AMOUNT $

PREVIOUS CREDIT CARD NO.

CREDIT CARD NO. 4266841245010933 AMEX VISA MC EXP. DATE 1/2/12

CUSTOMER REFERENCE

MANIFEST NO.
LDR MESSAGE
MANIFEST CODE | SEQ #

IN THE EVENT OF AN EMERGENCY CALL

I AGREE TO PAY THE ABOVE CHARGES AND TO BE BOUND BY THE TERMS AND CONDITIONS SET FORTH ABOVE AND ON THE REVERSE SIDE OF THIS DOCUMENT. PLEASE CHARGE MY ACCOUNT FOR THIS TRANSACTION UNLESS OTHERWISE INDICATED IN THE PAYMENT RECEIVED SECTION. THE INDIVIDUAL SIGNING THIS DOCUMENT IS DULY AUTHORIZED TO SIGN AND BIND CUSTOMER TO ITS TERMS.

"This is to certify that the above-named materials are properly classified, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation."

Dave Pelletier
Print Customer Name

By: [signature]
Customer's Authorized Representative

TOTAL CHARGE (FROM ABOVE)
WASTE MIN. (FROM ABOVE)
TOTAL DUE

DO NOT WRITE IN THE AREA BELOW

SERVICE AND SALES ACKNOWLEDGMENT
PART 1366 (Rev. 05/07)

7036

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	CESQG	1	1-800-468-1760	003392698 FLE

5. Generator's Name and Mailing Address

CLINTON TERRACE
74 CROTON AVE
OSSINING NY 10562-4201

Generator's Site Address (if different than mailing address)

Generator's Phone: 914-304-5624

6. Transporter 1 Company Name: SAFETY-KLEEN SYSTEMS, INC. — U.S. EPA ID Number: TXR000050930

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: SAFETY-KLEEN SYSTEMS, INC.
167 MILL STREET
CRANSTON, RI 02905 — U.S. EPA ID Number: RID084002842

Facility's Phone: 401-781-0808

9a. HM	9b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. WASTE TOXIC LIQUID, ORGANIC, N.O.S. (TETRACHLOROETHYLENE, TRICHLOROETHYLENE) 6.1 UN2810 PGIII (FILTERS)	10	DF DM	4000	P	F002 D039	D007 D040	D029 R
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information: SK SHIP#203964580 54009942 10065636 201119 CSG:1

1) ERG#153;
24 HR EMERGENCY # 800-468-1760(SAFETY-KLEEN - 94138)
SK AUTHORIZED TO RETAIN LICENSED SUBSEQUENT CARRIERS AS NECESSARY

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Dave Fellenor — Signature: [signature] — Month: 11 — Day: 15 — Year: 11

INTL

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Eduardo LENDOF — Signature: [signature] — Month: 11 — Day: 15 — Year: 11
Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month — Day — Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name — Signature — Month — Day — Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

1) 14906/150621

SAFETY-KLEEN 05/05/2011 PAGE:1
LDR NOTIFICATION FORM 06:11:08

PLANT: 7036
GENERATOR NAME: CLINTON TERRACE
MANIFEST NO.: 003394098 FLE
OR SALES SERVICE NO.: 54009942
CUST#: 10065636

SK Shipping #: 203964580
Pursuant to 40 CFR 268.7(a), I hereby notify that this shipment contains waste restricted under 40 CFR part 268 land disposal restrictions (LDR).

A. GENERAL WASTE NOTIFICATION

LDR FORM LINE NO.: 1 MANIFEST PAGE/LINE# 01/001 SK PRFL NO.: 0000150621
SKDOT#: 0014906

EPA WASTE CODES & LDR SUBCATEGORIES (IF ANY):
D007 TCLP TOXICITY BASED ON TCLP (SW846)
D029
D039
D040
F002
Treatability group: NWW Non-Wastewater
Waste Constituent Notification:
Legend

Number	Constituent
91	CHLOROFORM
101	M-CRESOL (DIFFICULT TO DISTINGUISH FROM P-CRESOL)
102	P-CRESOL (DIFFICULT TO DISTINGUISH FROM M-CRESOL)
122	1,1-DICHLOROETHYLENE
211	PENTACHLOROPHENOL
229	TETRACHLOROETHYLENE
237	TRICHLOROETHYLENE
239	2,4,5-TRICHLOROPHENOL
250	CADMIUM
251	CHROMIUM (TOTAL)
255	LEAD
257	MERCURY - ALL OTHERS
260	SILVER

NOTES

KP NOTICE: THIS LDR EXPIRES ON 12/31/2011

GENERATOR'S AUTHORIZED SIGNATURE

Dave Pallonen
NAME & TITLE (PRINTED OR TYPED)

5, 5, 11
DATE

NT: 7036
CSG: 1 REF#: 54009942 SW: 201119
COPY: GENERATOR MIDDLE COPY: FACILITY BOTTOM COPY: TRANSFER

Episodic Hazardous Waste Generation Letter

To Whom It May Concern:

The hazardous waste on Manifest # (s) 003392698 FLE represents an accumulation from May, 2009 to May, 2011 of unused product which has become obsolete.

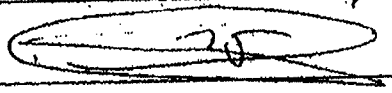
The clean out of product is due to the closing of the business.

Generator Name: CLINTON TERRACE

Address: 74 CROTON AVE

OSSINING, NY 10562

Print Name/ Title: DAVID PELLETIER / ENVIRONMENTAL CONSULTANT

Signature: 

Form Approved. OMB No. 2050-0039

(Form designed for use on elite (12-pitch) typewriter.)

...M HAZARDOUS ...STE MANIFEST	1. Generator ID Number	2. Page 1 of 1	3. Emergency Response Phone 1-877-587-0911	4. Manifest Tracking Number 008200215 JJK

5. Generator's Name and Mailing Address
RX DEVELOPMENT
505 White Plains Rd
Tarrytown, New York 10592
Generator's Phone: (914) 632 6074

Generator's Site Address (if different than mailing address)
72 Croton Avenue
Ossining, New York 10562

6. Transporter 1 Company Name
TRANSPORT ROLLEX LTÉE (450) 463-4282
U.S. EPA ID Number: NYF008000053

7. Transporter 2 Company Name
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
TR : 00015408
STABLEX CANADA INC
760, boul. Industriel
Blainville, Québec J7C 3V4
Facility's Phone: (450) 970-1340
U.S. EPA ID Number: NYD980756415

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ Waste environmentally hazardous substances, solid, n.o.s. (perchloroethylene) 9 UN3077 III	001	DT	70000	pds	F001
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Gulfstream: TLC acting as an intermediary arranging for export.

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: | Signature: | Month 7 Day 5 Year 11

16. International Shipments ☐ Import to U.S. ☒ Export from U.S. Port of entry/exit: Date leaving U.S.:
Transporter signature (for exports only):

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: ANDRE MENARD | Signature: [signature] | Month 07 Day 05 Year 11
Transporter 2 Printed/Typed Name: | Signature: | Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
NE 75014 P
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H 132			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: | Signature: | Month 07 Day 06 Year 11

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

Form Approved. OMB No. 2050-0039

(Form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	1	1-877-597-0911	008800216 **JJK**

GENERATOR

5. Generator's Name and Mailing Address
RX DEVELOPMENT
303 White Plains Rd
Tarrytown, New York 10592
Generator's Phone: (914) 882-8074

Generator's Site Address (if different than mailing address)
73 Croton Avenue
Ossining, New York 10562

6. Transporter 1 Company Name
TRANSPORT ROLLEX LTÉE (450) 652-4282
U.S. EPA ID Number: NYF008000053

7. Transporter 2 Company Name
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
STABLEX CANADA INC.
760, boul. Industriel
Blainville, Québec J7C 3V4
Facility's Phone: (450) 573-1343
TR 00015408
U.S. EPA ID Number: NYD980756415

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ Waste environmentally hazardous substances, solid, n.o.s. (perchloroethylene) 9 UN3077 III	001	DT	7400	lbs	F001
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Gulfstream TLC acting as an intermediary arranging for export.

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name	Signature	Month	Day	Year
Dave Dellecker P.E.	[signature]	7	5	11

INT'L

16. International Shipments ☐ Import to U.S. ☒ Export from U.S. Port of entry/exit: Champlain NY
Transporter signature (for exports only): Date leaving U.S.: 5 July 2011

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

	Printed/Typed Name	Signature	Month	Day	Year
Transporter 1	Daniel Hog	[signature]	7	5	11
Transporter 2					

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
N=74885P
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H-130			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name	Signature	Month	Day	Year
Mathieu Barcomb	[signature]	07	05	11

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Form Approved. OMB No. 2050-0039

...or type. (Form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of 1	3. Emergency Response Phone 1-877-627-9911	4. Manifest Tracking Number 002800217 JJK

GENERATOR

5. Generator's Name and Mailing Address
[illegible] DEVELOPMENT
[illegible] Place Rd
[illegible], New York [illegible]
Generator's Phone: (914) [illegible]

Generator's Site Address (if different than mailing address)
79 Croton Avenue
Ossining, New York 10562

6. Transporter 1 Company Name
TRANSPORT [illegible] INC (480) [illegible]
U.S. EPA ID Number: NYF0080000053

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
STABLEX CANADA INC
780, boul. Industriel
Blainville, Québec, J7C 3V4
Facility's Phone: (450) [illegible]
TR : 00015406
U.S. EPA ID Number: NYD980755415

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. [illegible] Waste environmentally hazardous substances, solid, n.o.s. (perchloroethylene) 9 UN3077 III	001	DT	33 K		F001
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Gulfstream TLC acting as an intermediary arranging for export.

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name [illegible] Signature [illegible] Month Day Year [illegible]

INTL

16. International Shipments ☐ Import to U.S. ☒ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name [illegible] Signature [illegible] Month Day Year [illegible]
Transporter 2 Printed/Typed Name Signature Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
M = 72015 P.
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H [illegible] 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name [illegible] Signature [illegible] Month Day Year [illegible]

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Westchester gov.com

Robert P. Astorino
County Executive

Department of Environmental Facilities

Thomas J. Lauro, P.E.
Commissioner

April 13, 2011

Jade Environmental, Inc.
59 Circle Drive
Suite 100
Hopewell Junction, NY 12533

Mr. Dave Pelletier:

RE: Ground Water Remediation

Permit # 294-11
Site: Clinton Terrace Brownsfield Project
Brownfield Clean-up #360110
78 Croton Avenue
Ossining, NY

The wastewater discharge from the above-mentioned site may be discharged to the County Sewer System. The limitations and requirements are as follows:

1) Effective dates of permit – **4/13/2011** to **10/12/2011** inclusive.
2) Maximum discharge to the sewer in Gallons per minute is **15**.
3) Treatment – Sewer Use Ordinance (SUO) limitations (enclosed).
4) Analyses of treated wastewater for VOC limitations stated in SUO sent to this office within 30 days of permit date.
5) Additional set of analyses every 30 days if site is active for longer than 30 days.
6) Notification, in writing, to this office when site is no longer active for 90 days and/or remediation work is complete.

If you have any further questions or concerns, please contact Mrs. Monika Wieleba of my staff at (914)813-5431 or by e-mail mew3@westchestergov.com.

Robert Cea
Program Director

Westchester gov.com

Robert P. Astorino
County Executive

Department of Environmental Facilities

Thomas J. Lauro, P.E.
Commissioner

LOCAL SEWER LIMITATIONS

REGULATED POLLUTANT	AVERAGE DAILY CONCENTRATION (mg/L)
pH – Low	5.5
pH – High	9.5
Arsenic	0.2
Barium	2.0
Cadmium	0.7
Chromium (Total)	3.0
Chromium (Hex)	2.0
Copper	2.8
Cyanide (Total)	0.8
Lead	0.4
Mercury	0.2
Nickel	2.8
Oil & Grease	100.0
Phenols	4.0
Selenium	0.2
Silver	0.8
Total Toxic Organics	2.1
Zinc	1.8

MAN 53

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

5. Generator's Name and Mailing Address: RX Development, 505 White plains Rd. Tarrytown N.Y.

Generator's Site Address (if different than mailing address): Clinton Heights Shopping Center, 78 Clinton Ave, Ossining N.Y.

Generator's Phone:

6. Transporter 1 Company Name — U.S. EPA ID Number: Fax to Sally

7. Transporter 2 Company Name — U.S. EPA ID Number: 914 206

8. Designated Facility Name and Site Address — U.S. EPA ID Number

Facility's Phone: 607 737 2980

	9. Waste Shipping Name and Description	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.
	1. Non Hazardous Contaminated Soil				
	2.				
	3.				
	4.				

13. Special Handling Instructions and Additional Information

M-53 4A209 #2398 Last Load Leaving

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name — Signature — Month Day Year

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Andy [illegible] — Signature — Month Day Year: 6 28 11

Transporter 2 Printed/Typed Name — Signature — Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: [illegible] Peterson — Signature — Month Day Year: 6 29 11

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

169-BLS-C 5 11979 (Rev. 8/06) TRANSPORTER #1

MAN 48

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

5. Generator's Name and Mailing Address: RX Development, 78 Croton Ave Ossining NY — Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name: Mangiardi Bros Trucking Inc. — U.S. EPA ID Number: YA-209

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: Chemung Landfill, Lowman N.Y. — U.S. EPA ID Number

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Contaminated Soil			est 34	TON	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Dan Peterson — Signature — Month 6 — Day 28 — Year 11

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Tom Vieth — Signature — Month 6 — Day 28 — Year 11

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month — Day — Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Ron Peterson — Signature — Month 6 — Day 29 — Year 11

GENERATOR | TRANSPORTER | INT'L | DESIGNATED FACILITY

MAN 41

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

5. Generator's Name and Mailing Address: RL Development, 75 Croton Ave Ossening NY
Generator's Site Address (if different than mailing address): Same
Generator's Phone:

6. Transporter 1 Company Name: Mangiarti Bros trucking — U.S. EPA ID Number: 4A 209

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: Chemung Landfill — U.S. EPA ID Number:
Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
GENERATOR	1. 1 Trailer Contaminated Soil (Non Haz)			Est 34	
	2.				
	3.				
	4.				

13. Special Handling Instructions and Additional Information

#2398

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Dave Kollerton — Signature: [signature] — Month Day Year

INT'L — 15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER — 16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Patrick E Root — Signature: [signature] — Month 6 Day 24 Year 11
Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY — 17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: Ron PETERSON — Signature: [signature] — Month 6 Day 24 Year 11

169-BLS-C 5 11979 (Rev. 8/06) TRANSPORTER #1

MAN41

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

GENERATOR

5. Generator's Name and Mailing Address: RX Development, 75 Croton Ave, Ossining, NY — Generator's Site Address (if different than mailing address): same

Generator's Phone:

6. Transporter 1 Company Name: Mangiardi Bros Trucking — U.S. EPA ID Number: NJA209

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: Chemung Landfill — U.S. EPA ID Number

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	1 Trailer Contaminated Soil (Non Haz)			Est 30		
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information: #2398

14. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Dave Patterson — Signature — Month Day Year

INTL

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Patrick E Rent — Signature — Month 6 Day 23 Year 11

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Tom PETERSON — Signature — Month 6 Day 23 Year 11

169-BLS-C 5 11979 (Rev. 8/06) TRANSPORTER #1

1MAN54

ON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

Generator's Name and Mailing Address: RK Development Corp 28 Croton Ave Dissoning NY

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name: Mangiardi Trucking — U.S. EPA ID Number: NYR000073972

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: Chemung County Landfill Lowman NY — U.S. EPA ID Number

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
GENERATOR	1. Non-Hazardous Contaminated Soil	1	DT	35	Ton	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Profile # 2398

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Dave Pletcher — Signature — Month / Day / Year

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Chris Hale — Signature — Month: 6 Day: 23 Year: 11

Transporter 2 Printed/Typed Name — Signature — Month / Day / Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month / Day / Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Ben Peterson — Signature — Month: 6 Day: 24 Year: 11

MAN 42

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

5. Generator's Name and Mailing Address: Rk Dev. Corp, 78 Croton Ave, Ossining NY

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name: Mangiardi Bros — U.S. EPA ID Number: 4A-209

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: Chemung County Landfill, BR60, Elmira NY — U.S. EPA ID Number

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.
1.	Non Haz Cont Soil			Est 34	
2.					
3.					
4.					

13. Special Handling Instructions and Additional Information

#3398

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: [illegible] — Signature: [signature] — Month 6 Day 21 Year 11

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: John May — Signature: [signature] — Month 6 Day 21 Year 11

Transporter 2 Printed/Typed Name — Signature — Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Ron Peterson — Signature: [signature] — Month 6 Day 24 Year 11

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

169-BLS-C 5 11979 (Rev. 8/06)

TRANSPORTER #1

MAN 52

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

5. Generator's Name and Mailing Address: RX-Dev corp, 78 Croton Ave, Ossining NY

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name: Mangiardi Bros Trucking — U.S. EPA ID Number: NY A 209

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: Chemung County Landfill, Elmira NY — U.S. EPA ID Number

Facility's Phone:

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. non HAZ cont soil			Est 35T	
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information

#2398

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: ED ERICKSON — Signature: [signature] — Month 6 Day 24 Year 11

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Dana Osowiecky — Signature: [signature] — Month 6 Day 24 Year 11

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Ron Peterson — Signature: [signature] — Month 6 Day 24 Year 11

GENERATOR

169-BLS-C 5 11979 (Rev. 8/06) TRANSPORTER #1

MAN 52

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

GENERATOR

5. Generator's Name and Mailing Address: RX-Dev corp, 78 Croton Ave, Ossining NY — Generator's Site Address (if different than mailing address)

Generator's Phone: Ossining NY

6. Transporter 1 Company Name: Mangiardi Bros trucking — U.S. EPA ID Number: 44209

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: Chemung Co Landfill, Lake St, Elmira NY — U.S. EPA ID Number

Facility's Phone: Elmira NY

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	non HAZ cont soil			35T Est		
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Dave Pelletier — Signature — Month / Day / Year

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. — Port of entry/exit:

Transporter Signature (for exports only): — Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Dana Osowiecky — Signature — Month: 6 — Day: 22 — Year: 11

Transporter 2 Printed/Typed Name — Signature — Month / Day / Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month / Day / Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Ken Petersen — Signature — Month: 6 — Day: 22 — Year: 11

MAN 52

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

GENERATOR

5. Generator's Name and Mailing Address: Rx Dev corp, 78 Croton Ave Ossining NY

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name: Mangiardi Bros Envelains — U.S. EPA ID Number: NA 209

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: Chemung County Landfill, RR 60, Elmira NY — U.S. EPA ID Number

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	non haz cont soil # 2398			Est. 35T		
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

14. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Dave Rutkow — Signature: [signature] — Month: 6 Day: 21 Year: 11

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Dana Osowiecky — Signature: [signature] — Month: 6 Day: 21 Year: 11

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month — Day — Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Dan Peterson — Signature: [signature] — Month: 6 Day: 21 Year: 11

MAN 53

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

5. Generator's Name and Mailing Address: RX Development, 505 White Plains Rd. Tarrytown NY.

Generator's Site Address (if different than mailing address): Clinton Terrace Shopping Center, 79 Clinton Ave, Ossining NY.

Generator's Phone:

6. Transporter 1 Company Name: Mawfdroe Trucking — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: Chemung County Landfill — U.S. EPA ID Number:

Facility's Phone: 607 737 2980

	9. Waste Shipping Name and Description	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.
	1. Non Hazardous Contaminated Soil				
	2.				
	3.				
	4.				

13. Special Handling Instructions and Additional Information

M-53 #2398

4A-20

14. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: [signature] — Signature: [signature] — Month 6 Day 23 Year 11

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Andy Dab — Signature: [signature] — Month 6 Day 23 Year 11

Transporter 2 Printed/Typed Name — Signature — Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Ken Peterson — Signature: [signature] — Month 6 Day 24 Year 11

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

MAN53

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

GENERATOR

5. Generator's Name and Mailing Address
Re Development
505 White Pond Rd.
Jordantown NY,

Generator's Site Address (if different than mailing address)
Clinton Prairie Shopping Center
25 Clinton Ave
Ossining NY,

Generator's Phone:

6. Transporter 1 Company Name
Waterside Haulers

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Orange County Landfill

U.S. EPA ID Number

Facility's Phone: 607 233 2960

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non Hazardous Contaminated Soil					
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
4-53
4a-23
#2376

14. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Kyle Pelletier | Signature | Month | Day | Year

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Chuck Reid | Signature | Month: 6 | Day: 22 | Year: 11

Transporter 2 Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) | U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) | Month | Day | Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Ron Harrison | Signature | Month: 6 | Day: 23 | Year: 11

MAN53

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

5. Generator's Name and Mailing Address: RX Development, 505 White Plains Rd, Tarrytown N.Y.
Generator's Site Address (if different than mailing address): Clinton Terrace Shopping Center, 78 Croton Ave, Ossining N.Y.
Generator's Phone:

6. Transporter 1 Company Name: Manziarof Trucking — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: Chemung County Landfill — U.S. EPA ID Number:
Facility's Phone: 607 737 2980

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1.	Non Hazardous Contaminated Soil				
2.					
3.					
4.					

13. Special Handling Instructions and Additional Information
M-53
4A-204
TF
2398

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Generator's/Offeror's Printed/Typed Name: Ross Pelletier — Signature: [signature] — Month Day Year

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Andy Reid — Signature: [signature] — Month 6 Day 2 Year 11
Transporter 2 Printed/Typed Name — Signature — Month Day Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: Ron Peterson — Signature: [signature] — Month 6 Day 2 Year 11

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

MAN53 Truck 4 6/20/11

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

5. Generator's Name and Mailing Address: Rx Development, 505 White Plains Road, Tarrytown, NY

Generator's Phone: 914 631 8131

Generator's Site Address (if different than mailing address): Cityon Terrace Shopping Center, 78 Croton Ave, Ossining, NY

6. Transporter 1 Company Name: Mangiardi Trucking — U.S. EPA ID Number:

7. Transporter 2 Company Name: NA — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: Chemung County Landfill — U.S. EPA ID Number:

Facility's Phone: (607) 737-2980

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1.	Contaminated Soil - Non Haz				
2.					
3.					
4.					

13. Special Handling Instructions and Additional Information

M-53 #2398
4A-205

14. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Dave [illegible] — Signature: [signature] — Month 6 Day 20 Year 11

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Andy Reid — Signature: [signature] — Month 6 Day 20 Year 11

Transporter 2 Printed/Typed Name: — Signature: — Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Ron Peterson — Signature: [signature] — Month [illegible] Day 21 Year 11

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

MAN 48

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number
2. Page 1 of
3. Emergency Response Phone
4. Waste Tracking Number

5. Generator's Name and Mailing Address: RX Development, 78 Croton Ave Ossining NY
Generator's Site Address (if different than mailing address): Same
Generator's Phone:

6. Transporter 1 Company Name: Mangiardi Bros. Trucking Inc. — U.S. EPA ID Number: 4A-209

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: Chemung Landfill — U.S. EPA ID Number:
Facility's Phone:

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. contaminated soil			est 34	Ton
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information
2398

14. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Generator's/Offeror's Printed/Typed Name: Dave Pellicofais — Signature: [signature] — Month / Day / Year

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Tom Vieta — Signature: [signature] — Month 6 Day 23 Year 11
Transporter 2 Printed/Typed Name — Signature — Month / Day / Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator) — Month / Day / Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: Ron Peterson — Signature: [signature] — Month 6 Day 23 Year 11

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

169-BLS-C 5 11979 (Rev. 8/06) — TRANSPORTER #1

MAN48

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

5. Generator's Name and Mailing Address: RX Development, 78 Croton Ave Ossining NY

Generator's Site Address (if different than mailing address): Same

Generator's Phone:

6. Transporter 1 Company Name: Mangiardi Bros Trucking — U.S. EPA ID Number: 4A 209

7. Transporter 2 Company Name: — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: Chemung Landfill, Lowman N.Y. — U.S. EPA ID Number:

Facility's Phone:

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. Contaminated soil			EST 34	TON
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information

2398

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Dave [illegible] — Signature: [signature] — Month / Day / Year:

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Tom Viera — Signature: [signature] — Month 6 Day 22 Year 11

Transporter 2 Printed/Typed Name: — Signature: — Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Ray Peterson — Signature: [signature] — Month 6 Day 22 Year 11

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

169-BLS-C 5 11979 (Rev. 8/06) TRANSPORTER #1

122AN 48

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

GENERATOR

5. Generator's Name and Mailing Address: RX Development, 78 Croton Ave Ossining NY

Generator's Site Address (if different than mailing address): Same

Generator's Phone:

6. Transporter 1 Company Name: Mangiardi Bros. Trucking — U.S. EPA ID Number: YA-209

7. Transporter 2 Company Name: — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: Chemung Landfill, Lowman NY — U.S. EPA ID Number:

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1.	Contaminated Soil			est 34	Ton
2.					
3.					
4.					

13. Special Handling Instructions and Additional Information

2398

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name	Signature	Month	Day	Year
[illegible]	[signature]			

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

	Printed/Typed Name	Signature	Month	Day	Year
Transporter 1	Tom Vieta	Tom Vieta	6	21	11
Transporter 2					

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number:

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name	Signature	Month	Day	Year
Ron Peterson	[signature]	6	21	11

MAN 48

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

GENERATOR

5. Generator's Name and Mailing Address: RX Development — Generator's Phone: 78 Croton Ave Ossining NY

Generator's Site Address (if different than mailing address): Same

6. Transporter 1 Company Name: Mangiardi Bros. Trucking — U.S. EPA ID Number: GA-20

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: Clemens Landfill Lowman NY — U.S. EPA ID Number — Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Contaminated Soil			est 34	TON	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information: 2398

14. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Dan DiFalco — Signature — Month — Day — Year

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Tom Viety — Signature: Tom Viety — Month: 6 — Day: 20 — Year: 11

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number — Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month — Day — Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Ken Peterson — Signature — Month: 6 — Day: 20 — Year: 11

IMM54

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

GENERATOR

5. Generator's Name and Mailing Address: RX Development Corp, 38 Groton Ave, Cortland NY — Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name: Mongiardi Trucking — U.S. EPA ID Number

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: Chemung County Landfill, Lowman NY — U.S. EPA ID Number

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Contaminated Soil	1	DT	35	TON	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Profile #2398

14. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Dave Pallister — Signature — Month / Day / Year

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. — Port of entry/exit:

Transporter Signature (for exports only): — Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Chris Hale — Signature — Month: 6 / Day: 22 / Year: 11

Transporter 2 Printed/Typed Name — Signature — Month / Day / Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month / Day / Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Ron Peterson — Signature — Month: 6 / Day: 22 / Year: 11

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TRANSPORTER #1

MAN54

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

5. Generator's Name and Mailing Address: RX Development Corp. 78 Croton AVE Ossining NY

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name: Mangiarc Trucking — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: Chemung County Landfill Lowman NY — U.S. EPA ID Number:

Facility's Phone:

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. Non-Hazardous Contaminated Soil	1	DT	35	Ton
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information

Profile #2398

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Dave Pellicker — Signature: [signature] — Month Day Year

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Chris Auke — Signature: [signature] — Month 6 Day 21 Year 11

Transporter 2 Printed/Typed Name — Signature — Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Ron Peterson — Signature: [signature] — Month 6 Day 21 Year 11

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

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MAN54

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

GENERATOR

5. Generator's Name and Mailing Address: RK Dev Corp
78 Croton Ave
Ossining NY

Generator's Site Address (if different than mailing address):

Generator's Phone:

6. Transporter 1 Company Name: Mangiardi Trucking — U.S. EPA ID Number: NYR000077972

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: Chemung County Landfill
Lowman NY — U.S. EPA ID Number:

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Petroleum Cont. Soil	1	DT	35	Ton	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

#2398

14. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Dave Pelletier — Signature: — Month / Day / Year:

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Chris Hale — Signature: — Month: 6 Day: 29 Year: 11

Transporter 2 Printed/Typed Name — Signature — Month / Day / Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month / Day / Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Ron Patterson — Signature: — Month: 6 Day: 30 Year: 11

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TRANSPORTER #1

MAN 42

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

GENERATOR

5. Generator's Name and Mailing Address: RX DW Corp, 78 Croton Ave Ossining NY — Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name: Mangiardi Bros — U.S. EPA ID Number: NYR-209

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: Chemung County Landfill, BR60 Elmira NY — U.S. EPA ID Number

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	NON HAZ Cont Soil			CY 34		
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information: #9398

14. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Dan Kelley — Signature — Month: 6 Day: 23 Year: 11

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: John May — Signature — Month: 6 Day: 23 Year: 11

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Ron Patterson — Signature — Month: 6 Day: 23 Year: 11

MAN42

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

GENERATOR

5. Generator's Name and Mailing Address: RX DW corp 78 Croton ave Ossining NY

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name — U.S. EPA ID Number: 4A-209

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: Cheming County Landfill BRGO Elmira NY — U.S. EPA ID Number

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1.	NON HAZ CONT Soil			EST 35	
2.					
3.					
4.					

13. Special Handling Instructions and Additional Information

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: [illegible] — Signature: [signature] — Month 6 Day 22 Year 11

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: John May — Signature: [signature] — Month 6 Day 22 Year 11

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: R. [illegible] — Signature: [signature] — Month 6 Day 22 Year 11

MAN 42 truck #5

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

GENERATOR

5. Generator's Name and Mailing Address: Ry Development, 505 White Plains Rd, Tarrytown, N.Y.
Generator's Phone: 914 (...)

Generator's Site Address (if different than mailing address): Campus Terrace Shopping Center, 78 Croton Ave, Ossining, NY

6. Transporter 1 Company Name: Marciano Trucking — U.S. EPA ID Number:

7. Transporter 2 Company Name: NA — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: Chemung County Landfill — U.S. EPA ID Number:
Facility's Phone: (607) 737-2980

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1.	Contaminated Soil - Non Haz				
2.					
3.					
4.					

13. Special Handling Instructions and Additional Information: 2398

14. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Dave Pellegrini 914 882 6171 — Signature: [signature] — Month 6 Day 7 Year

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: John May — Signature: [signature] — Month 6 Day 20 Year 11
Transporter 2 Printed/Typed Name: — Signature: — Month Day Year

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number:
Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: Ron Peterson — Signature: [signature] — Month 6 Day 20 Year 11

MW 02

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

GENERATOR

5. Generator's Name and Mailing Address: JADE ENVIR. DEVELOPMENT

Generator's Site Address (if different than mailing address): 78 CROTON AV. OSSINING, N.Y.

Generator's Phone:

6. Transporter 1 Company Name: Mangiacoli Bros. Trucking — U.S. EPA ID Number: NYA-309

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: CHEMUNG, CTY. LAND FILL, CHEMUNG, N.Y. — U.S. EPA ID Number:

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Petro Cont. Soil	1	T	EST. 35	TN.	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

1398

14. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Dave Pelletier — Signature: [signature] — Month: 6 Day: 20 Year: 11

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: JOE FIELD — Signature: [signature] — Month: 6 Day: 20 Year: 11

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month — Day — Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in item 17a

Printed/Typed Name: Ron Peterson — Signature: [signature] — Month: 6 Day: 20 Year: 11

MAN 53

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

5. Generator's Name and Mailing Address
Rx Development
505 White Plains Rd.
Tarrytown N.Y.
Generator's Phone:

Generator's Site Address (if different than mailing address)
Clinton terrace shopping center
76 Clinton Ave Ossining N.Y.

6. Transporter 1 Company Name Mangiarci Trucking — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address Chemung County Landfill — U.S. EPA ID Number:
Facility's Phone: 607 737 2980

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. Non Hazardous Contaminated Soil				
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information
M-53 #2398
42-206

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Dave Pelletier — Signature: [signature] — Month / Day / Year:

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Andy Reed — Signature: [signature] — Month / Day / Year: 6 / 24 / 11
Transporter 2 Printed/Typed Name: — Signature: — Month / Day / Year:

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number:
Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month / Day / Year:

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: Ron Peterson — Signature: [signature] — Month / Day / Year: 6 / 27 / 11

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MAN 42

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

GENERATOR

5. Generator's Name and Mailing Address: RX DW Corp — Generator's Site Address (if different than mailing address)

Generator's Phone: 78 Croton Ave Ossining NY

6. Transporter 1 Company Name — U.S. EPA ID Number: 49-209

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: Chemung County Landfill — U.S. EPA ID Number

Facility's Phone: BR60 Elmira NY

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	NON HAZ Cont. Soil			EST. 34		
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

F3378

14. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Neal Vellerman — Signature — Month: 6 Day: 24 Year: 11

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Joe May — Signature — Month: 6 Day: 24 Year: 11

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Ron Peterson — Signature — Month: 6 Day: 27 Year: 11

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TRANSPORTER #1

MAN 54

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

5. Generator's Name and Mailing Address: RX Developement Corp, 79 Croton Ave, Ossining NY
Generator's Site Address (if different than mailing address)
Generator's Phone:

6. Transporter 1 Company Name: Mangiardi Trucking — U.S. EPA ID Number: NYR000097972

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: Chemung County Landfill, Lowman NY — U.S. EPA ID Number
Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1.	Non-Hazardous Contaminated Soil	1	DT	35	Ton
2.					
3.					
4.					

13. Special Handling Instructions and Additional Information

Profile #2388

14. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: [illegible] — Signature: [signature] — Month — Day — Year

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Chris Hale — Signature: [signature] — Month 6 Day 22 Year 11
Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator) — Month — Day — Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: Cory Yost — Signature: [signature] — Month 06 Day 22 Year 2011

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

169-BLS-C 5 11979 (Rev. 8/06) TRANSPORTER #1

MAN 54

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

5. Generator's Name and Mailing Address: RX Developement Corp, 78 Croton Ave, Ossining NY
Generator's Site Address (if different than mailing address)
Generator's Phone:

6. Transporter 1 Company Name: Mangiarci's Trucking — U.S. EPA ID Number: NYR000097572

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: Chemung County Landfill — U.S. EPA ID Number
Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1.	Non Hazardous Contaminated Soil	1	DT	35	Ton
2.					
3.					
4.					

13. Special Handling Instructions and Additional Information

Profile #2398

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: [illegible] — Signature: [signature] — Month Day Year

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Chris Hake — Signature: [signature] — Month 6 Day 24 Year 11
Transporter 2 Printed/Typed Name — Signature — Month Day Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: [illegible] Peterson — Signature: [signature] — Month 6 Day 27 Year 11

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

169-BLS-C 5 11979 (Rev. 8/06) TRANSPORTER #1

MAN48

NON-HAZARDOUS WASTE MANIFEST | 1. Generator ID Number | 2. Page 1 of | 3. Emergency Response Phone | 4. Waste Tracking Number

GENERATOR

5. Generator's Name and Mailing Address: RX Development, 78 Croton Ave Ossining NY
Generator's Site Address (if different than mailing address): Same
Generator's Phone:

6. Transporter 1 Company Name: Mangiardi Bros. Trucking inc — U.S. EPA ID Number: YA-204

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: Chemung Landfill, Chemung NY — U.S. EPA ID Number
Facility's Phone:

9. Waste Shipping Name and Description	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.
1. contaminated soil			05T 34	Ton
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information
2398

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Generator's/Offeror's Printed/Typed Name: Dave Pelletier — Signature: [signature] — Month Day Year

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Tom Vieta — Signature: Tom Vie[signature] — Month 6 Day 24 Year 11
Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: Ron Peterson — Signature: [signature] — Month 6 Day 27 Year 11

Appendix J

Imported Materials Documentation

TECTONIC

DAILY FIELD REPORT

W.O.NO.: 5871.01	PAGE 1 OF 1
REPORT NO.:	DATE: 6/29/11
PUNCH LIST: YES ☐	NO ■

■ 70 Pleasant Hill Road, Mountainville, NY 10953, P: 845-534-5959 F: 845-534-5999

☐ 36 British American Blvd , Suite 101, Latham, NY 12110, Phone: 518-783-1630 Fax: 518-783-1544

☐ 1279 Route 300 Newburgh, NY 12550, Phone- 845-567-6656 Fax- 845-567-8703, Structural Fax- 845-567-8705

☐ 1344 Silas Deane Highway, Suite 500, Rocky Hill, CT 06067, Phone: 860-563-2341 Fax: 860-257-4882

☐ 29-16 40th Ave, Long Island City, NY 11101, Phone- 718-391-9200 Fax- 718-391-0607

☐ 280 Little Britain Rd, Newburgh NY 12550, Phone- 845-563-9081 Fax- 845-563-9085

☐ 8607 Mayland Drive, Richmond, VA 23294, Phone- 804-217-8504 Fax- 804-270-0593

CLIENT: DLC Management Corporation	PROJECT NAME: Walgreens Store 12871
TECTONIC PROJECT MANAGER: David Morin	TECTONIC FIELD REPRESENTATIVE: David Callas
	LOCATION: Ossining, NY
GENERAL CONTRACTOR:	GENERAL CONTRACTOR'S REPRESENTATIVE:
	OWNER: DLC Management Corporation
SPECIALTY CONTRACTOR: ☐ EARTH ☐ CONCRETE ☐ STEEL ☐ OTHER	PLANS AND SPECIFICATIONS BY / DATE
CONTRACTOR'S EQUIPMENT OBSERVED IN USE: Kobelco SK210, CAT 302.5, CAT242B	SHOP DRAWINGS TYPE / APP. BY
VISITORS: REPRESENTING: ARR. DPT.	SAMPLES: ☐ TYPE: QTY:
WEATHER: Clear TEMP. (°F) 70's	PHOTOS: ☐ TYPE: QTY:

CONSTRUCTION ACTIVITIES: INDICATE ACTIVITIES MONITORED

On-site as per the client's request during Wednesday's construction activities to observe subgrade remediation efforts. The area of concern was filled with approximately 3 ft. of water upon arrival. It was recommended that the contractor implement a dewatering system to avoid working in the wet. The contractor proceeded to bail out the hole with the bucket of the excavator. Large pieces of concrete (approximately 1-3 ft. dia.) were placed in the hole and knuckled in with the bucket of the excavator. The Kobelco SK210 excavator broke down at 9:40 and the CAT302.5 broke a line soon after. Neither machine was functional for the remainder of the day as repair efforts failed.

FORMS ATTACHED: ☐ SOIL COMPACTION ☐ PRE-POUR INSPECTION ☐ STRUCTURAL STEEL ☐ NON-CONFORMANCE REPORT ☐ CONCRETE INSPECTION ☐ OTHER:

FOLLOW-UP FROM PRIOR RI ☐ YES ☐ NO DATE OF PRIOR REPORT:

NON-CONFORMANCE CORRECTED:

WHAT, IN PARTICULAR, SHOULD BE OBSERVED, CHECKED, OR TESTED DURING THE NEXT VISIT?

Continued subgrade inspection

NOTICE

The field representative is on the site solely to observe operations of the contractor identified, observe conformance with contract documents, and report those operations to the client. The presence and activities of the field representative do not relieve the contractor's obligation to meet contractual requirements. The contractor retains sole responsibility for site safety and the methods and sequences of construction.

■ THIS DFR IS PRELIMINARY

This preliminary report is provided solely as evidence that field observation was performed. Observation and/or conclusions and/or recommendations conveyed in the final report may vary from and shall take precedence over those indicated in a preliminary report.

☐ THIS DFR IS FINAL

A final report is the instrument of service. Any conclusions drawn from this report should be discussed with and evaluated by the owner's engineer.

FIELD REPRESENTATIVE: David Callas DATE: 6/29/11

REVIEWED BY: DATE:

TECTONIC

DAILY FIELD REPORT

W.O.NO.: 5871.01	PAGE 1 OF 1
REPORT NO.:	DATE: 6/30/11
PUNCH LIST: YES ☐	NO ■

■ 70 Pleasant Hill Road, Mountainville, NY 10953, P: 845-534-5959 F: 845-534-5999
☐ 36 British American Blvd , Suite 101, Latham, NY 12110, Phone: 518-783-1630 Fax: 518-783-1544
☐ 1279 Route 300 Newburgh, NY 12550, Phone- 845-567-6656 Fax- 845-567-8703, Structural Fax- 845-567-8705
☐ 1344 Silas Deane Highway, Suite 600, Rocky Hill, CT 06067, Phone: 860-563-2341 Fax: 860-257-4882
☐ 29-16 40th Ave, Long Island City, NY 11101, Phone- 718-391-9200 Fax- 718-391-0607
☐ 280 Little Britain Rd, Newburgh NY 12550, Phone- 845-563-9081 Fax- 845-563-9085
☐ 8607 Mayland Drive, Richmond, VA 23294, Phone- 804-217-8504 Fax- 804-270-0593

CLIENT: DLC Management Corporation	PROJECT NAME: Walgreens Store 12871
TECTONIC PROJECT MANAGER: David Morin	TECTONIC FIELD REPRESENTATIVE: David Callas
	LOCATION: Ossining, NY
GENERAL CONTRACTOR:	GENERAL CONTRACTOR'S REPRESENTATIVE:
	OWNER: DLC Management Corporation
SPECIALTY CONTRACTOR: ☐ EARTH ☐ CONCRETE ☐ STEEL ☐ OTHER	PLANS AND SPECIFICATIONS BY / DATE
CONTRACTOR'S EQUIPMENT OBSERVED IN USE: John Deere 160D LC, CAT242B	SHOP DRAWINGS TYPE / APP. BY
VISITORS: / REPRESENTING: / ARR. / DPT.	SAMPLES: ☐ TYPE: / QTY:
WEATHER: Clear / TEMP. (°F) 70's	PHOTOS: ☐ TYPE: / QTY:

CONSTRUCTION ACTIVITIES: INDICATE ACTIVITIES MONITORED

On-site as per the client's request during Thursday's construction activities to observe subgrade remediation efforts. The area of concern was filled with approximately 1 ft. of water upon arrival. It was recommended that the contractor implement an effective dewatering system to avoid working in the wet. One sump was installed and continued to get clogged with fine soil. Large pieces of concrete (approximately 1-3 ft. dia.) were placed in the hole and knuckled in with the bucket of the excavator. The contractor was notified that the dewatering method was ineffective and the remediation efforts should not continue until the water was brought under control. The contractor decided to attempt to install a sump and halt remediation efforts.

FORMS ATTACHED: ☐ SOIL COMPACTION ☐ NON-CONFORMANCE REPORT ☐ PRE-POUR INSPECTION ☐ CONCRETE INSPECTION ☐ STRUCTURAL STEEL ☐ OTHER:

FOLLOW-UP FROM PRIOR RI ☐ YES ☐ NO DATE OF PRIOR REPORT:

NON-CONFORMANCE CORRECTED:

WHAT, IN PARTICULAR, SHOULD BE OBSERVED, CHECKED, OR TESTED DURING THE NEXT VISIT?

Continued subgrade inspection

NOTICE

The field representative is on the site solely to observe operations of the contractor identified, observe conformance with contract documents, and report those operations to the client. The presence and activities of the field representative do not relieve the contractor's obligation to meet contractual requirements. The contractor retains sole responsibility for site safety and the methods and sequences of construction.

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☐ THIS DFR IS FINAL

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FIELD REPRESENTATIVE: David Callas — DATE: 6/30/11

REVIEWED BY: — DATE:

TECTONIC

DAILY FIELD REPORT

W.O.NO.: 5871.01 | PAGE 1 OF
REPORT NO.: | DATE: 7/1/11
PUNCH LIST ☐ YES ☐ NO

☐ 70 Pleasant Hill Road, Mountainville, NY 10953, P: 845-534-5959 F: 845-534-5999
☐ 36 British American Blvd , Suite 101, Latham, NY 12110, Phone: 518-783-1630 Fax: 518-783-1544
☐ 1279 Route 300 Newburgh, NY 12550, Phone- 845-567-6656 Fax- 845-567-8703, Structural Fax- 845-567-8705
☐ 1344 Silas Deane Highway, Suite 500, Rocky Hill, CT 06067, Phone: 860-563-2341 Fax: 860-257-4882
☐ 29-16 40th Ave, Long Island City, NY 11101, Phone- 718-391-9200 Fax- 718-391-0607
☐ 280 Little Britain Rd, Newburgh NY 12550, Phone- 845-563-9081 Fax- 845-563-9085
☐ 8607 Mayland Drive, Richmond, VA 23294, Phone- 804-217-8504 Fax- 804-270-0593

CLIENT: DLC MANAGEMENT
PROJECT NAME: WALGREENS
TECTONIC PROJECT MANAGER: JIM RUESER
TECTONIC FIELD REPRESENTATIVE: CHRIS DUFFY
LOCATION: OSSINING, NY
GENERAL CONTRACTOR: DLC
GENERAL CONTRACTOR'S REPRESENTATIVE: SALLY
OWNER:
SPECIALTY CONTRACTOR: ☐ EARTH ☐ CONCRETE ☐ STEEL ☒ OTHER
JADE - DAVE
PLANS AND SPECIFICATIONS
BY
DATE
CONTRACTOR'S EQUIPMENT OBSERVED IN USE:
SHOP DRAWINGS
TYPE
APP. BY
VISITORS: REPRESENTING: ARR. DPT.
SAMPLES: ☐ TYPE: QTY:
TEMP. (°F)
PHOTOS: ☐ TYPE: QTY:
WEATHER: SUNNY

CONSTRUCTION ACTIVITIES: INDICATE ACTIVITIES MONITORED

TRAVEL TO SITE, PER CLIENTS REQUEST TO OBSERVE SUBGRADE REMEDIATION IN AREA OF ENVIRONMENTAL CLEAN-UP. CONTRACTOR MUST FIRST STABILIZE THE BASE OF EXCAVATION. CONTRACTOR MUST ALSO CONTROL WATER WITHIN THE EXCAVATION. ATTEMTS TO STABILIZE BASE W/ CRUSHED CONCRETE HAVE NOT WORKED. WATER IS MIXING IN AND DISTURBING SOIL WHILE EXCAVATING. CONTRACTOR WAS ADVISED TO INSTALL SUMP LOCATIONS ABOUT 4-FT BELOW EXISTING GROUND SURFACE IN BASE ~~THE~~ of EXCAVATION. I RECOMMENDED THE CONTRACTOR EITHER REMOVE ALL WET/SOFT SOILS OR WAIT AND LET PUMPS DRY AREA FIRST. CONTRACTOR ELECTED TO ~~BE~~ INSTALL PUMPS AND LET THEM RUN OVER THE WEEKEND. CLIENT REQUESTED INSPECTION FOR 8AM TUESDAY (7/5)

FORMS ATTACHED: ☐ SOIL COMPACTION ☐ PRE-POUR INSPECTION ☐ STRUCTURAL STEEL
☐ NON-CONFORMANCE REPORT ☐ CONCRETE INSPECTION ☐ OTHER:

FOLLOW-UP FROM PRIOR R ☐ YES ☐ NO DATE OF PRIOR REPORT:
NON-CONFORMANCE CORRECTED:
WHAT, IN PARTICULAR, SHOULD BE OBSERVED, CHECKED, OR TESTED DURING THE NEXT VISIT?

NOTICE
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☐ THIS DFR IS PRELIMINARY
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FIELD REPRESENTATIVE: DATE: 7/1/11
REVIEWED BY: DATE:

TECTONIC

DAILY FIELD REPORT

W.O.NO.: 5871.01	PAGE 1 OF 1
REPORT NO.:	DATE: 7/5/11
PUNCH LIST YES ☐	NO ■

■ 70 Pleasant Hill Road, Mountainville, NY 10953, P: 845-534-5959 F: 845-534-5999

☐ 36 British American Blvd , Suite 101, Latham, NY 12110, Phone: 518-783-1630 Fax: 518-783-1544

☐ 1279 Route 300 Newburgh, NY 12550, Phone- 845-567-6656 Fax- 845-567-8703, Structural Fax- 845-567-8705

☐ 1344 Silas Deane Highway, Suite 500, Rocky Hill, CT 06067, Phone: 860-563-2341 Fax: 860-257-4882

☐ 29-16 40th Ave, Long Island City, NY 11101, Phone- 718-391-9200 Fax- 718-391-0607

☐ 280 Little Britain Rd, Newburgh NY 12550, Phone- 845-563-9081 Fax- 845-563-9085

☐ 8607 Mayland Drive, Richmond, VA 23294, Phone- 804-217-8504 Fax- 804-270-0593

CLIENT: DLC Management Corporation	PROJECT NAME: Walgreens Store 12871
TECTONIC PROJECT MANAGER: Jim Duesel	TECTONIC FIELD REPRESENTATIVE: Bryan Figurski
GENERAL CONTRACTOR:	GENERAL CONTRACTOR'S REPRESENTATIVE: David Morin
SPECIALTY CONTRACTOR: ☐ EARTH ☐ CONCRETE ☐ STEEL ☐ OTHER	LOCATION: Ossining, NY
CONTRACTOR'S EQUIPMENT OBSERVED IN USE:	OWNER:
	PLANS AND SPECIFICATIONS BY / DATE
	SHOP DRAWINGS TYPE / APP. BY
VISITORS: REPRESENTING: ARR. DPT.	SAMPLES: ☐ TYPE: QTY:
WEATHER: Fair TEMP. (°F) 75	PHOTOS: ☐ TYPE: QTY:

CONSTRUCTION ACTIVITIES: INDICATE ACTIVITIES MONITORED

Arrived onsite at the Client request for controlled inspection services for the remedial removal and replacment of loose unsuitable soils underlying the proposed building. Upon arrival contractors were making efforts to deepen the existing sump pump located along the western portion of the excavation as standing water was observed. No additional work was performed today due to a broken down excavator which is occupying majority of the excavation.

FORMS ATTACHED: ☐ SOIL COMPACTION ☐ PRE-POUR INSPECTION ☐ STRUCTURAL STEEL ☐ NON-CONFORMANCE REPORT ☐ CONCRETE INSPECTION ■ OTHER:

FOLLOW-UP FROM PRIOR R ☐ YES ☐ NO DATE OF PRIOR REPORT:

NON-CONFORMANCE CORRECTED:

WHAT, IN PARTICULAR, SHOULD BE OBSERVED, CHECKED, OR TESTED DURING THE NEXT VISIT?

NOTICE

The field representative is on the site solely to observe operations of the contractor identified, observe conformance with contract documents, and report those operations to the client. The presence and activities of the field representative do not relieve the contractor's obligation to meet contractual requirements. The contractor retains sole responsibility for site safety and the methods and sequences of construction.

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A final report is the instrument of service. Any conclusions drawn from this report should be discussed with and evaluated by the owner's engineer.

FIELD REPRESENTATIVE: Bryan Figurski DATE: 7/5/11

REVIEWED BY: DATE:

TECTONIC

DAILY FIELD REPORT

W.O.NO.: 5871.01	PAGE 1 OF 1
REPORT NO.:	DATE: 7/6/11
PUNCH LIST YES ☐	NO ■

■ 70 Pleasant Hill Road, Mountainville, NY 10953, P: 845-534-5959 F: 845-534-5999

☐ 36 British American Blvd , Suite 101, Latham, NY 12110, Phone: 518-783-1630 Fax: 518-783-1544

☐ 1279 Route 300 Newburgh, NY 12550, Phone- 845-567-6656 Fax- 845-567-8703, Structural Fax- 845-567-8705

☐ 1344 Silas Deane Highway, Suite 500, Rocky Hill, CT 06067, Phone: 860-563-2341 Fax: 860-257-4882

☐ 29-16 40th Ave, Long Island City, NY 11101, Phone- 718-391-9200 Fax- 718-391-0607

☐ 280 Little Britain Rd, Newburgh NY 12550, Phone- 845-563-9081 Fax- 845-563-9085

☐ 8607 Mayland Drive, Richmond, VA 23294, Phone- 804-217-8504 Fax- 804-270-0593

CLIENT: DLC Management Corporation

PROJECT NAME: Walgreens Store 12871

TECTONIC PROJECT MANAGER: Jim Duesel

TECTONIC FIELD REPRESENTATIVE: Bryan Figurski

LOCATION: Ossining, NY

GENERAL CONTRACTOR:

GENERAL CONTRACTOR'S REPRESENTATIVE: David Morin

OWNER:

SPECIALTY CONTRACTOR: ☐ EARTH ☐ CONCRETE ☐ STEEL ☐ OTHER

PLANS AND SPECIFICATIONS
BY
DATE

CONTRACTOR'S EQUIPMENT OBSERVED IN USE:

SHOP DRAWINGS
TYPE
APP. BY

VISITORS: REPRESENTING: ARR. DPT.

SAMPLES: ☐ TYPE: QTY:

WEATHER: Fair TEMP. (°F) 75

PHOTOS: ☐ TYPE: QTY:

CONSTRUCTION ACTIVITIES: INDICATE ACTIVITIES MONITORED

Arrived onsite at the Client request for controlled inspection services for the remedial removal and replacement of loose unsuitable soils underlying the proposed building. Upon arrival United Rental was onsite attempting to fix the broken excavator. The contracto were using the smaller machine onsite to removal soft unsuitable soils. They then knuckled cobble size sections of broken up concrete in the soft areas to help bridge the loads and stabilize the loose soils. The voids were filled in using a 3/4" crushed stone and set into place using a large vibratory plate tamper until the subgrade soils were firm and stable. The contractors then placed a layer of geotextile down along the subgrade and proceeded to place approximate 12" thick layers of 3/4" stone down The stone was set into place using the vibratory plate tamper. The contractors will continue with lift placement tomorrow morning.

FORMS ATTACHED: ☐ SOIL COMPACTION ☐ PRE-POUR INSPECTION ☐ STRUCTURAL STEEL ☐ NON-CONFORMANCE REPORT ☐ CONCRETE INSPECTION ■ OTHER: Location Plan

FOLLOW-UP FROM PRIOR R ☐ YES ☐ NO DATE OF PRIOR REPORT:

NON-CONFORMANCE CORRECTED:

WHAT, IN PARTICULAR, SHOULD BE OBSERVED, CHECKED, OR TESTED DURING THE NEXT VISIT?

NOTICE

The field representative is on the site solely to observe operations of the contractor identified, observe conformance with contract documents, and report those operations to the client. The presence and activities of the field representative do not relieve the contractor's obligation to meet contractual requirements. The contractor retains sole responsibility for site safety and the methods and sequences of construction.

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FIELD REPRESENTATIVE: Bryan Figurski DATE: 7/6/11

REVIEWED BY: DATE:

7/6/11
W.O. 5571.01
BMF

= APPROXIMATE AREA OF REMOVAL & REPLACEMENT

GENERAL NOTES

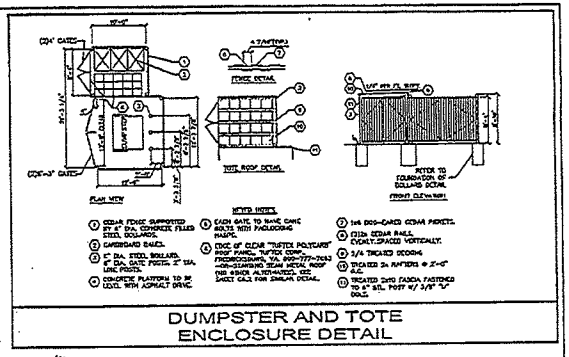
1. EXISTING BOUNDARY INFORMATION OBTAINED FROM A PLAN ENTITLED "PROPERTY SURVEY FOR 76 CROTON AVE, AS PREPARED BY EDWARDSON VAN DUNDERSTEL SURVEYING AND LANDSCAPE ARCHITECTURE, P.C. DATED 7/23/2008. EXISTING TOPOGRAPHIC AND UTILITY INFORMATION SHOWN ON PLAN ENTITLED "TOPOGRAPHIC SURVEY" AS PREPARED BY EDWARDSON VAN DUNDERSTEL SURVEYING AND LANDSCAPE ARCHITECTURE, P.C. DATED 7/24/2008. ADDITIONAL UTILITY INFORMATION SUPPLEMENTED BY SITE RECONNAISSANCE ON 6/12/08 BY LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
2. THESE PLANS REPRESENT THE OVERALL SITE WORK IMPROVEMENTS REQUIRED FOR PROJECT CONSTRUCTION. THE CONTRACTOR SHALL FURNISH, INSTALL, TEST AND COMPLETE ALL WORK TO THE SATISFACTION OF THE OWNER AND OWNER IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION, AS SUCH, THESE PLANS ARE NOT COMPLETE INSTRUCTIONAL MANUALS AND ARE NOT INTENDED TO REPRESENT ALL SPECIFIC INSTRUCTIONS REQUIRED FOR THE WORK. CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONSTRUCT ALL IMPROVEMENTS DEPICTED ON THESE PLANS IN ACCORDANCE WITH ALL APPLICABLE RULES, REGULATIONS AND LAWS IN EFFECT AT THE TIME OF CONSTRUCTION.
3. THE CONTRACTOR SHALL ACCEPT THE SITE AS IS. THE CONTRACTOR SHALL ASSESS CONDITIONS, AND THE KIND, QUALITY AND QUANTITY OF WORK REQUIRED. THE OWNER MAKES NO GUARANTEE AS REGARDS TO THE ACCURACY OF ANY AVAILABLE INFORMATION WHICH HAS BEEN OBTAINED DURING INVESTIGATIONS. THE CONTRACTOR SHALL MAKE A THOROUGH SITE INSPECTION IN ORDER TO FIELD CHECK EXISTING SITE CONDITIONS, INCLUDING, BUT NOT LIMITED TO, HOW THE DRAWINGS AND PROBLEM, ANY POSSIBLE CONSTRUCTION CONFLICTS. THE CONTRACTOR SHALL NOTIFY OWNER AND OWNER IN WRITING PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR SHALL MAKE ANY ADDITIONAL TOPOGRAPHIC SURVEYS AS DEEMS NECESSARY. PREPARE AS-BUILT PLANS COORDINATED WITH THE OWNER, ANY DEVIATIONS BY THE CONTRACTOR SHALL BE NOTED FROM THE AS-BUILT PLANS SHOWN ON THE DRAWINGS THAT ARE NOT BROUGHT TO THE ATTENTION OF THE OWNER AND OWNER PRIOR TO THE START OF CONSTRUCTION SHALL NOT BE GROUNDS FOR ADDITIONAL PAYMENT OR CHANGES TO THE CONTRACT DURATION, OR ANY OTHER CLAIMS AGAINST THE OWNER OR OWNER'S CONSENT.
4. THE CONTRACTOR SHALL VISIT THEY DEEM NECESSARY, PROVIDE WRITTEN REQUESTS FOR INFORMATION DEEMED TO THE OWNER AND ENGINEER PRIOR TO THE CONSTRUCTION OF ANY EFFECTED SITE WORK ITEM. THE INFO SHALL BE IN A FORM ACCEPTABLE TO OWNER AND ENGINEER AND SHALL ALLOW FOR A MINIMUM OF TWO WORK DAYS OR ADDITIONAL REASONABLE TIME FOR A WRITTEN REPLY. ANY ITEM SHALL BE CONSIDERED AS BUILT BY DATE COMMITTED. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE WORK ITEMS CONSTRUCTED DIFFERENTLY THAN INTENDED OR AS DEPICTED ON THE PLANS.
5. INFORMATION RELATED TO ELEVATIONS AND PROPOSED UTILITIES (SUCH AS ROADWAY GRADES, INVERT ELEVATIONS, RIM ELEVATIONS, GRATE ELEVATIONS, BUILDING FINISHED FLOOR ELEVATIONS, ETC.) MAY BE FOUND IN MORE THAN ONE LOCATION IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL SUFFICIENTLY REVIEW ALL PLANS, PROFILES AND ANY OTHER INFORMATION IN THE CONTRACT DOCUMENTS, FOR CONSISTENCY PRIOR TO CONSTRUCTION. ANY INCONSISTENCIES OR DISCREPANCIES THAT ARE FOUND BY THE CONTRACTOR IN HIS ASSUMED SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER IN WRITING, IN THE FORMAT OF AN RFI PRIOR TO CONSTRUCTION.
6. THERE ARE ADDITIONAL NOTES, SPECIFICATIONS AND REQUIREMENTS CONTAINED THROUGHOUT THIS PLAN SET AS WELL AS REFERENCED SPECIFICATIONS FROM APPLICABLE CONTROLLING AUTHORITIES AND INDUSTRY STANDARDS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN, REVIEW AND ADHERE TO ALL THESE DOCUMENTS.
7. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ACTUAL LOCATIONS OF ALL DOORS, STAIRS, RAMPS, CANOPIES, SIDEWALKS, AND ARCHITECTURAL ELEMENTS AROUND THE BUILDING, AND SHALL COORDINATE INSTALLATION OF THESE ELEMENTS WITH THE SITE LAYOUT PRIOR TO INSTALLATION.
8. VERTICAL DATUM REFERENCED ON THESE DRAWINGS IS NORTH AMERICAN VERTICAL DATUM (NAVD) 88 AS ESTABLISHED BY ADJUSTMENT OF THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29). HORIZONTAL DATUM REFERENCED ON THESE DRAWINGS IS NEW YORK EAST NAD 83.

SIGN LEGEND

SIGN No.	SIGN CODE	LEGEND	DESCRIPTION
(A)	R7-8		LEGEND – GREEN (RETROREFLECTIVE) WHITE SYMBOL ON BLUE (RETROREFLECTIVE) BACKGROUND – WHITE (RETROREFLECTIVE)
	R7-8A		LEGEND – WHITE (RETROREFLECTIVE) BACKGROUND – BLUE (RETROREFLECTIVE)
	R7-8B		LEGEND & BORDER – RED (RETROREFLECTIVE) BACKGROUND – WHITE (RETROREFLECTIVE)
(B)	R1-1	STOP	LEGEND – WHITE (RETROREFLECTIVE) BACKGROUND – RED (RETROREFLECTIVE)
(C)	R3-2		LEGEND & BORDER – BLACK (RETROREFLECTIVE) RED CIRCLE BACKGROUND – WHITE (RETROREFLECTIVE)
(D)	SINGLE-SIDED SIGN	NO COMMERCIAL TRUCK TRAFFIC	LEGEND & BORDER – RED (RETROREFLECTIVE) BACKGROUND – WHITE (RETROREFLECTIVE)
(E)	TWO-SIDED SIGN	NO COMMERCIAL TRUCK TRAFFIC / NO COMMERCIAL TRUCK TRAFFIC	LEGEND & BORDER – RED (RETROREFLECTIVE) BACKGROUND – WHITE (RETROREFLECTIVE) / LEGEND & BORDER – RED (RETROREFLECTIVE) BACKGROUND – WHITE (RETROREFLECTIVE)
(F)	R7-6	NO PARKING ANYTIME	LEGEND & BORDER – RED (RETROREFLECTIVE) BACKGROUND – WHITE (RETROREFLECTIVE)

SIGN CODE REFERENCE: MUTCD

DUMPSTER AND TOTE ENCLOSURE DETAIL



No.	Description	Date
12	Revised per Walgreens Comments	5-2-11
11	Revised for Construction	2-11-11
10	Revised for cross-connection	8-27-10
9	Revised Site Plan per Village Comments	6-16-10
8	Updated Site Plan for Cross Connection	7-26-10
7	Updated for compliance with engineers report.	4-23-09
6	Removed Notes on tentative Site Plan Approval Conditions	3-18-09
5	Revised Site Plan per Village Comments	3-16-09
4	Revised Site Plan per Village Approval	1-8-09
3	Revised Site Plan per Village Comments	12-22-08
2	Revised Site Plan per Village Comments	11-25-08
1	Revised Site Plan per Village Comments	11-7-08

Revisions

5/5/11

JONATHAN M. WAGNER
PROFESSIONAL ENGINEER N.Y. LIC. No. 080901-1

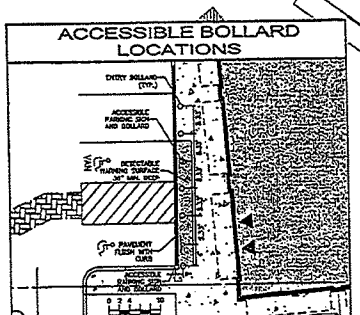
LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES
River Drive Center 1
Elmwood Park, NJ 07407
T: 201.794.6900 F: 201.794.0406
www.langan.com

PROPOSED WALGREENS
#12671
VILLAGE OF OSSINING
WESTCHESTER COUNTY NEW YORK

Drawing Title
SITE PLAN

Project No.	100073401
Date	9-17-08
Scale	1"=20'
Drn. By	JO
Last Revised	5-2-11
Drawing No.	20.01
	cr

ACCESSIBLE BOLLARD LOCATIONS



SEE SHEET 20.02 FOR SITE FENCING

NOTE:
AT LEAST 3 DAYS PRIOR TO ANY EXCAVATION OR CONSTRUCTION ACTIVITY CONTACT: "CALL BEFORE YOU DIG" 1-800-962-7962

SCALE IN FEET

TECTONIC

DAILY FIELD REPORT

W.O.NO.: 5871.01 | PAGE 1 OF 3
REPORT NO.: | DATE: 7-13-11
PUNCH LIST YES ☐ NO ☒

☒ 70 Pleasant Hill Road, Mountainville, NY 10953, P: 845-534-5959 F: 845-534-5999
☐ 36 British American Blvd, Suite 101, Latham, NY 12110, Phone: 518-783-1630 Fax: 518-783-1544
☐ 1279 Route 300 Newburgh, NY 12550, Phone- 845-567-6656 Fax- 845-567-8703, Structural Fax- 845-567-8705
☐ 1344 Silas Deane Highway, Suite 500, Rocky Hill, CT 06067, Phone: 860-563-2341 Fax: 860-257-4882
☐ 29-16 40th Ave, Long Island City, NY 11101, Phone- 718-391-9200 Fax- 718-391-0607
☒ 280 Little Britain Rd, Newburgh NY 12550, Phone- 845-563-9081 Fax- 845-563-9085
☐ 8607 Mayland Drive, Richmond, VA 23294, Phone- 804-217-8504 Fax- 804-270-0593

CLIENT: DLC Management
PROJECT NAME: Walgreens - Ossining
TECTONIC PROJECT MANAGER: Jim Bucel
TECTONIC FIELD REPRESENTATIVE: Adam Watson
LOCATION: Ossining, NY.
GENERAL CONTRACTOR:
GENERAL CONTRACTOR'S REPRESENTATIVE:
OWNER:
SPECIALTY CONTRACTOR: ☐ EARTH ☐ CONCRETE ☐ STEEL ☐ OTHER
PLANS AND SPECIFICATIONS
BY
DATE
CONTRACTOR'S EQUIPMENT OBSERVED IN USE:
Bomag 20 Ton
SHOP DRAWINGS
TYPE
APP. BY
VISITORS: REPRESENTING: ARR. DPT.
SAMPLES: ☐ TYPE: QTY:
TEMP. (°F) 80°
PHOTOS: ☐ TYPE: QTY:
WEATHER: Clear

CONSTRUCTION ACTIVITIES: INDICATE ACTIVITIES MONITORED

On Site at clients request to perform Soils Inspections.

When I arrived on Site there was a lift placed prior to my arrival. This lift and all consecutive lifts placed consisted of BS-2 (Imported from The Walgreens Spire Valley Site - 5507.01) Please see Soil Density test report for depths as well as attached plan Section for areas of fill placement and test locations. All lifts were compacted using equipment stated above and were compacted with 95% of max dry density.

- A Subgrade Inspection was performed at the location shown on attached plan Section. The Subgrade was exposed at elevation at bottom of old footing / native fill soils. The soil is firm and undisturbed though moist and surface water has collected in some areas. The Contractor plans to use a +/- 6" lift of 3" Stone as a base lift to tether stabilize Subgrade prior to placement of D-52 material. The elevation (approximate) of this Subgrade was +/- - 10' from Top of footing for retaining wall adjacent Clinton Street

FORMS ATTACHED: ☐ SOIL COMPACTION ☐ NON-CONFORMANCE REPORT ☐ PRE-POUR INSPECTION ☐ CONCRETE INSPECTION ☐ STRUCTURAL STEEL ☐ OTHER:

FOLLOW-UP FROM PRIOR R ☐ YES ☐ NO DATE OF PRIOR REPORT:
NON-CONFORMANCE CORRECTED:
WHAT, IN PARTICULAR, SHOULD BE OBSERVED, CHECKED, OR TESTED DURING THE NEXT VISIT?

NOTICE
The field representative is on the site solely to observe operations of the contractor identified, observe conformance with contract documents, and report those operations to the client. The presence and activities of the field representative do not relieve the contractor's obligation to meet contractual requirements. The contractor retains sole responsibility for site safety and the methods and sequences of construction.

☐ THIS DFR IS PRELIMINARY
This preliminary report is provided solely as evidence that field observation was performed. Observation and/or conclusions and/or recommendations conveyed in the final report may vary from and shall take precedence over those indicated in a preliminary report.

FIELD REPRESENTATIVE: DATE: 7-13-11
REVIEWED BY: DATE:

☐ THIS DFR IS FINAL
Final report is the instrument of service. Any conclusions drawn from this report should be discussed with and evaluated by the owner's engineer.

TECTONIC

IN PLACE SOIL DENSITY TEST REPORT

W.O. NO.: 5871.01 | PAGE 2 OF 3

DATE: 7-13-11 | REPORT NO.:

☐ 70 Pleasant Hill Road, Mountainville, NY 10953, P: 845-534-5959 F: 845-534-5999

☐ 36 British American Blvd Suite 101, Latham, NY 12110, P: 518-783-1630 F: 518-783-1644

☐ 1279 Route 300 Newburgh, NY 12550, P- 845-567-6656 F- 845-567-8703, Structural Fax- 845-567-8705

☐ 1344 Silas Deane Highway, Suite 500, Rocky Hill, CT 06067, P: 860-563-2341 F: 860-257-4882

☐ 29-16 40th AveLong Island City, NY 11101, Phone- 718-391-9200 Fax- 718-391-0607

☐ 280 Little Britain Road, Building 2, Newburgh, NY 12550, P: 845-563-9081 F: 845-563-9805

☐ 8607 Mayland Drive, Richmond, VA 23294, Phone- 804-217-8504 Fax- 804-270-0593

PROJECT NAME: Walgreens - Ossining

LOCATION: Ossining N.Y.

CLIENT:

CONTRACTOR:

CONTRACTOR'S REPRESENTATIVE:

TECTONIC'S REPRESENTATIVE: Adam Wagner

WEATHER	BRITE SUN	CLEAR	OVERCAST	RAIN	SNOW
TEMP. (°F)	<32	32-50	50-70	70-85	85 UP
WIND	STILL	MODER.	HIGH		
HUMIDITY	DRY	MODER.	HUMID		

FIELD TEST METHOD: Troxler 3430

SOIL ID. NO.	DESCRIPTION OF SOIL OR FILL	SOURCE OF FILL	U.S.C.S.	OPTIMUM MOISTURE %	MAX. DRY DENSITY (pcf)	LAB TEST METHOD
BS-2	(from Sony Valley Walgreens SB-7.01)			7.6	131.8	C
	Blue Gy C-f SAND and C-f Gravel, little Silt					

TEST NO.	TEST LOCATION	ELEV OR DEPTH	DEPTH OF SOURCE ROD	SOIL ID. NO.	% MOISTURE	TEST DRY DENSITY lbs./cu. ft.	% OF MAX. DRY DENSITY
1	See Plan Section	-8'	12"	BS-2	6.8	130.3	98.9
2		-7'			9.1	130.3	98.8
3		-6'			8.0	129.8	98.5
4		-5'			8.8	133.8	100+
5		-4'			9.3	127.3	96.5
6		-3'			8.0	133.0	100+
7		-2'			7.3	127.8	97.0

REMARKS: Elevations are approximate and are relative to top of footing at retaining wall adjacent Clinton Ave.

COPY TO:

PREPARED BY:

DATE: 7-13-11

5871.01 Page 3 of 3

7-13-11

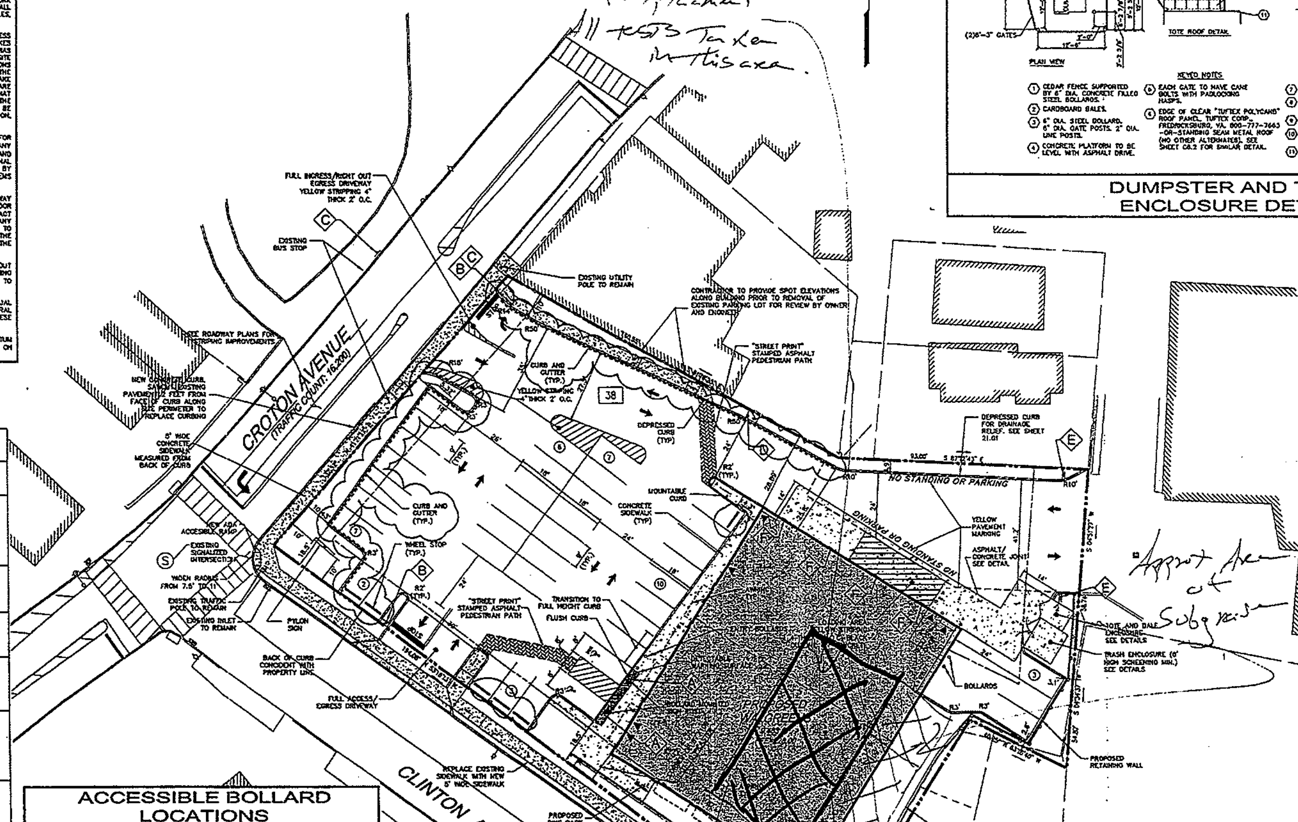
GENERAL NOTES

1. EXISTING BOUNDARY INFORMATION OBTAINED FROM A PLAN ENTITLED "PROPERTY SURVEY" FOR 78 CROTON AVE. AS PREPARED BY ESCHBACHER VHB ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE, P.C. DATED 7/25/2008. EXISTING TOPOGRAPHIC AND UTILITY INFORMATION BASED ON PLAN ENTITLED "TOPOGRAPHIC SURVEY" AS PREPARED BY ESCHBACHER VHB ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE, P.C. DATED 7/25/2008. ADDITIONAL UTILITY INFORMATION SUPPLEMENTED BY SITE RECONNAISSANCE ON 9/16/08 BY LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
2. THESE PLANS REPRESENT THE OVERALL SITE WORK IMPROVEMENTS REQUIRED FOR PROJECT CONSTRUCTION. THE CONTRACTOR SHALL FURNISH, INSTALL, TEST AND COMPLETE ALL WORK TO THE SATISFACTION OF THE ENGINEER AND OWNER IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION; AS SUCH, THESE PLANS DO NOT COMPLETELY REPRESENT, NOR ARE THEY INTENDED TO REPRESENT, ALL SPECIFIC INSTRUCTIONS REQUIRED FOR SITE WORK CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONSTRUCT ALL IMPROVEMENTS DEPICTED ON THESE PLANS IN ACCORDANCE WITH ALL APPLICABLE RULES, REGULATIONS AND LAWS IN EFFECT AT THE TIME OF CONSTRUCTION.
3. THE CONTRACTOR SHALL ACCEPT THE SITE AS IS. THE CONTRACTOR SHALL ASSESS CONDITIONS, AND THE KIND, QUALITY AND QUANTITY OF WORK REQUIRED. THE OWNER MAKES NO GUARANTEE IN REGARD TO THE ACCURACY OF ANY AVAILABLE INFORMATION WHICH WAS OBTAINED DURING INVESTIGATIONS. THE CONTRACTOR SHALL MAKE A THOROUGH SITE INSPECTION IN ORDER TO FIELD CHECK EXISTING SITE CONDITIONS, CORRELATE CONDITIONS WITH THE DRAWINGS AND RESOLVE ANY POSSIBLE CONSTRUCTION CONFLICTS WITH THE OWNER AND ENGINEER PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR SHALL MAKE ADDITIONAL TOPOGRAPHIC SURVEYS HE DEEMS NECESSARY, PROVIDED THEY ARE COORDINATED WITH THE OWNER. ANY CONDITIONS DETERMINED BY THE CONTRACTOR THAT DIFFER FROM THE INFORMATION SHOWN ON THE DRAWINGS THAT ARE NOT BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER PRIOR TO THE START OF WORK SHALL NOT BE CONSIDERED GROUNDS FOR ADDITIONAL PAYMENT OR CHANGES TO THE CONTRACT DURATION, OR ANY OTHER CLAIMS AGAINST THE OWNER OR OWNER'S ENGINEER.
4. THE CONTRACTOR SHALL, WHEN THEY DEEM NECESSARY, PROVIDE WRITTEN REQUESTS FOR INFORMATION (RFIS) TO THE OWNER AND ENGINEER PRIOR TO THE CONSTRUCTION OF ANY SPECIFIC SITE WORK ITEM. THE (RFI) SHALL BE IN A FORM ACCEPTABLE TO OWNER AND ENGINEER AND SHALL ALLOW FOR A MINIMUM OF TWO WORK DAYS OR ADDITIONAL REASONABLE TIME FOR A WRITTEN REPLY. RFIS SHALL BE NUMBERED CONSECUTIVELY BY DATE SUBMITTED. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE WORK ITEMS CONSTRUCTED DIFFERENTLY THAN INTENDED OR AS DEPICTED ON THE PLANS.
5. INFORMATION RELATED TO ELEVATIONS AND PROPOSED UTILITIES (SUCH AS ROADWAY GRADES, INVERT ELEVATIONS, RIM ELEVATIONS, GRATE ELEVATIONS, BUILDING FINISHED FLOOR ELEVATIONS, ETC.) MAY BE FOUND IN MORE THAN ONE LOCATION IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL SUFFICIENTLY REVIEW ALL PLANS, PROFILES AND ANY OTHER INFORMATION IN THE CONTRACT DOCUMENTS FOR CONSISTENCY PRIOR TO CONSTRUCTION. ANY INCONSISTENCIES OR DISCREPANCIES THAT ARE FOUND BY THE CONTRACTOR OR HIS ASSIGNS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER IN WRITING, IN THE FORMAT OF AN RFI PRIOR TO CONSTRUCTION.
6. THERE ARE ADDITIONAL NOTES, SPECIFICATIONS AND REQUIREMENTS CONTAINED THROUGHOUT THE PLAN SET AS WELL AS REFERENCES TO SPECIFICATIONS FROM APPLICABLE GOVERNING AUTHORITIES AND INDUSTRY STANDARDS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN, REVIEW AND ADHERE TO ALL THESE DOCUMENTS.
7. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ACTUAL LOCATIONS OF ALL DOORS, STAIRS, RAMPS, CANOPIES, SIDEWALKS, AND ARCHITECTURAL ELEMENTS AROUND THE BUILDING, AND SHALL COORDINATE INSTALLATION OF THESE ELEMENTS WITH THE SITE LAYOUT PRIOR TO INSTALLATION.
8. VERTICAL DATUM REFERENCED ON THESE DRAWINGS IS NORTH AMERICAN VERTICAL DATUM (NAVD) 88 AS ESTABLISHED BY BENCHMARKS ON SITE. HORIZONTAL DATUM REFERENCED ON THESE DRAWINGS IS NEW YORK EAST NAD 83.

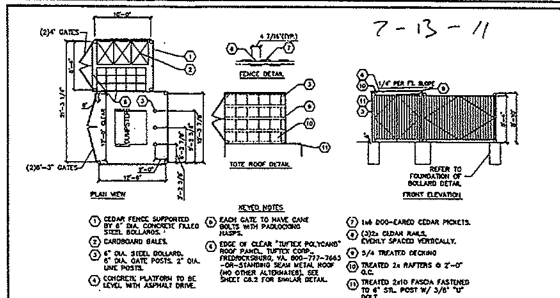
SIGN LEGEND

SIGN No.	SIGN CODE	LEGEND	DESCRIPTION
A	R7-8		LEGEND – GREEN (RETROREFLECTIVE) WHITE SYMBOL ON BLUE – (RETROREFLECTIVE) BACKGROUND – WHITE (RETROREFLECTIVE)
	R7-8A		LEGEND – WHITE (RETROREFLECTIVE) BACKGROUND – BLUE (RETROREFLECTIVE)
	R7-8B	•Penalty sign with wording as required by state or per local code	LEGEND & BORDER – RED (RETROREFLECTIVE) BACKGROUND – WHITE (RETROREFLECTIVE)
B	R1-1	STOP	LEGEND – WHITE (RETROREFLECTIVE) BACKGROUND – RED (RETROREFLECTIVE)
C	R3-2		LEGEND & BORDER – BLACK (RETROREFLECTIVE) RED CIRCLE BACKGROUND – WHITE (RETROREFLECTIVE)
D SINGLE-SIDED SIGN		NO COMMERCIAL THRU TRAFFIC	LEGEND & BORDER – RED (RETROREFLECTIVE) BACKGROUND – WHITE (RETROREFLECTIVE)
E TWO-SIDED SIGN		NO COMMERCIAL THRU TRAFFIC	LEGEND & BORDER – RED (RETROREFLECTIVE) BACKGROUND – WHITE (RETROREFLECTIVE) LEGEND & BORDER – RED (RETROREFLECTIVE) BACKGROUND – WHITE (RETROREFLECTIVE)
F	R7-6		LEGEND & BORDER – RED (RETROREFLECTIVE) BACKGROUND – WHITE (RETROREFLECTIVE)

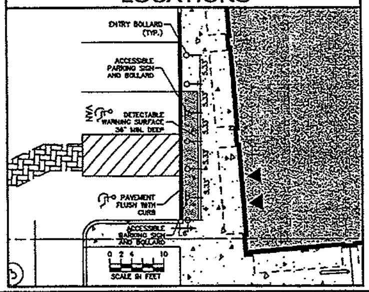
SIGN CODE REFERENCE: MUTCD



SEE SHEET 20.02 FOR SITE FENCING



DUMPSTER AND TOTE ENCLOSURE DETAIL



ACCESSIBLE BOLLARD LOCATIONS

NOTE:
AT LEAST 3 DAYS PRIOR TO ANY EXCAVATION OR CONSTRUCTION ACTIVITY CONTACT: "CALL BEFORE YOU DIG" 1-800-962-7962

Date	Description	No.
5-2-11	Revised per Walgreens Comments	12
2-11-11	Revised for Construction	11
8-27-10	Revised for cross-connection	10
8-18-10	Revised Site Plan per Village Comments	9
7-26-10	Updated Site Plan for Cross Connection	8
4-28-09	Updated for compliance with engineers report.	7
3-18-09	Removed Notes on Tentative Site Plan Approval Conditions	6
3-16-09	Revised Site Plan per Village Comments	5
1-8-09	Revised Site Plan per Village Approval	4
12-22-08	Revised Site Plan per Village Comments	3
11-25-08	Revised Site Plan per Village Comments	2
11-7-08	Revised Site Plan per Village Comments	1

Revisions

5/2/11
BRYAN M. WAGNOR
PROFESSIONAL ENGINEER N.Y. LIC. No. 080661-1

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES
River Drive Center 1
619 River Drive
Elmwood Park, NJ 07407
P: 201.794.6900 F: 201.794.0366
www.langan.com

PROPOSED WALGREENS
#12871
VILLAGE OF OSSINING
WESTCHESTER COUNTY NEW YORK

Drawing Title
SITE PLAN

Project No.	100075401
Date	9-17-08
Scale	1"=20'
Drn. By	JO
Last Revised	5-2-11
Drawing No.	20.01

TECTONIC

DAILY FIELD REPORT

W.O.NO.: 5871.01 | PAGE 1 OF 3
REPORT NO.: | DATE: 7-14-11
PUNCH LIST YES ☐ NO ☐

☐ 70 Pleasant Hill Road, Mountainville, NY 10953, P: 845-534-5959 F: 845-534-5999
☐ 36 British American Blvd, Suite 101, Latham, NY 12110, Phone: 518-783-1630 Fax: 518-783-1644
☐ 1279 Route 300 Newburgh, NY 12550, Phone- 845-567-6656 Fax- 845-567-8703, Structural Fax- 845-567-8705
☐ 1344 Silas Deane Highway, Suite 500, Rocky Hill, CT 06067, Phone: 860-563-2341 Fax: 860-257-4882
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☒ 280 Little Britain Rd, Newburgh NY 12550, Phone- 845-563-9081 Fax- 845-563-9085
☐ 8607 Mayland Drive, Richmond, VA 23294, Phone- 804-217-8504 Fax- 804-270-0593

CLIENT: DLC Management
PROJECT NAME: Wh/Greens - OSSining
TECTONIC PROJECT MANAGER: Jim Roesel
TECTONIC FIELD REPRESENTATIVE: John Wilson
LOCATION: OSSining
GENERAL CONTRACTOR: Cortese Construction
GENERAL CONTRACTOR'S REPRESENTATIVE:
OWNER:
SPECIALTY CONTRACTOR: ☐ EARTH ☐ CONCRETE ☐ STEEL ☐ OTHER
PLANS AND SPECIFICATIONS
BY
DATE
CONTRACTOR'S EQUIPMENT OBSERVED IN USE:
SHOP DRAWINGS
TYPE
APP. BY
VISITORS: REPRESENTING: ARR. DPT.
SAMPLES: ☐ TYPE: QTY:
TEMP. (°F)
PHOTOS: ☐ TYPE: QTY:
WEATHER:

CONSTRUCTION ACTIVITIES: INDICATE ACTIVITIES MONITORED

On Site at Clients request to perform Soil Inspections.

- Contractor placed 3 LIFTS of BS-2 material (from Valleycrest Quarry Valley Site 5907.01) at areas shown in attached Plan Section. All lifts compacted with Bomag 20 ton roller and compacted > 95% at max dry density.

clean 3" stone

- Contractor placed +/- 20 yards of Cotton at existing w/e (at approximately the top of water table in order to finish subgrade. This (20 yards) was not enough stone. Contractor will bring on additional truck of 3" stone. in tomorrow morning.

FORMS ATTACHED: ☐ SOIL COMPACTION ☐ NON-CONFORMANCE REPORT ☐ PRE-POUR INSPECTION ☐ CONCRETE INSPECTION ☐ STRUCTURAL STEEL ☐ OTHER:

FOLLOW-UP FROM PRIOR R ☐ YES ☐ NO DATE OF PRIOR REPORT:
NON-CONFORMANCE CORRECTED:

WHAT, IN PARTICULAR, SHOULD BE OBSERVED, CHECKED, OR TESTED DURING THE NEXT VISIT?

NOTICE

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☐ THIS DFR IS PRELIMINARY
This preliminary report is provided solely as evidence that field observation was performed. Observation and/or conclusions and/or recommendations conveyed in the final report may vary from and shall take precedence over those indicated in a preliminary report.

FIELD REPRESENTATIVE: DATE: 7-14-11
REVIEWED BY: DATE:

☐ THIS DFR IS FINAL
A final report is the instrument of service. Any conclusions drawn from this report should be discussed with and evaluated by the owner's engineer.

TECTONIC

IN PLACE SOIL DENSITY TEST REPORT

W.O. NO.: 5871.01 | PAGE 2 OF 3

DATE: 7-14-11 | REPORT NO.:

☐ 70 Pleasant Hill Road, Mountainville, NY 10953, P: 845-534-5959 F: 845-534-5999

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☐ 8607 Mayland Drive, Richmond, VA 23294, Phone- 804-217-8504 Fax- 804-270-0593

PROJECT NAME: Walgreens - Ossining	WEATHER	BRITE SUN	CLEAR	OVERCAST	RAIN	SNOW
LOCATION: Ossining N.Y.	TEMP. (°F)	<32	32-50	50-70	70-85	85 UP
CLIENT: DLC Management	WIND	STILL	MODER.	HIGH		
CONTRACTOR: Cortese Construction	HUMIDITY	DRY	MODER.	HUMID		
CONTRACTOR'S REPRESENTATIVE:	FIELD TEST METHOD:					

TECTONIC'S REPRESENTATIVE: Adam Watson

SOIL ID. NO.	DESCRIPTION OF SOIL OR FILL	SOURCE OF FILL	U.S.C.S.	OPTIMUM MOISTURE %	MAX. DRY DENSITY (pcf)	LAB TEST METHOD
DS-2	From Walgreens Spring Valley site			7.6	131.8	C

TEST NO.	TEST LOCATION	ELEV OR DEPTH	DEPTH OF SOURCE ROD	SOIL ID. NO.	% MOISTURE	TEST DRY DENSITY lbs./cu. ft.	% OF MAX. DRY DENSITY
1	See Plan Section	-2	1'	DS-2	9.3	127.8	97
2		-1.5	.5'	↓	8.3	133.1	100+
3		-1	.5'	↓	7.2	131.8	100

REMARKS: Elevation relative to top of footing at retaining wall adjacent Clinton Ave.

COPY TO:

PREPARED BY:

DATE: 7-14-11

547.01 Page 3 of 3

7-14-11

GENERAL NOTES

1. EXISTING BOUNDARY INFORMATION OBTAINED FROM A PLAN ENTITLED "PROPERTY SURVEY" FOR 78 CROTON AVE. AS PREPARED BY ESCHBACHER VHB ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE, P.C. DATED 7/25/2006. EXISTING TOPOGRAPHIC AND UTILITY INFORMATION BASED ON PLAN ENTITLED "TOPOGRAPHIC SURVEY" AS PREPARED BY ESCHBACHER VHB ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE, P.C. DATED 7/25/2006. ADDITIONAL UTILITY INFORMATION SUPPLEMENTED BY SITE RECONNAISSANCE ON 9/15/06 BY LANGAN ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
2. THESE PLANS REPRESENT THE OVERALL SITE WORK IMPROVEMENTS REQUIRED FOR PROJECT CONSTRUCTION. THE CONTRACTOR SHALL FURNISH, INSTALL, TEST AND COMPLETE ALL WORK TO THE SATISFACTION OF THE ENGINEER AND OWNER IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION; AS SUCH, THESE PLANS DO NOT COMPLETELY REPRESENT, NOR ARE THEY INTENDED TO REPRESENT, ALL SPECIFIC INSTRUCTIONS REQUIRED FOR SITE WORK CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONSTRUCT ALL IMPROVEMENTS DEPICTED ON THESE PLANS IN ACCORDANCE WITH ALL APPLICABLE RULES, REGULATIONS AND LAWS IN EFFECT AT THE TIME OF CONSTRUCTION.
3. THE CONTRACTOR SHALL ACCEPT THE SITE AS IS. THE CONTRACTOR SHALL ASSESS CONDITIONS, AND THE KIND, QUALITY AND QUANTITY OF WORK REQUIRED. THE OWNER MAKES NO GUARANTEE IN REGARD TO THE ACCURACY OF ANY AVAILABLE INFORMATION WHICH WAS OBTAINED DURING INVESTIGATIONS. THE CONTRACTOR SHALL MAKE A THOROUGH SITE INSPECTION IN ORDER TO FIELD CHECK EXISTING SITE CONDITIONS, CORRELATE CONDITIONS WITH THE DRAWINGS AND RESOLVE ANY POSSIBLE CONSTRUCTION CONFLICTS WITH THE OWNER AND ENGINEER PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR SHALL MAKE ADDITIONAL TOPOGRAPHIC SURVEYS HE DEEMS NECESSARY, PROVIDED THEY ARE COORDINATED WITH THE OWNER. ANY CONDITIONS DETERMINED BY THE CONTRACTOR THAT DIFFER FROM THE INFORMATION SHOWN ON THE DRAWINGS THAT ARE NOT BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER PRIOR TO THE START OF WORK SHALL NOT BE CONSIDERED GROUNDS FOR ADDITIONAL PAYMENT OR CHANGES TO THE CONTRACT DURATION, OR ANY OTHER CLAIMS AGAINST THE OWNER OR OWNER'S ENGINEER.
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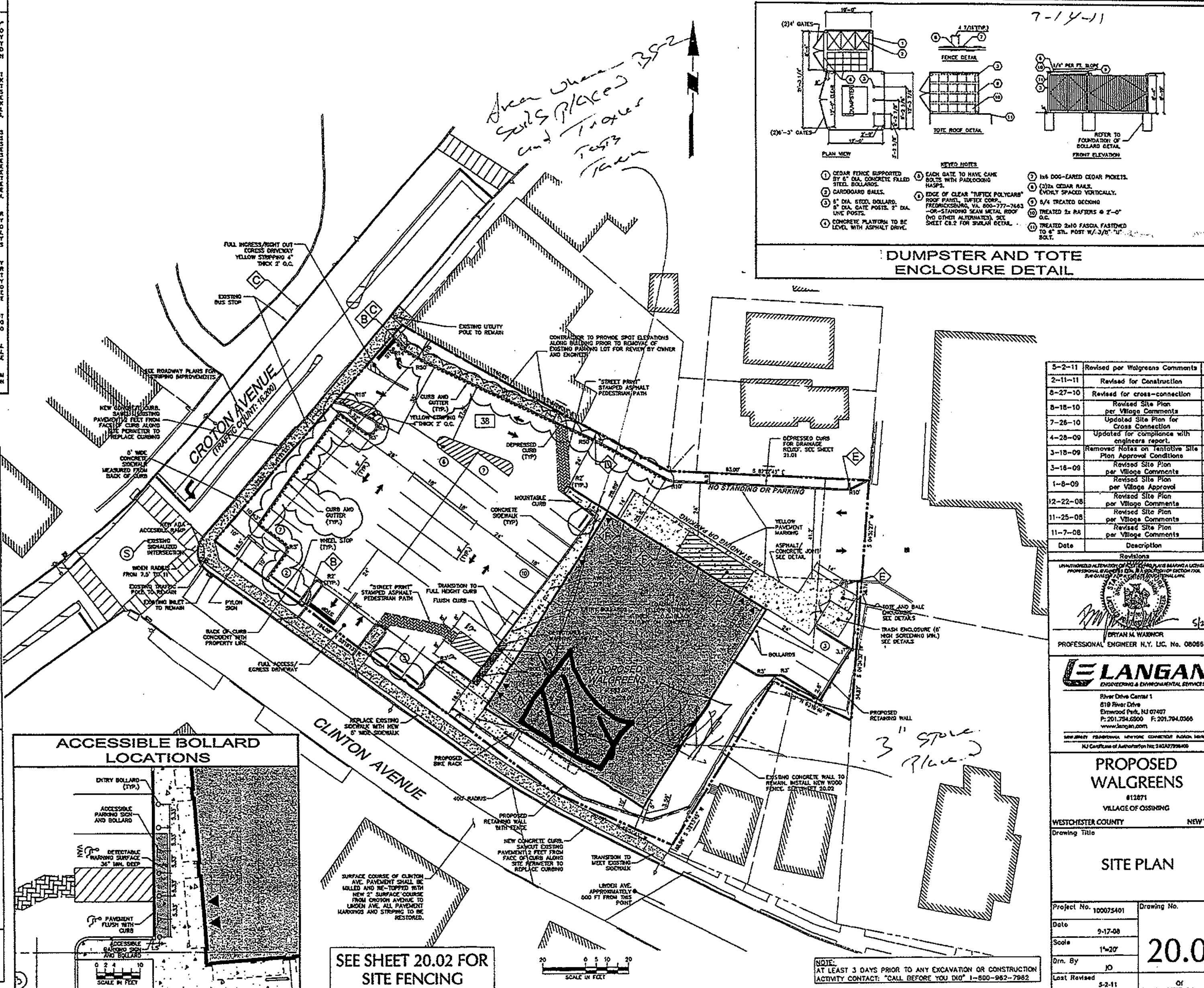
5. INFORMATION RELATED TO ELEVATIONS AND PROPOSED UTILITIES (SUCH AS ROADWAY GRADES, INVERT ELEVATIONS, RIM ELEVATIONS, GRATE ELEVATIONS, BUILDING FINISHED FLOOR ELEVATIONS, ETC.) MAY BE FOUND IN MORE THAN ONE LOCATION IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL SUFFICIENTLY REVIEW ALL PLANS, PROFILES AND ANY OTHER INFORMATION IN THE CONTRACT DOCUMENTS FOR CONSISTENCY PRIOR TO CONSTRUCTION. ANY INCONSISTENCIES OR DISCREPANCIES THAT ARE FOUND BY THE CONTRACTOR OR HIS ASSIGNS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER IN WRITING, IN THE FORMAT OF AN RFI PRIOR TO CONSTRUCTION.
6. THERE ARE ADDITIONAL NOTES, SPECIFICATIONS AND REQUIREMENTS CONTAINED THROUGHOUT THE PLAN SET AS WELL AS REFERENCES TO SPECIFICATIONS FROM APPLICABLE GOVERNING AUTHORITIES AND INDUSTRY STANDARDS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN, REVIEW AND ADHERE TO ALL THESE DOCUMENTS.
7. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ACTUAL LOCATIONS OF ALL DOORS, STAIRS, RAMPS, CANOPIES, SIDEWALKS, AND ARCHITECTURAL ELEMENTS AROUND THE BUILDING, AND SHALL COORDINATE INSTALLATION OF THESE ELEMENTS WITH THE SITE LAYOUT PRIOR TO INSTALLATION.
8. VERTICAL DATUM REFERENCED ON THESE DRAWINGS IS NORTH AMERICAN VERTICAL DATUM (NAVD) 88 AS ESTABLISHED BY BENCHMARKS ON SITE. HORIZONTAL DATUM REFERENCED ON THESE DRAWINGS IS NEW YORK EAST NAD 83.



DUMPSTER AND TOTE ENCLOSURE DETAIL

PLAN VIEW
FENCE DETAIL
TOTE ROOF DETAIL
FRONT ELEVATION

KEYED NOTES

1. CEDAR FENCE SUPPORTED BY 6" DIA. CONCRETE FILLED STEEL BOLLARDS.
2. CARDBOARD BALES.
3. 6" DIA. STEEL BOLLARD, 8" DIA. GATE POSTS, 3" DIA. UNIT POSTS.
4. CONCRETE PLATFORM TO BE LEVEL WITH ASPHALT DRIVE.
5. EACH GATE TO HAVE CANE BOLTS WITH PADLOCKING HASPS.
6. EDGE OF CLEAR "TUFTEX POLYCARB" ROOF PANEL, TUFTEX CORP., FREDRICKSBURG, VA. 800-777-7463 -OR-STANDING SEAM METAL ROOF (NO OTHER ALTERNATES). SEE SHEET C8.2 FOR SIMILAR DETAIL.
7. 1x6 DOG-EARED CEDAR PICKETS.
8. (3)2x CEDAR RAILS, EVENLY SPACED VERTICALLY.
9. 5/4 TREATED DECKING
10. TREATED 2x RAFTERS @ 2'-0" O.C.
11. TREATED 2x10 FASCIA FASTENED TO 6" STL. POST W/ 3/8" "U" BOLT.

SIGN LEGEND

SIGN No.	SIGN CODE	LEGEND	DESCRIPTION
A	R7-8		LEGEND – GREEN (RETROREFLECTIVE) WHITE SYMBOL ON BLUE – (RETROREFLECTIVE) BACKGROUND – WHITE (RETROREFLECTIVE)
	R7-8A		LEGEND – WHITE (RETROREFLECTIVE) BACKGROUND – BLUE (RETROREFLECTIVE)
	R7-8B	*Penalty sign with wording as required by state or per local code	LEGEND & BORDER – RED (RETROREFLECTIVE) BACKGROUND – WHITE (RETROREFLECTIVE)
B	R1-1	STOP	LEGEND – WHITE (RETROREFLECTIVE) BACKGROUND – RED (RETROREFLECTIVE)
C	R3-2		LEGEND & BORDER – BLACK (RETROREFLECTIVE) RED CIRCLE BACKGROUND – WHITE (RETROREFLECTIVE)
D SINGLE-SIDED SIGN		NO COMMERCIAL THRU TRAFFIC	LEGEND & BORDER – RED (RETROREFLECTIVE) BACKGROUND – WHITE (RETROREFLECTIVE)
E TWO-SIDED SIGN		NO COMMERCIAL THRU TRAFFIC	LEGEND & BORDER – RED (RETROREFLECTIVE) BACKGROUND – WHITE (RETROREFLECTIVE) LEGEND & BORDER – RED (RETROREFLECTIVE) BACKGROUND – WHITE (RETROREFLECTIVE)
F	R7-6	NO PARKING LOADING ZONE	LEGEND & BORDER – RED (RETROREFLECTIVE) BACKGROUND – WHITE (RETROREFLECTIVE)

SIGN CODE REFERENCE: MUTCD

ACCESSIBLE BOLLARD LOCATIONS

ENTRY BOLLARD (TYP.)
ACCESSIBLE PARKING SIGN AND BOLLARD
DETECTABLE WARNING SURFACE 36" MIN. DEEP
PAVEMENT FLUSH WITH CURB
SCALE IN FEET

SEE SHEET 20.02 FOR SITE FENCING

NOTE:
AT LEAST 3 DAYS PRIOR TO ANY EXCAVATION OR CONSTRUCTION ACTIVITY CONTACT: "CALL BEFORE YOU DIG" 1-800-962-7962

Date	Description	No.
5-2-11	Revised per Walgreens Comments	12
2-11-11	Revised for Construction	11
8-27-10	Revised for cross-connection	10
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12-22-08	Revised Site Plan per Village Comments	3
11-25-08	Revised Site Plan per Village Comments	2
11-7-08	Revised Site Plan per Village Comments	1

Revisions

BRYAN M. WAISNOR
PROFESSIONAL ENGINEER N.Y. LIC. No. 080651-1

5/2/11

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES
River Drive Center 1
619 River Drive
Elmwood Park, NJ 07407
P: 201.794.6900 F: 201.794.0366
www.langan.com

PROPOSED WALGREENS
#12871
VILLAGE OF OSSINING
WESTCHESTER COUNTY NEW YORK

Drawing Title
SITE PLAN

Project No.	100075401	Drawing No.
Date	9-17-08	20.01
Scale	1"=20'	
Drn. By	JO	
Last Revised	5-2-11	Of

TECTONIC

DAILY FIELD REPORT

W.O.NO.: 5871.01 | PAGE 1 OF
REPORT NO.: | DATE: 7/15/11
PUNCH LIST YES ☐ NO ☐

☐ 70 Pleasant Hill Road, Mountainville, NY 10953, P: 845-534-5959 F: 845-534-5999
☐ 36 British American Blvd , Suite 101, Latham, NY 12110, Phone: 518-783-1630 Fax: 518-783-1544
☐ 1279 Route 300 Newburgh, NY 12550, Phone- 845-567-6656 Fax- 845-567-8703, Structural Fax- 845-567-8705
☐ 1344 Silas Deane Highway, Suite 500, Rocky Hill, CT 06067, Phone: 860-563-2341 Fax: 860-257-4882
☐ 29-16 40th Ave, Long Island City, NY 11101, Phone- 718-391-9200 Fax- 718-391-0607
☒ 280 Little Britain Rd, Newburgh NY 12550, Phone- 845-563-9081 Fax- 845-563-9085
☐ 8607 Mayland Drive, Richmond, VA 23294, Phone- 804-217-8504 Fax- 804-270-0593

CLIENT: DLC Management
PROJECT NAME: Walgreens
TECTONIC PROJECT MANAGER: Jim Dressel
TECTONIC FIELD REPRESENTATIVE: Frank Carretta
LOCATION: Ossining, NY
GENERAL CONTRACTOR: Cortese Const
GENERAL CONTRACTOR'S REPRESENTATIVE:
OWNER:
SPECIALTY CONTRACTOR: ☒ EARTH ☐ CONCRETE ☐ STEEL ☐ OTHER
PLANS AND SPECIFICATIONS
BY
DATE
CONTRACTOR'S EQUIPMENT OBSERVED IN USE: excavator, 10-ton roller
SHOP DRAWINGS
TYPE
APP. BY
VISITORS: REPRESENTING: ARR. DPT.
SAMPLES: ☐ TYPE: QTY:
WEATHER: Sunny TEMP. (°F) 80°-90°
PHOTOS: ☐ TYPE: QTY:

CONSTRUCTION ACTIVITIES: INDICATE ACTIVITIES MONITORED

On site to observe todays construction activities. Contractor placed 6" lift of the 3"+ stone on top of the existing lift of stone the level was slightly above the water level and was firm and stable. Next, they placed 5 foot thick lifts. The lifts were compacted with the 10-ton roller until firm and unyielding. The material was imported processed material. I preformed density tests using a troxler nuclear guage. tests indicated 100+ % of the maximum dry density.

FORMS ATTACHED: ☒ SOIL COMPACTION ☐ NON-CONFORMANCE REPORT ☐ PRE-POUR INSPECTION ☐ CONCRETE INSPECTION ☐ STRUCTURAL STEEL ☐ OTHER:

FOLLOW-UP FROM PRIOR R ☐ YES ☐ NO DATE OF PRIOR REPORT:
NON-CONFORMANCE CORRECTED:

WHAT, IN PARTICULAR, SHOULD BE OBSERVED, CHECKED, OR TESTED DURING THE NEXT VISIT?

NOTICE

The field representative is on the site solely to observe operations of the contractor identified, observe conformance with contract documents, and report those operations to the client. The presence and activities of the field representative do not relieve the contractor's obligation to meet contractual requirements. The contractor retains sole responsibility for site safety and the methods and sequences of construction.

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This preliminary report is provided solely as evidence that field observation was performed. Observation and/or conclusions and/or recommendations conveyed in the final report may vary from and shall take precedence over those indicated in a preliminary report.

☐ THIS DFR IS FINAL
A final report is the instrument of service. Any conclusions drawn from this report should be discussed with and evaluated by the owner's engineer.

FIELD REPRESENTATIVE: DATE: 7/15/11
REVIEWED BY: DATE:

TECTONIC

IN PLACE SOIL DENSITY TEST REPORT

W.O. NO.: 5871.01 | PAGE OF
DATE: 7/15/11 | REPORT NO.:

☐ 70 Pleasant Hill Road, Mountainville, NY 10953, P: 845-534-5959 F: 845-534-5999
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PROJECT NAME: Walgreens
LOCATION: Ossining
CLIENT: DLC Management
CONTRACTOR: Cortese Const
CONTRACTOR'S REPRESENTATIVE:
TECTONIC'S REPRESENTATIVE: Frank Carretta

WEATHER	BRITE SUN X	CLEAR	OVERCAST	RAIN	SNOW	
TEMP. (°F)	<32	32-50	50-70	70-85 X	85 UP	
WIND	STILL X	MODER.	HIGH			
HUMIDITY	DRY	MODER. X	HUMID			

FIELD TEST METHOD: Trox or Nuclear Gauge

SOIL ID. NO.	DESCRIPTION OF SOIL OR FILL	SOURCE OF FILL	U.S.C.S.	OPTIMUM MOISTURE %	MAX. DRY DENSITY (pcf)	LAB TEST METHOD
BS-2	Brn Gy c-f SAND and c-f Gravel, little Silt	Import		9.6	125.1	D1557 C

TEST NO.	TEST LOCATION	ELEV OR DEPTH	DEPTH OF SOURCE ROD	SOIL ID. NO.	% MOISTURE	TEST DRY DENSITY lbs./cu. ft.	% OF MAX. DRY DENSITY
1	See Map		10"	BS-2	9.6	130.5	104.3
2					8.1	133.0	106.3
3					8.5	128.2	100+
4					9.2	136.9	100+
6					6.8	129.3	100+
7					8.9	130.2	100+
8					8.8	131.4	100+
9							
10							

REMARKS:

COPY TO:

PREPARED BY: [signature]

DATE: 7/15/11

GENERAL NOTES

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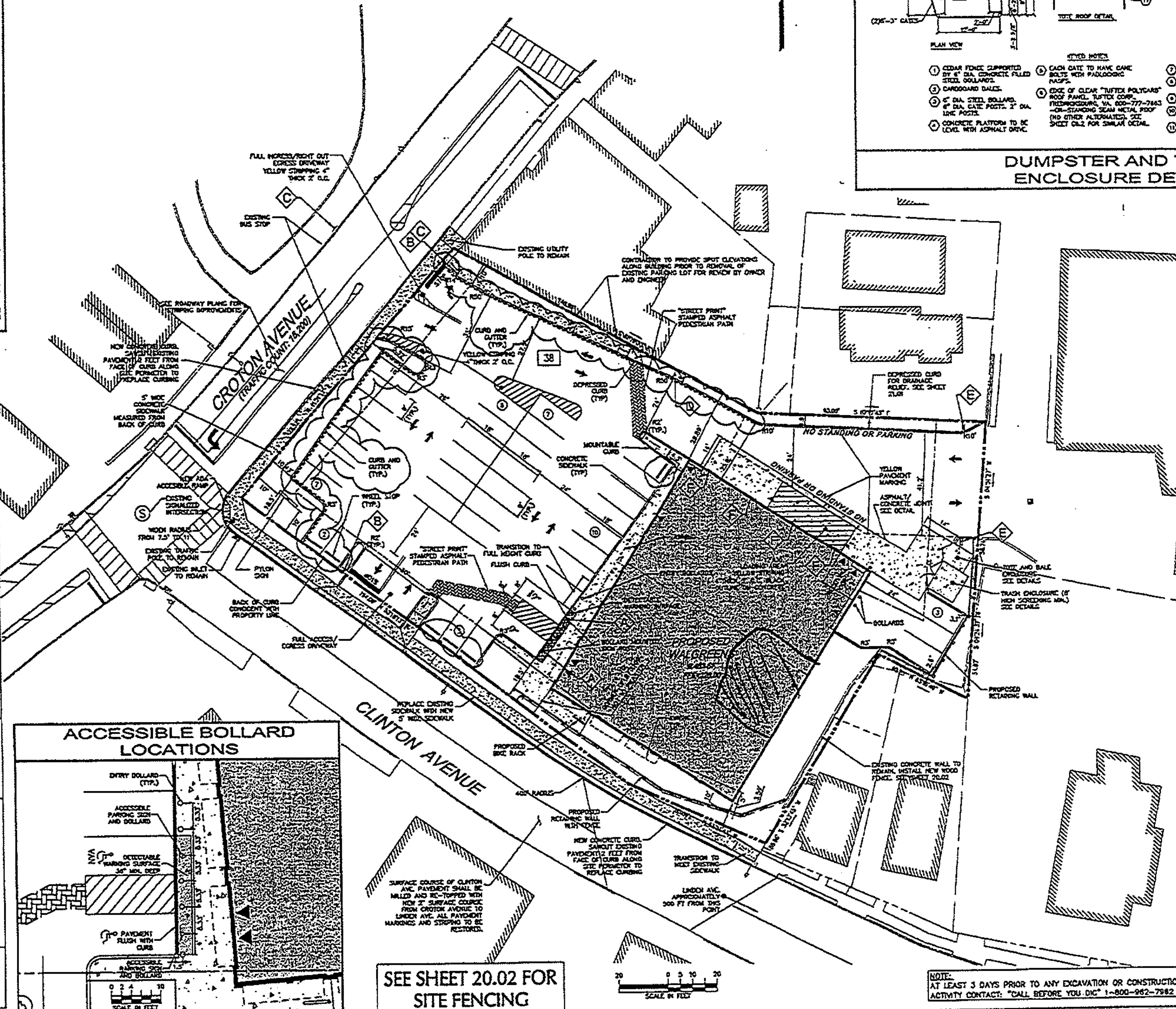
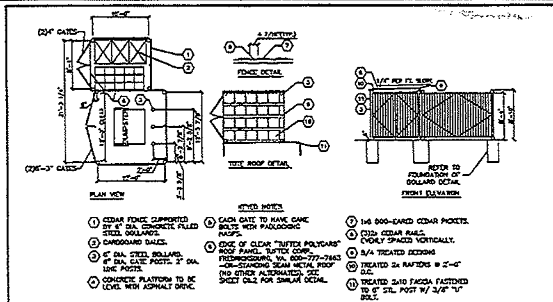
F	R7-6	NO PARKING	LEGEND & BORDER – RED (RETROREFLECTIVE) BACKGROUND – WHITE (RETROREFLECTIVE)

SIGN CODE REFERENCE: MUTCD





DUMPSTER AND TOTE ENCLOSURE DETAIL

Date	Description	No.
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11-7-08	Revised Site Plan per Village Comments	1

Revisions

BRYAN M. WARNOR
PROFESSIONAL ENGINEER N.Y. LIC. No. 080681-1
5/2/11

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES
River Drive Center 1
619 River Drive
Elmwood Park, NJ 07407
P: 201.794.6900 F: 201.794.0366
www.langan.com

PROPOSED WALGREENS
#12877
VILLAGE OF OSSINING
WESTCHESTER COUNTY NEW YORK

Drawing Title
SITE PLAN

Project No. 100075401	Drawing No.
Date 9-17-08	20.01
Scale 1"=20'	
Drn. By JO	
Last Revised 5-2-11	Of

TECTONIC

DAILY FIELD REPORT

W.O.NO.: 5871,01 | PAGE 1 OF
REPORT NO.: | DATE: 7-18-11
PUNCH LIST YES ☐ NO ☐

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☐ 8607 Mayland Drive, Richmond, VA 23294, Phone- 804-217-8504 Fax- 804-270-0593

CLIENT: Walgreens
PROJECT NAME: Walgreens Ossining
TECTONIC PROJECT MANAGER: Jim Duesel
TECTONIC FIELD REPRESENTATIVE: J. Sterluce
LOCATION: Ossining NY
GENERAL CONTRACTOR:
GENERAL CONTRACTOR'S REPRESENTATIVE:
OWNER: Walgreens
SPECIALTY CONTRACTOR: ☐ EARTH ☐ CONCRETE ☐ STEEL ☐ OTHER
PLANS AND SPECIFICATIONS
BY
DATE
CONTRACTOR'S EQUIPMENT OBSERVED IN USE: excavator, dump trucks, tenton roller
SHOP DRAWINGS
TYPE
APP. BY
VISITORS: REPRESENTING: ARR. DPT.
SAMPLES: ☐ TYPE: QTY:
WEATHER: Overcast TEMP. (°F) 85
PHOTOS: ☐ TYPE: QTY:

CONSTRUCTION ACTIVITIES: INDICATE ACTIVITIES MONITORED

On site as requested for the following inspections:

- importing material to far end of site in trench to build up outter permeter of trench to grade
- lifts placed in controlled methods and compacted with a ten ton roller with 5+ passes over material.
- visually firm & stable
- free of pumping

FORMS ATTACHED: ■ SOIL COMPACTION ☐ PRE-POUR INSPECTION ☐ STRUCTURAL STEEL
☐ NON-CONFORMANCE REPORT ☐ CONCRETE INSPECTION ☐ OTHER:

FOLLOW-UP FROM PRIOR R ☐ YES ☐ NO DATE OF PRIOR REPORT:
NON-CONFORMANCE CORRECTED:

WHAT, IN PARTICULAR, SHOULD BE OBSERVED, CHECKED, OR TESTED DURING THE NEXT VISIT?

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FIELD REPRESENTATIVE: DATE: 7/18/11
REVIEWED BY: DATE:

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TECTONIC

IN PLACE SOIL DENSITY TEST REPORT

W.O. NO.: 5871.01 | PAGE OF
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☐ 1279 Route 300 Newburgh, NY 12550, P- 845-567-6656 F- 845-567-8703, Structural Fax- 845-567-8705
☐ 1344 Silas Deane Highway, Suite 500, Rocky Hill, CT 06067, P: 860-563-2341 F: 860-257-4882
☐ 29-16 40th AveLong Island City, NY 11101, Phone- 718-391-9200 Fax- 718-391-0607
☒ 280 Little Britain Road, Building 2, Newburgh, NY 12550, P: 845-563-9081 F: 845-563-9805
☐ 8607 Mayland Drive, Richmond, VA 23294, Phone- 804-217-8504 Fax- 804-270-0593

PROJECT NAME: Walgreens Ossining
LOCATION: Ossining NY
CLIENT: Walgreens
CONTRACTOR:
CONTRACTOR'S REPRESENTATIVE:
TECTONIC'S REPRESENTATIVE: J. Sterluca

WEATHER	BRITE SUN	CLEAR	OVERCAST	RAIN	SNOW
TEMP. (°F)	<32	32-50	50-70	70-85	85 UP
WIND	STILL	MODER.	HIGH		
HUMIDITY	DRY	MODER.	HUMID		

FIELD TEST METHOD: Troxler

SOIL ID. NO.	DESCRIPTION OF SOIL OR FILL	SOURCE OF FILL	U.S.C.S.	OPTIMUM MOISTURE %	MAX. DRY DENSITY (pcf)	LAB TEST METHOD
		import			131.8	D1557C

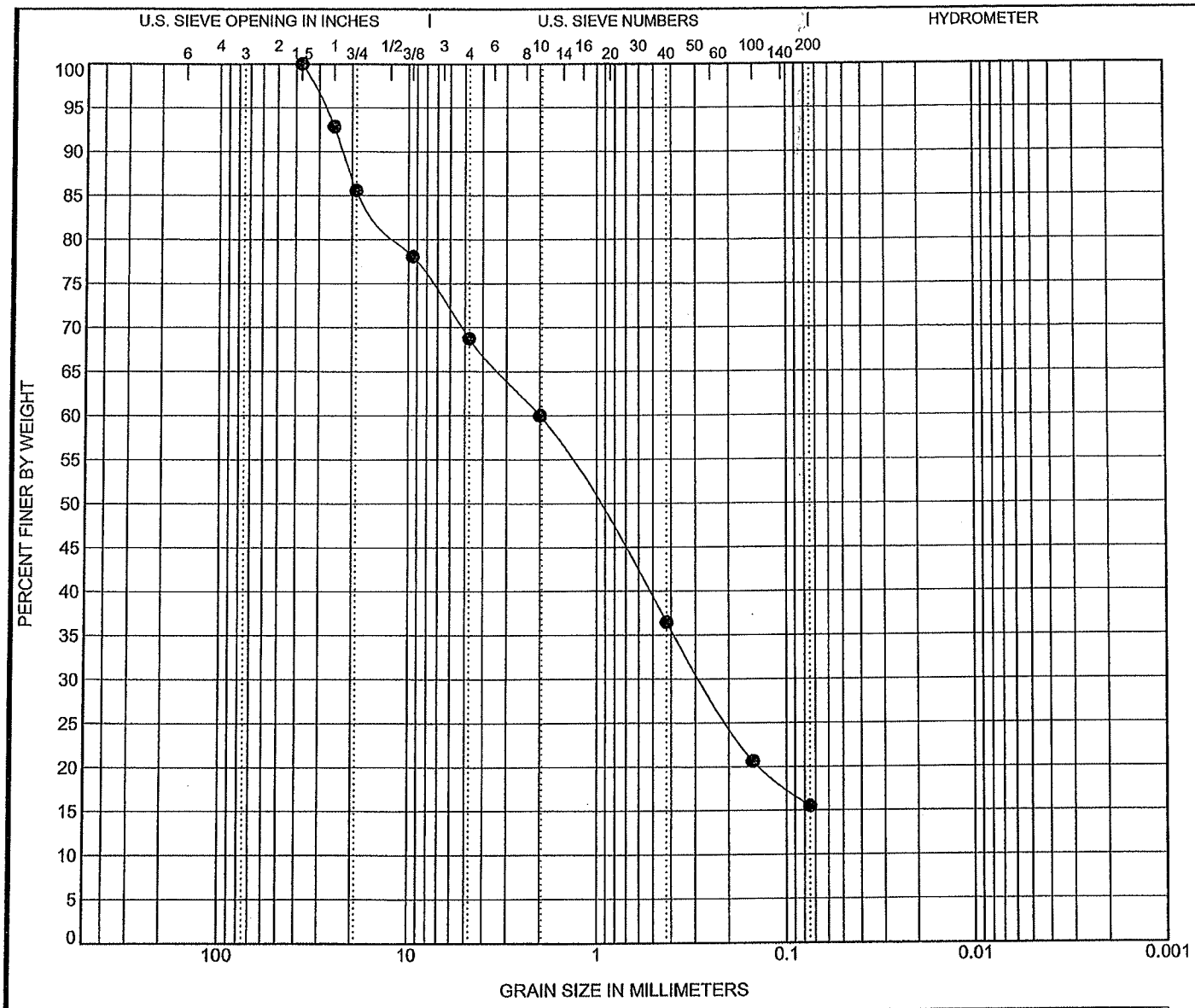
TEST NO.	TEST LOCATION	ELEV OR DEPTH	DEPTH OF SOURCE ROD	SOIL ID. NO.	% MOISTURE	TEST DRY DENSITY lbs./cu. ft.	% OF MAX. DRY DENSITY
1		-4	8		4.8	130.2	98.8
2		-4	8		4.8	130.7	99.1
3		-7	8		6.2	127.2	96.5
4		-7	6		5.7	128.9	97.8
5		-6	8		8.3	129.5	98.3
6		-6	8		7.5	131.3	99.6
7		-3	8		7.6	130.7	99.2
8		-3	10		7.4	130.4	99.0
		-3	10		7.5	127.9	97.1

REMARKS: used 10 ton roller with 5 + passes with vibration to compact 1Ft lifts.

COPY TO:

PREPARED BY: John Sterluca DATE: 7/18/11

CON104 - 2/09



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Sample Identification	Classification	WC%	LL	PL	PI	Cc	Cu
●	**BS-1**	**Bwn c-f SAND, some c-f Gravel, trace Silt**	**11.5**					

	Sample Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay	Source of Material
●	**BS-1**	**37.5**	**1.999**	**0.277**		**31.2**	**53.3**	**15.5**		**Import (RCA)**

TECTONIC *ENGINEERING & SURVEYING CONSULTANTS P.C.*

280 Little Britain Rd
Newburgh, NY 12550
Telephone: (845) 563-9081 Fax: (854) 563-9085

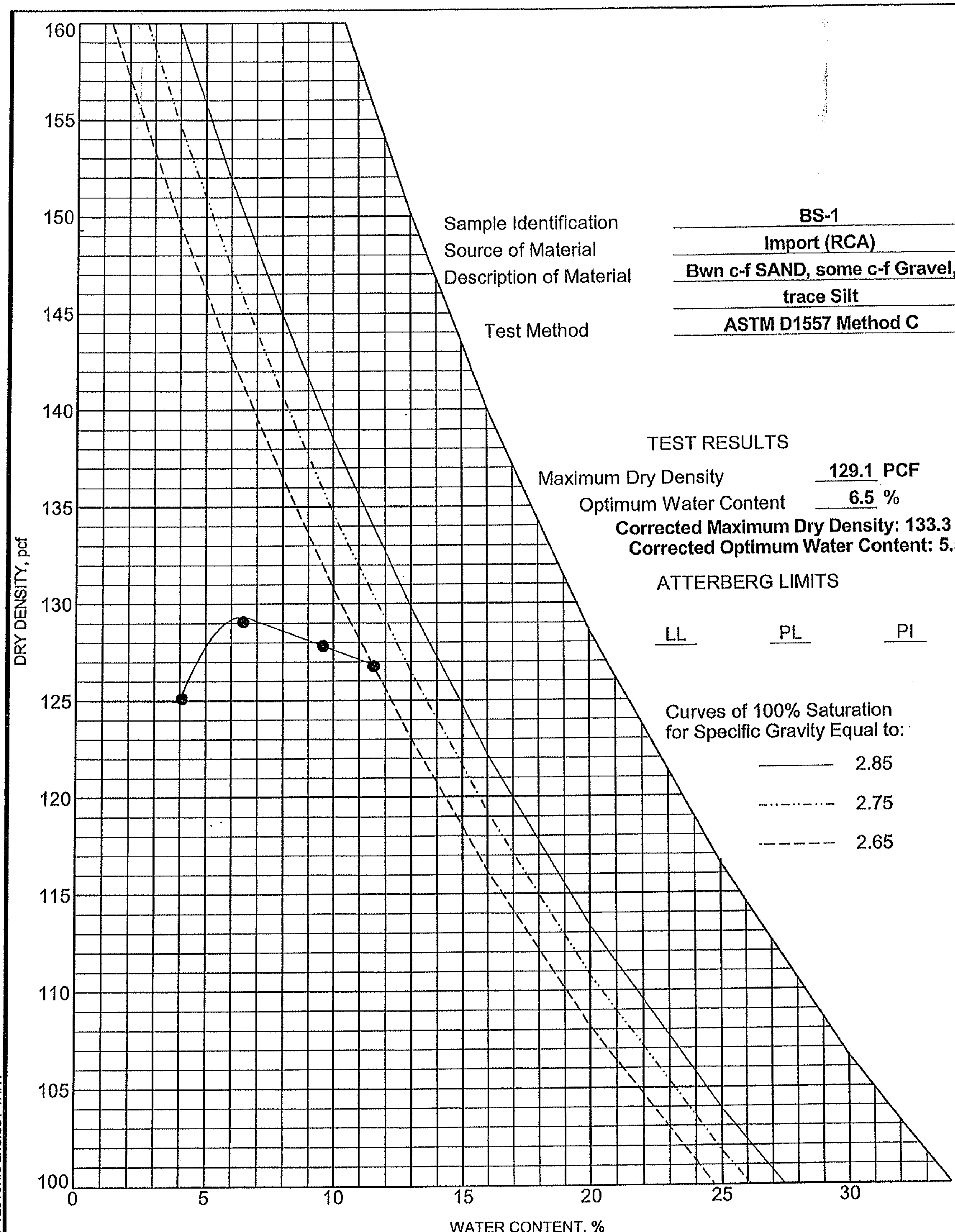
GRAIN SIZE DISTRIBUTION

Project No: **5871.01** Date: **6/30/11**

Project: **Walgreens**

Location: **Ossining, NY**

GRAIN SIZE DISTRIBUTION 5871.01.GPJ TECTONIC ENG.GDT 6/30/11



Sample Identification	**BS-1**
Source of Material	**Import (RCA)**
Description of Material	**Bwn c-f SAND, some c-f Gravel, trace Silt**
Test Method	**ASTM D1557 Method C**

TEST RESULTS

Maximum Dry Density **129.1** **PCF**

Optimum Water Content **6.5** **%**

Corrected Maximum Dry Density: 133.3 PCF

Corrected Optimum Water Content: 5.5%

ATTERBERG LIMITS

LL	PL	PI

TECTONIC ***ENGINEERING & SURVEYING CONSULTANTS P.C.***

280 Little Britain Rd
Newburgh, NY 12550
Telephone: (845) 563-9081 Fax: (854) 563-9085

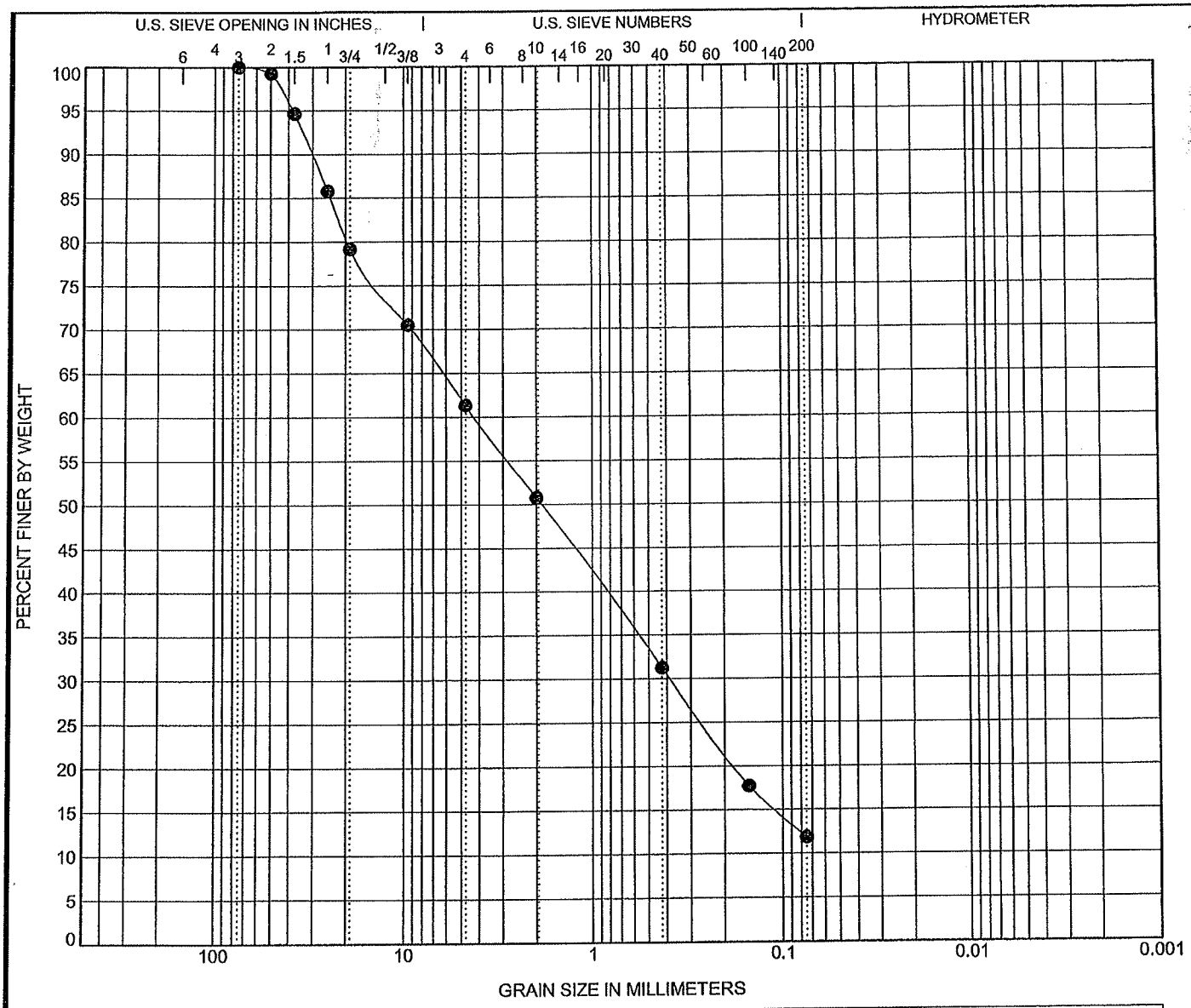
MOISTURE-DENSITY RELATIONSHIP

Project No: **5871.01** Date: **7/1/11**

Project: **Walgreens**

Location: **Ossining, NY**

COMPACTION 5871.01.GPJ TECTONIC ENG.GDT 7/1/11



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Sample Identification	Classification	WC%	LL	PL	PI	Cc	Cu
●	**BS-2**	**Bwn Gy c-f SAND, and c-f Gravel, little Silt**	**7.3**				**0.58**	**70.91**

	Sample Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay	Source of Material
●	**BS-2**	**75**	**4.254**	**0.385**		**38.7**	**49.5**	**11.9**		**On-Site**

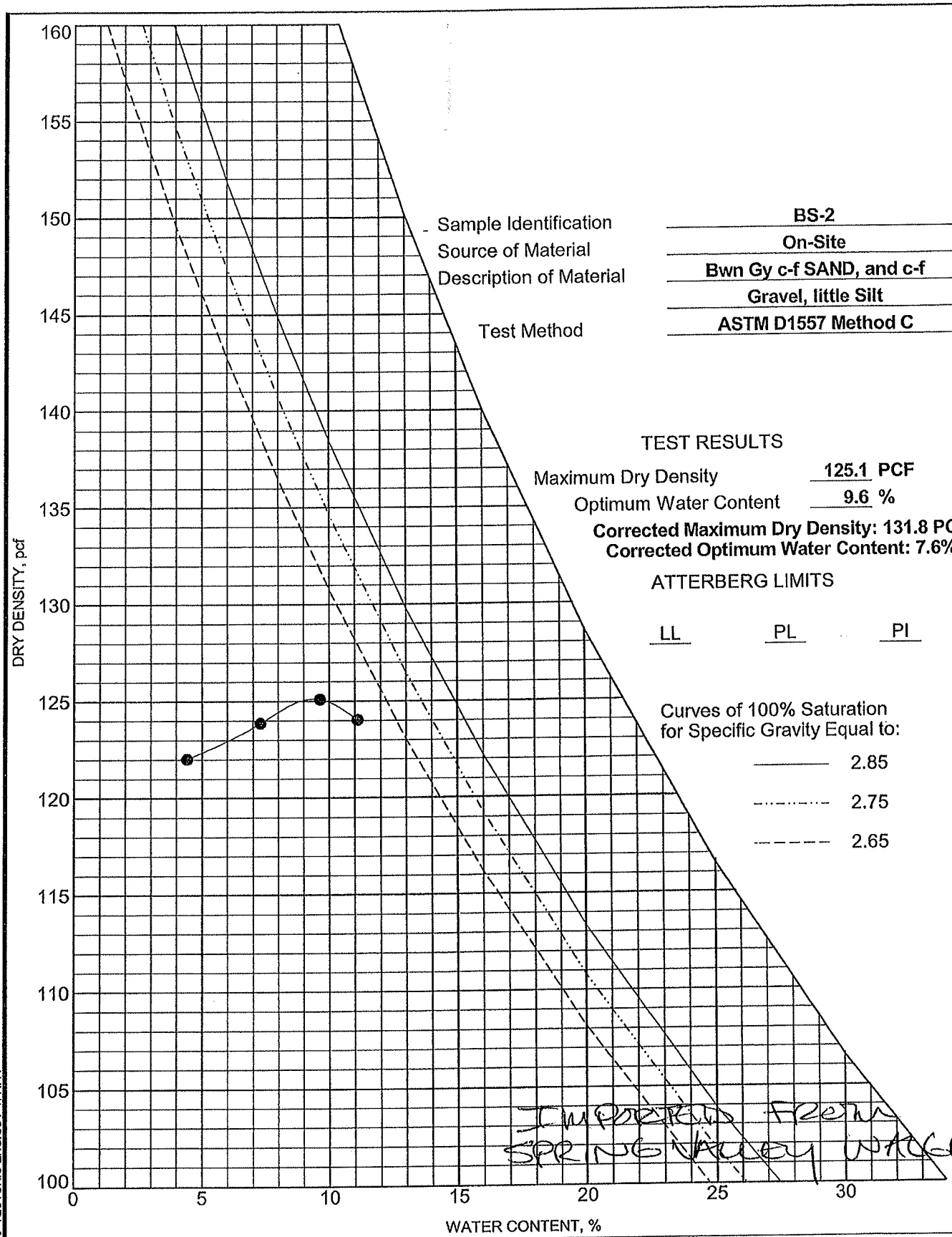
IMPORTED FROM SPRING VALLEY WALGREENS PROJECT

TECTONIC *ENGINEERING & SURVEYING CONSULTANTS P.C.*
280 Little Britain Rd
Newburgh, NY 12550
Telephone: (845) 563-9081 Fax: (854) 563-9085

GRAIN SIZE DISTRIBUTION

Project No: **5907.01** Date: **7/11/11**
Project: **Walgreens**
Location: **Spring Valley, NY**

GRAIN SIZE DISTRIBUTION 5907.01.GPJ TECTONIC ENG.GDT 7/11/11



Sample Identification: BS-2
Source of Material: On-Site
Description of Material: Bwn Gy c-f SAND, and c-f Gravel, little Silt
Test Method: ASTM D1557 Method C

TEST RESULTS

Maximum Dry Density: 125.1 PCF
Optimum Water Content: 9.6 %

Corrected Maximum Dry Density: 131.8 PCF
Corrected Optimum Water Content: 7.6%

ATTERBERG LIMITS

LL PL PI

Curves of 100% Saturation for Specific Gravity Equal to:

——— 2.85
-·-·-·- 2.75
– – – – 2.65

IMPORTED FROM SPRING VALLEY WATER

COMPACTION 5907.01.GPJ TECTONIC ENG.GDT 7/11/11

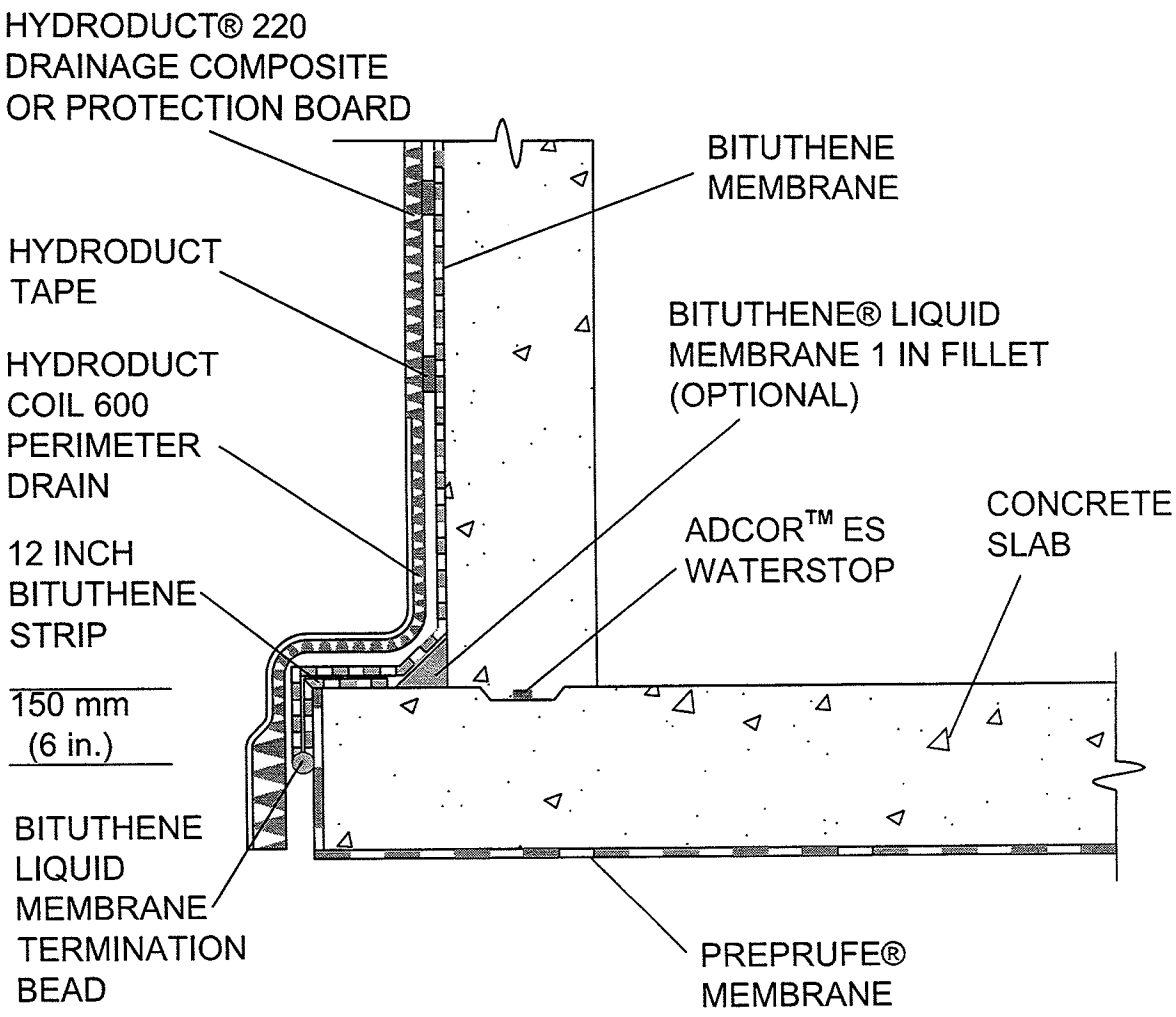
TECTONIC *ENGINEERING & SURVEYING CONSULTANTS P.C.*
280 Little Britain Rd
Newburgh, NY 12550
Telephone: (845) 563-9081 Fax: (854) 563-9085

MOISTURE-DENSITY RELATIONSHIP

Project No: **5907.01** Date: **7/11/11**
Project: **Walgreens**
Location: **Spring Valley, NY**

Appendix K

MSDS / Cut Sheet – waterproofing / vapor barrier



GRACE

www.graceconstuction.com
toll free 866-333-3726

FOUNDATION WALL
STRUCTURAL SLAB

BITUTHENE® WATERPROOFING SYSTEM

DRAWING: BIT-008
SCALE: NOT TO SCALE
EFFECTIVE DATE: 03/01/09
SUPERCEDES: 04/17/08

GRACE

BITUTHENE® SYSTEM 4000

Self-adhesive HDPE waterproofing membrane with super tacky compound for use with patented, water-based System 4000 Surface Conditioner

Description

Bituthene® System 4000 is a 1.5 mm (1/16 in.) flexible, pre-formed waterproof membrane which combines a high performance, cross laminated, HDPE carrier film with a unique, super tacky, self-adhesive rubberized asphalt compound.

System 4000 Surface Conditioner is a unique, water-based, latex surface treatment which imparts an aggressive, high tack finish to the treated substrate. It is specifically formulated to bind site dust and concrete efflorescence, thereby providing a suitable surface for the Bituthene System 4000 Waterproofing Membrane.

Conveniently packaged in each roll of membrane, System 4000 Surface Conditioner promotes good initial adhesion and, more importantly, excellent permanent adhesion of the Bituthene System 4000 Waterproofing Membrane. The VOC (Volatile Organic Compound) content of this product is 100 g/L.

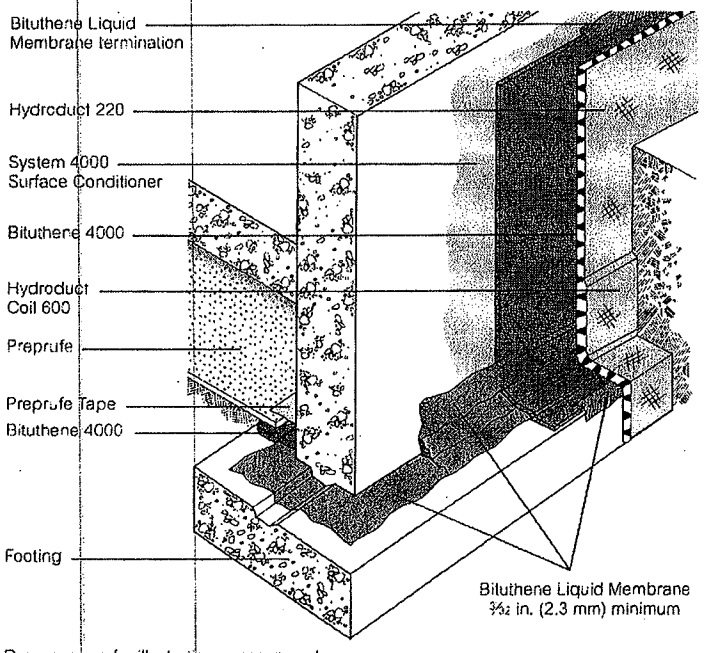
Architectural and Industrial Maintenance Regulations limit the VOC content in products classified as Architectural Coatings. Refer to Technical Letters at graceconstruction.com for most current list of allowable limits.

Advantages

- **Excellent adhesion**—special adhesive compound engineered to work with high tack System 4000 Surface Conditioner
- **Cold applied**—simple application to substrates, especially at low temperatures
- **Reduced inventory and handling costs**—System 4000 Surface Conditioner is included with each roll of membrane
- **Wide application temperature range**—excellent bond to self and substrate from 25°F (-4°C) and above

Product Advantages

- Excellent adhesion
- Cold applied
- Reduced inventory and handling costs
- Wide application temperature range
- Overlap security
- Cross laminated, high density polyethylene carrier film
- Flexible
- Ripcord



Drawings are for illustration purposes only.
Please refer to graceconstruction.com for specific application details.

- **Overlap security**—minimizes margin for error under site conditions
- **Cross laminated, high density polyethylene carrier film**—provides high tear strength, puncture and impact resistance
- **Flexible**—accommodates minor structural movements and will bridge shrinkage cracks
- **Ripcord***—this split release on demand feature allows the splitting of the release paper into two (2) pieces for ease of installation in detailed areas

Use

Bituthene is ideal for waterproofing concrete, masonry and wood surfaces where in-service temperatures will not exceed 135°F (57°C). It can be applied to foundation walls, tunnels, earth sheltered structures and split slab construction, both above and below grade. (For above grade applications, see *Above Grade Waterproofing Bituthene System 4000.*)

Bituthene is 1/16 in. (1.5 mm) thick, 3 ft (0.9 m) wide and 66.7 ft (20 m) long and is supplied in rolls. It is unrolled sticky side down onto concrete slabs or applied onto vertical concrete faces primed with System 4000 Surface Conditioner. Continuity is achieved by overlapping a minimum 2 in. (50 mm) and firmly rolling the joint.

Bituthene is extremely flexible. It is capable of bridging shrinkage cracks in the concrete and will accommodate minor differential movement throughout the service life of the structure.

Application Procedures

Safety, Storage and Handling Information

Bituthene products must be handled properly. Vapors from solvent-based primers and mastic are harmful and flammable.
For these products, the best available information on safe handling, storage, personal protection, health and environmental considerations has been gathered. Material Safety Data Sheets (MSDS) are available at graceconstruction.com and users should acquaint themselves with this information. Carefully read detailed precaution statements on product labels and the MSDS before use.

Surface Preparation

Surfaces should be structurally sound and free of voids, spalled areas, loose aggregate and sharp protrusions. Remove contaminants such as grease, oil and wax from exposed surfaces. Remove dust, dirt, loose stone and debris. Concrete must be properly dried (minimum 7 days for normal structural concrete and 14 days for lightweight structural concrete).

If time is critical, Bituthene Primer B2 or Bituthene Primer B2 LVC may be used to allow priming and installation of membrane on damp surfaces or green concrete. Priming may begin in this case as soon as the concrete will maintain structural integrity. Use form release agents which will not transfer to the concrete. Remove forms as soon as possible from below horizontal slabs to prevent entrapment of excess moisture. Excess moisture may lead to blistering of the membrane. Cure concrete with clear, resin-based curing compounds which do not contain oil, wax or pigment. Except with Bituthene Primer B2 or Bituthene Primer B2 LVC, allow concrete to thoroughly dry following rain. Do not apply any products to frozen concrete.

Repair defects such as spalled or poorly consolidated areas. Remove sharp protrusions and form match lines. On masonry surfaces, apply a parge coat to rough concrete block and brick walls or trowel cut mortar joints flush to the face of the concrete blocks.

Temperature

- Apply Bituthene System 4000 Membrane and Conditioner only in dry weather and when air and surface temperatures are 25°F (-4°C) or above.
- Apply Bituthene Primer B2 or Bituthene Primer B2 LVC in dry weather above 25°F (-4°C). (See separate product information sheet.)

Conditioning

Bituthene System 4000 Surface Conditioner is ready to use and can be applied by spray or roller. For best results, use a pump-type air sprayer with fan tip nozzle, like the Bituthene System 4000 Surface Conditioner Sprayer, to apply the surface conditioner.

Apply Bituthene System 4000 Surface Conditioner to clean, dry, frost-free surfaces at a coverage rate of 300 ft²/gal (7.4 m²/L). Coverage should be uniform. Surface conditioner should not be applied so heavily that it puddles or runs. **Do not apply conditioner to Bituthene membrane.**

Allow Bituthene System 4000 Surface Conditioner to dry one hour or until substrate returns to its original color. At low temperatures or in high humidity conditions, dry time may be longer.

Bituthene System 4000 Surface Conditioner is clear when dry and may be slightly tacky. In general, conditioning should be limited to what can be covered within 24 hours. In situations where long dry times may prevail, substrates may be conditioned in advance. Substrates should be reconditioned if significant dirt or dust accumulates.

Before surface conditioner dries, tools should be cleaned with water. After surface conditioner dries, tools should be cleaned with mineral spirits. Mineral spirits is a combustible liquid which should be used only in accordance with manufacturer's recommendations. **Do not use solvents to clean hands or skin.**

Corner Details

The treatment of corners varies depending on the location of the corner. For detailed information on Bituthene Liquid Membrane, see separate product information sheet.

- At wall to footing inside corners—
  Option 1: Apply membrane to within 1 in. (25 mm) of base of wall. Treat the inside corner by installing a ¾ in. (20 mm) fillet of Bituthene Liquid Membrane. Extend Bituthene Liquid Membrane at least 2½ in. (65 mm) onto footing, and 2½ in. (65 mm) onto wall membrane.

  Option 2: Treat the inside corner by installing a ¾ in. (20 mm) fillet of Bituthene Liquid Membrane. Apply 12 in. (300 mm) wide strip of sheet membrane centered over fillet. Apply wall membrane over inside corner and extend 6 in. (150 mm) onto footing. Apply 1 in. (25 mm) wide troweling of Bituthene Liquid Membrane over all terminations and seams within 12 in. (300 mm) of corner.
- At footings where the elevation of the floor slab is 6 in. (150 mm) or more above the footing, treat the inside corner either by the above two methods or terminate the membrane at the base of the wall. Seal the termination with Bituthene Liquid Membrane.

Joints

Properly seal all joints with waterstop, joint filler and sealant as required. Bituthene membranes are not intended to function as the primary joint seal. Allow sealants to fully cure. Pre-strip all slab and wall cracks over 1/16 in. (1.5 mm) wide and all construction and control joints with 9 in. (230 mm) wide sheet membrane strip.

Application on Horizontal Surfaces

(Note: Preprufe® pre-applied membranes are strongly recommended for below slab or for any application where the membrane is applied before concreting. See Preprufe product information sheets.)

Apply membrane from the low point to the high point so that laps shed water. Overlap all seams at least 2 in. (50 mm). Stagger all end laps. Roll the entire membrane firmly and completely as soon as possible. Use a linoleum roller or standard water-filled garden roller less than 30 in. (760 mm) wide, weighing a minimum of 75 lbs (34 kg) when filled. Cover the face of the roller with a resilient material such as a ½ in. (13 mm) plastic foam or two wraps of indoor-outdoor carpet to allow the membrane to fully contact the primed substrate. Seal all T-joints and membrane terminations with Bituthene Liquid Membrane at the end of the day.

Protrusions and Drains

Apply membrane to within 1 in. (25 mm) of the base of the protrusion. Apply Bituthene Liquid Membrane 0.1 in. (2.5 mm) thick around protrusion. Bituthene Liquid Membrane should extend over the membrane a minimum of 2½ in. (65 mm) and up the penetration to just below the finished height of the wearing course.

Vertical Surfaces

Apply membrane in lengths up to 8 ft (2.5 m). Overlap all seams at least 2 in. (50 mm). On higher walls apply membrane in two or more sections with the upper overlapping the lower by at least 2 in. (50 mm). Roll all membrane with a hand roller.

Terminate the membrane at grade level. Press the membrane firmly to the wall with the butt end of a hardwood tool such as a hammer handle or secure into a reglet. Failure to use heavy pressure at terminations can result in a poor seal. A termination bar may be used to ensure a tight seal. Terminate the membrane at the base of the wall if the bottom of the interior floor slab is at least 6 in. (150 mm) above the footing. Otherwise, use appropriate inside corner detail where the wall and footing meet.

Membrane Repairs

Patch tears and inadequately lapped seams with membrane. Clean membrane with a damp cloth and dry. Slit fishmouths and repair with a patch extending 6 in. (150 mm) in all directions from the slit and seal edges of the patch with Bituthene Liquid Membrane. Inspect the membrane thoroughly before covering and make any repairs.

Drainage

Hydroduct® drainage composites are recommended for both active drainage and protection of the membrane. See Hydroduct product information sheets.

Protection of Membrane

Protect Bituthene membranes to avoid damage from other trades, construction materials or backfill. Place protection immediately in temperatures above 77°F (25°C) to avoid potential for blisters.

- On vertical applications, use Hydroduct 220 Drainage Composite. Adhere Hydroduct 220 Drainage Composite to membrane with Hydroduct Tape. Alternative methods of protection are to use 1 in. (25 mm) expanded polystyrene or ¼ in. (6 mm) extruded polystyrene that has a minimum compressive strength of 8 lbs/in.^{2} (55 kN/m^2). Such alternatives do not provide positive drainage to

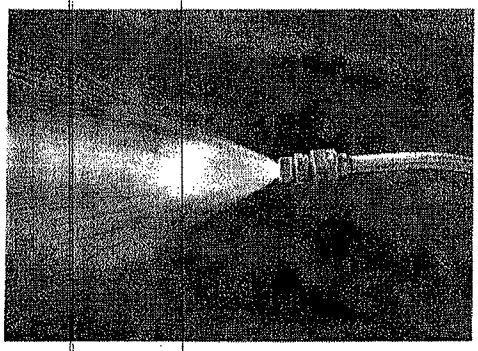
System 4000 Surface Conditioner Sprayer

The Bituthene System 4000 Surface Conditioner Sprayer is a professional grade, polyethylene, pump-type, compressed air sprayer with a brass fan tip nozzle. It has a 2 gal (7.6 L) capacity. The nozzle orifice and spray pattern have been specifically engineered for the optimum application of Bituthene System 4000 Surface Conditioner.

Hold nozzle 18 in. (450 mm) from substrate and squeeze handle to spray. Spray in a sweeping motion until substrate is uniformly covered.

Sprayer should be repressurized by pumping as needed. For best results, sprayer should be maintained at high pressure during spraying.

To release pressure, invert the sprayer and spray until all compressed air is released.



Maintenance

The Bituthene System 4000 Surface Conditioner Sprayer should perform without trouble for an extended period if maintained properly.

Sprayer should not be used to store Bituthene System 4000 Surface Conditioner. The sprayer should be flushed with clean water immediately after spraying. For breaks in the spray operation of one hour or less, invert the sprayer and squeeze the spray handle until only air comes from the nozzle. This will avoid clogging.

Should the sprayer need repairs or parts, call the maintenance telephone number on the sprayer tank (800-323-0620).

the system. If ¼ in. (6 mm) extruded polystyrene protection board is used, backfill should not contain sharp rock or aggregate over 2 in. (50 mm) in diameter. Adhere polystyrene protection board with Hydroduct Tape.

- In mud slab waterproofing, or other applications where positive drainage is not desired and where reinforced concrete slabs are placed over the membrane, the use of ¼ in. (6 mm) hardboard or 2 layers of ⅛ in. (3 mm) hardboard is recommended.

Insulation

Always apply Bituthene membrane directly to primed or conditioned structural substrates. Insulation, if used, must be applied over the membrane. Do not apply Bituthene membranes over lightweight insulating concrete.

Backfill

Place backfill as soon as possible. Use care during backfill operation to avoid damage to the waterproofing system. Follow generally accepted practices for backfilling and compaction. Backfill should be added and compacted in 6 in. (150 mm) to 12 in. (300 mm) lifts.

For areas which cannot be fully compacted, a termination bar is recommended across the top termination of the membrane.

Placing Steel

When placing steel over properly protected membrane, use concrete bar supports (dobies) or chairs with plastic tips or rolled feet to prevent damage from sharp edges. Use special care when using wire mesh, especially if the mesh is curled.

Approvals

- City of Los Angeles Research Report RR 24386
- Miami-Dade County Code Report NOA 04-0114.03
- U.S. Department of Housing and Urban Development (HUD) HUD Materials Release 628E
- Bituthene 4000 Membranes carry a Underwriters' Laboratory Class A Fire Rating (Building Materials Directory, File #R7910) when used in either of the following constructions:
  - —Limited to noncombustible decks at inclines not exceeding ¼ in. (6 mm) to the horizontal 1 ft (0.3 m). One layer of Bituthene waterproofing membrane, followed by one layer of ⅛ in. (3 mm) protection board, encased in 2 in. (50 mm) minimum concrete monolithic pour.
  - —Limited to noncombustible decks at inclines not exceeding ¼ in. (6 mm) to the horizontal 1 ft (0.3 m). One layer of Bituthene waterproofing membrane, followed by one layer of DOW Styrofoam PD Insulation Board [2 in. (50 mm) thick]. This is covered with one layer of 2 ft x 2 ft x 2 in. (0.6 m x 0.6 m x 50 mm) of concrete paver topping.

Warranty

Five year material warranties covering Bituthene and Hydroduct products are available upon request. Contact your Grace sales representative for details.

Technical Services

Support is provided by full time, technically trained Grace representatives and technical service personnel, backed by a central research and development staff.

Supply

Bituthene System 4000	3 ft x 66.7 ft roll (200 ft²) [0.9 m x 20 m (18.6 m²)]
Roll weight	83 lbs (38 kg) gross
Palletization	25 rolls per pallet
Storage	Store upright in dry conditions below 95°F (+35°C).
System 4000 Surface Conditioner	1 x 0.625 gal (2.3 L) bottle in each roll of System 4000 Membrane
Ancillary Products	
Surface Conditioner Sprayer	2 gal (7.6 L) capacity professional grade sprayer with specially engineered nozzle
Bituthene Liquid Membrane	1.5 gal (5.7 L) pail/125 pails per pallet or 4 gal (15.1 L) pail/48 pails per pallet
Hydroduct Tape	1 in. x 200 ft (2.5 cm x 61.0 m) roll/6 rolls per carton
Bituthene Mastic	Twelve 30 oz (0.9 L) tubes/carton or 5 gal (18.9 L) pail/36 pails per pallet
Complementary Material	
Hydroduct	See separate data sheets

Equipment by others: Soft broom, utility knife, brush or roller for priming

Physical Properties for Bituthene 4000 Membrane

Property	Typical Value	Test Method
Color	Dark gray-black	
Thickness	1/16 in. (1.5 mm) nominal	ASTM D3767—method A
Flexibility, 180° bend over 1 in. (25 mm) mandrel at -25°F (-32°C)	Unaffected	ASTM D1970
Tensile strength, membrane, die C	325 lbs/in.² (2240 kPa) minimum	ASTM D412 modified[1]
Tensile strength, film	5,000 lbs/in.² (34.5 MPa) minimum	ASTM D882 modified[1]
Elongation, ultimate failure of rubberized asphalt	300% minimum	ASTM D412 modified[1]
Crack cycling at -25°F (-32°C), 100 cycles	Unaffected	ASTM C836
Lap adhesion at minimum application temperature	5 lbs/in. (880 N/m)	ASTM D1876 modified[2]
Peel strength	9 lbs/in. (1576 N/m)	ASTM D903 modified[3]
Puncture resistance, membrane	50 lbs (222 N) minimum	ASTM E154
Resistance to hydrostatic head	210 ft (70 m) of water	ASTM D5385
Permeance	0.05 perms (2.9 ng/m²sPa) maximum	ASTM E96, section 12—water method
Water absorption	0.1% maximum	ASTM D570

Footnotes:
1. The test is run at a rate of 2 in. (50 mm) per minute.
2. The test is conducted 15 minutes after the lap is formed and run at a rate of 2 in. (50 mm) per minute at 40°F (5°C).
3. The 180° peel strength is run at a rate of 12 in. (300 mm) per minute.

Physical Properties for System 4000 Surface Conditioner

Property	Typical Value
Solvent type	Water
Flash point	>140°F (>60°C)
VOC* content	91 g/L
Application temperature	25°F (-4°C) and above
Freeze thaw stability	5 cycles (minimum)
Freezing point (as packaged)	14°F (-10°C)
Dry time (hours)	1 hour**

* Volatile Organic Compound
** Dry time will vary with weather conditions

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For technical assistance call toll free at 866-333-3SBM (3726)

BIT-220G Printed in U.S.A. 5/08 FA/LVI/1M

GRACE

SPEC DATA

Grace Construction Products

GRACE
Construction Products

1. Product Name
- Bituthene® Waterproofing Systems
- Hydroduct® Drainage Composites

2. Manufacturer

Grace Construction Products
62 Whittemore Avenue
Cambridge, MA 02140
(866) 333-3SBM (3726)
Fax: (617) 498-4311
www.graceconstruction.com

3. Product Description

BASIC USE

Bituthene® waterproofing systems and Hydroduct® drainage composites are used in positive-side waterproofing applications over concrete, masonry and wood surfaces. They are used in new construction and retrofit applications. Typical applications include foundation walls, tunnels, earth sheltered structures, and split slab construction such as plaza areas and parking decks. Interior uses include mechanical rooms, laboratories and kitchens.

COMPOSITION & MATERIALS

The Bituthene waterproofing systems consist of several waterproofing membranes and compatible accessory products and are complemented by the use of the appropriate Hydroduct drainage composite.

The Bituthene membranes are available in rolls, interwound with a disposable silicone treated release sheet. The volatile organic compound (VOC) content of all Bituthene membranes is 0 g/L.

Bituthene System 4000 Waterproofing Membrane is a factory made composite with a thickness of 0.060" (1.5 mm) consisting of 0.004" (0.1 mm) of cross-laminated polyethylene film and 0.056" (1.4 mm) of self-adhesive rubberized asphalt. It is specifically formulated for use with the Bituthene System 4000 Surface Conditioner and compatible accessory products.

Bituthene System 4000 Surface Conditioner is a water based surface conditioner specifically formulated to prepare concrete, masonry and wood surfaces for the System 4000 Waterproofing Membrane. Its VOC content is 125 g/L.

Bituthene 3000 and Bituthene Low Temperature Membranes are factory made composites with a thickness of 0.060" (1.5 mm). These products consist of 0.056" (1.4 mm) of self-adhesive rubberized asphalt and 0.004" (0.1 mm) of cross-laminated, high density polyethylene film.

Hydroduct drainage composites consist of dimpled, high impact polystyrene cores and filter fabrics designed to provide positive drainage and membrane protection. The VOC content of all Hydroduct products is 0 g/L.

Hydroduct 220 Drainage Composite is used for vertical applications over Bituthene waterproofing membranes.

Hydroduct 660 Drainage Composite is used for all horizontal applications.

Hydroduct 200 is intended for areas which are not waterproofed. Hydroduct 225 Drainage Composite incorporates a molded polyvinyl chloride core and is intended for areas requiring heat or hydrocarbon resistance.

COMPATIBILITY

Apply waterproofing membrane directly to structural surfaces. Bituthene membranes can be used over EPS wall forming systems if the additional guidelines in *Technical Letter 18, "Insulated Wall Forming Systems,"* are followed.

Bituthene membranes are compatible with aged asphalt and coal tar products.

Bituthene membranes are incompatible with creosote, pentachlorophenol, linseed oil and materials containing polysulfide polymer.

The rubberized asphalt component of Bituthene membranes is not compatible with flexible PVC or rubber sheet membranes.

Do not apply Bituthene membranes over materials containing petroleum solvents, fuels or oils. Joint sealants containing solvents must be fully cured prior to Bituthene membrane application. Refer to *Technical Letter 10, "Chemical Compatibility with Other Materials."*

Bituthene membranes are compatible with appropriate Hydroduct drainage composites.

Bituthene membranes are not compatible with certain types of prefabricated drainage systems that damage waterproofing membranes when exposed to soil pressures.

ACCESSORY MATERIALS

Architectural and Industrial Maintenance Regulations limit the VOC content in products classified as Architectural Coatings. Refer to Technical Letters on manufacturer's website for the most current list of allowable limits.

Bituthene Primer WP-3000 is a water based latex primer used to prime all concrete, masonry and wood surfaces. Its VOC content is 110 g/L.

Bituthene Primer B2 is a black, rubber based primer in solvent used to prime all concrete, masonry and wood surfaces. In addition, its patented formulation promotes the adhesion of Bituthene membranes to green concrete and damp surfaces. Its VOC content is 440 g/L.

Bituthene Deck Prep® Surface Treatment is a low viscosity, 2-component, asphalt-modified coating used to smooth and level rough decks prior to installing the Bituthene waterproofing membrane. Its VOC content is 10 g/L.

Bituthene Liquid Membrane is a 2-component, cold applied trowel grade waterproofing material used to flash corners, form fillets and detail hard-to-reach areas. Its VOC content is 10 g/L.

Bituthene Mastic is a rubberized asphalt based mastic used to seal membrane terminations. Its VOC content is 200 g/L.

Hydroduct Tape is a 2-sided, highly aggressive adhesive tape that is specially formulated to adhere Hydroduct drainage composites or expanded or extruded polystyrene protection board to the membrane. Its VOC content is 61 g/L.

LIMITATIONS

Do not apply Bituthene membranes in areas where they will be permanently exposed to sunlight, weather or traffic.

Bituthene membranes are not recommended as pond liners or as tank liners except when installed between 2 concrete slabs.

Bituthene strips over joints in T-beam structures will not provide complete waterproofing. For these structures, 9" (225 mm) strips over properly cured and sealed joints, followed by membrane coverage over the entire surface, are required for a complete waterproofing system.

Bituthene membranes are not intended to be used as a roofing underlayment or flashing material.

Use of tile set in thinset mortar is not recommended on surfaces waterproofed with Bituthene membranes unless approved by thinset mortar manufacturer.

All Hydroduct drainage composites should be promptly covered. Do not leave drainage exposed to sunlight for more than 2 weeks. Motor vehicles, construction equipment and other trades should not be allowed directly on the drainage composites.

Protect Bituthene membranes from UV or site damage immediately after installation or 24 hour flood test. Backfilling or installation of the wearing course should be completed as soon as possible.

4. Technical Data

APPLICABLE STANDARDS

ASTM International

- ASTM C366 Standard Test Methods for Measurement of Thickness of Sandwich Cores
- ASTM C836 Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course
- ASTM D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers-Tension
- ASTM D570 Standard Test Method for Water Absorption of Plastics
- ASTM D882 Standard Test Method for Tensile Properties of Thin Plastic Sheeting
- ASTM D903 Standard Test Method for Peel or Stripping of Adhesive Bonds
- ASTM D1621 Standard Test Method for Compressive Properties of Rigid Cellular Plastics
- ASTM D1876 Standard Test Method for Peel Resistance of Adhesives (T-Peel Test)
- ASTM D1970 Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection
- ASTM D3767 Method A - Standard Practice for Rubber-Measurement of Dimensions
- ASTM D3776 Standard Test Methods for Mass Per Unit Area (Weight) of Fabric
- ASTM D4491 Standard Test Methods for Water Permeability of Geotextiles by Permittivity
- ASTM D4533 Standard Test Method for Trapezoid Tearing Strength of Geotextiles
- ASTM D4632 Standard Test Method for Grab Breaking Load and Elongation of Geotextiles
- ASTM D4716 Standard Test Method for Constant Head Hydraulic Transmissivity (In-Plane Flow) of Geotextiles and Geotextile Related Products
- ASTM D4751 Standard Test Method for Determining Apparent Opening Size of a Geotextile
- ASTM D4833 Standard Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products
- ASTM D5385 Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes
- ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials
- ASTM E154 Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover

APPROVALS

- City of Los Angeles Research Report RR 24386
- U.S. Department of Housing and Urban Development (HUD) HUD Materials Release 628E
- Miami Dade, NOA 03-0630.04

SPECIFICATIONS

- American Railway Engineering Association Chapter 29-2-4
- Federal Construction Guide Specification FCGS-07111
- General Service Administration (GSA) GSA-PBS 07115
- National Railroad Passenger Corporation (Amtrak) Section 7.02
- AIA MASTERSPEC® Section 07100
- U.S. Army Corps of Engineers CEGS-07111
- U.S. Department of the Navy NFGS-07111
- U.S. Department of Veterans Affairs H-08-1 Section 07113

PHYSICAL PROPERTIES

Bituthene waterproofing membranes conform to the physical property and typical values listed in Tables 1 and 3. Hydroduct drainage composites conform to the physical property and typical values in Table 2.

5. Installation

SAFETY

Bituthene products must be properly handled. Vapors from the solvent based primer and mastic are harmful and flammable. For these products, the best available information on safe handling, storage, personal protection, health and environmental considerations has been gathered and is available on Material Safety Data Sheets (MSDS). All users should acquaint themselves with this information. Carefully read detailed precaution statements on product labels and MSDS before use, or contact Grace Construction Products.

STORAGE & HANDLING

Protect all materials from rain and physical damage. Do not double stack pallets of membrane on the jobsite. Provide tarpaulin cover on top and all sides, allowing for adequate ventilation. Store membrane where temperatures will not exceed 90 degrees F (32 degrees C) for extended periods. In low temperature conditions, the membrane should be stored above 40 degrees F (5 degrees C) to promote good adhesion. Store all products in a dry area away from high heat, flames or sparks. Store only as much material at point-of-use as required for each day's work.

PREPARATORY WORK

Surface Condition

Concrete must be smooth, monolithic and free of voids, spalled areas, loose substrate and sharp protrusions, dirt and debris, and must contain no visible coarse aggregate. Repair defects such as spalled or poorly consolidated areas. Use Bituthene Deck Prep Surface Treatment to smooth and level rough concrete decks. Remove sharp protrusions and form match lines.

Curing

Concrete must be cured a minimum of 7 days for normal structural concrete and 14 days for lightweight structural concrete. If concrete is placed over a nonvented metal deck, the required curing time is doubled. Use form release agents that will not transfer to the concrete. Remove forms as soon as possible from below horizontal slabs to prevent entrapment of excess moisture. Excess moisture can lead to blistering of the membrane. Cure concrete with clear, resin based curing compounds containing no oil, wax or pigment. Allow concrete to thoroughly dry following rain.

On masonry surfaces, apply a parge coat to rough concrete block and brick walls or trowel-cut mortar joints flush to the face of the concrete blocks.

Cure time and drying time for concrete and masonry surfaces may be reduced by using Bituthene Primer B2.

TEMPERATURE

- Apply Bituthene System 4000 Membrane only in dry weather when air and surface temperatures are above 25 degrees F

(-4 degrees C)
- Apply Bituthene 3000 Membrane only in dry weather when air and surface temperatures are above 40 degrees F (5 degrees C)
- Bituthene Low Temperature Membrane can be used at temperatures above 25 degrees F (-4 degrees C) and up to 60 degrees F (16 degrees C)
- Cover the membrane immediately in temperatures above 77 degrees F (25 degrees C) to reduce potential for blistering
- Apply Bituthene System 4000 Surface Conditioner and other accessory products not listed below in dry weather above 25 degrees F (-4 degrees C)
- Apply Bituthene Primer WP-3000 in dry weather above 40 degrees F (5 degrees C)
- Do not apply products to frozen concrete

APPLICATION

Surface Conditioner

Bituthene System 4000 Surface Conditioner is supplied ready to use. Do not dilute with water or solvents. Spray surface conditioner uniformly to substrate at a rate of 300 ft²/gal (7.5 m²/L). Use appropriate sprayer and nozzle.

Allow surface conditioner to dry completely and thoroughly prior to membrane application. The surface conditioner is considered dry when the substrate returns to its original color. To test for dryness, rub small conditioned area by hand. Wet conditioner will ball up under the fingertips. Let dry until conditioner cannot be rubbed off. If conditioned areas are not covered that day, recondition the area if there is significant dust or dirt contamination.

Primer

Apply Bituthene Primer WP-3000 by spray or roller at a coverage rate of 500 - 600 ft²/gal (12 - 15 m²/L). Allow to dry 1 hour or until concrete returns to original color.

Apply Bituthene Primer B2 by lamb's wool roller at a coverage rate of 250 - 350 ft²/gal (6 - 8 m²/L). Allow primer to dry 1 hour or until tack-free. Dry time may be longer in cold temperatures.

Reprime areas if contaminated by dust. If the work area is dusty, apply membrane as soon as the primer is dry.

Surfaces treated with Deck Prep Surface Treatment do not require conditioning or priming. Metal does not require priming but must be clean, dry and free of loose paint, rust or other contaminants. Use Bituthene Primer B2 for damp or green substrates. Do not apply primer or surface conditioner to membrane.

Corners

The treatment of corners varies depending on the location of the corner.

At wall-to-footing inside corners:
- Option 1 - Apply membrane to within 1" (25 mm) of base of wall. Treat the inside corner by installing a 3/4" (19 mm) fillet of Bituthene Liquid Membrane. Extend liquid membrane at least 3" (75 mm) onto wall membrane
- Option 2 - Treat the inside corner by installing a 3/4" (19 mm) fillet of Bituthene Liquid Membrane. Apply 12" (300 mm) wide strip of membrane centered over fillet. Apply wall membrane over inside corner and extend 6" (150 mm) onto footing. Apply 1" (25 mm) wide troweling of Bituthene Mastic or Bituthene Liquid Membrane over all terminations and seams within 12" (300 mm) of corner

At footings where the elevation of the floor slab is 6" (150 mm) or more above the footing, treat the inside corner either by one of the above methods or terminate the membrane at the base of the wall. Seal the termination with Bituthene Mastic or Bituthene Liquid Membrane.

At plaza deck-to-wall inside corners:
- Option 1 - Apply membrane on wall and deck to within 1" (25 mm) of corner. Treat the inside corner by installing a 3/4" (19 mm) fillet of Bituthene Liquid Membrane. Extend Bituthene Liquid Membrane at least 3" (75 mm) onto deck membrane and 3" (75 mm) onto wall membrane. Terminate

TABLE 1 PHYSICAL PROPERTIES OF BITUTHENE MEMBRANES

Property & Test Method	Bituthene System 4000 Membrane	Bituthene 3000 Membrane	Bituthene Low Temperature Membrane
Color	Gray-black	Dark gray-black	Gray-black
Thickness, ASTM D3767, Method A	0.060" (1.5 mm) nominal	0.060" (1.5 mm) nominal	0.060" (1.5 mm) nominal
Low temperature flexibility, ASTM D1970	Unaffected at -45°F (-43°C)	Unaffected at -25°F (-32°C)	Unaffected at -45°F (-43°C)
Resistance to hydrostatic head, ASTM D5385	231' (70 m) min	200' (60 m) min	200' (61 m) min
Lap adhesion at minimum application temperature, width, ASTM D1876, Modified	5.0 lb/in (880 N/m)	4.0 lb/in (700 N/m)	5.0 lb/in (880 N/m)
Tensile strength, membrane, ASTM D412 (Die C), Modified	325 psi (2240 kPa) min	325 psi (2240 kPa) min	325 psi (2240 kPa) min
Tensile strength, film, ASTM D882, Modified	5000 psi (34.5 MPa) min	5000 psi (34.5 MPa) min	5000 psi (34.5 MPa) min
Elongation, ultimate failure of rubberized asphalt, ASTM D412, Modified	300% min	300% min	300% min
Cracking cycling, 100 cycles, ASTM D836	Unaffected at -25°F (-32°C)	Unaffected at -25°F (-32°C)	Unaffected at -25°F (-32°C)
Peel strength, width, ASTM D903, Modified	9.0 lb/in (1576 N/m)	9.0 lb/in (1576 N/m)	9.0 lb/in (1576 N/m)
Puncture resistance, membrane, ASTM E154	50 lb (222 N) min	50 lb (222 N) min	50 lb (222 N) min
Permeance, maximum, ASTM E96 Water Method	0.05 perms (2.9 ng/(Pa x s x m²))	0.05 perms (2.9 ng/(Pa x s x m²))	0.05 perms (2.9 ng/(Pa x s x m²))
Water absorption, 72 hr, ASTM D570	0.1% max	0.1% max	0.1% max

top of membrane wall flashing with Bituthene Mastic, Bituthene Liquid Membrane or termination bar

- Option 2 - Apply membrane on deck to within 1" (25 mm) of corner. Treat the inside corner by installing a 3/4" (19 mm) fillet of Bituthene Liquid Membrane. Extend Bituthene Liquid Membrane at least 3" (75 mm) onto wall and membrane
- Option 3 - Apply membrane on deck to within 1" (25 mm) of corner. Treat the inside corner by installing a 3/4" (19 mm) fillet of Bituthene Liquid Membrane. Apply membrane flashing sheet on wall, over fillet and 6" (150 mm) onto deck membrane. Apply 1" (25 mm) wide troweling of Bituthene Mastic or Bituthene Liquid Membrane over all terminations and seams within 12" (300 mm) of corner. Terminate top of membrane wall flashing with Bituthene Mastic, Bituthene Liquid Membrane or termination bar

In planters, reflecting pools and fountains, apply membrane on wall and deck to within 1" (25 mm) of corner. Treat the inside corner by installing a 3/4" (19 mm) fillet of Bituthene Liquid Membrane. Extend Bituthene Liquid Membrane at least 3" (75 mm) onto deck membrane and 3" (75 mm) onto wall membrane. Terminate top of wall membrane with Bituthene Liquid Membrane or termination bar.

For wall to wall inside corner, apply 12" (300 mm) membrane strip centered on corner. Press membrane tightly into corner to ensure full contact. Cover the treated corner with a full sheet of membrane to ensure 2-ply coverage.

For outside corners, apply 12" (300 mm) membrane strip centered on corner. Cover the treated corner with a full sheet of membrane to ensure 2-ply coverage.

Joints

Properly seal all joints with waterstop, joint filler and sealant as required. Bituthene membranes are not intended to function as the primary joint seal. Allow sealant to fully cure. Prestrip all slabs and wall cracks over 1/16" (1.6 mm) wide and all construction and control joints with 9" (225 mm) wide membrane.

Drains

At drains, apply a collar of membrane which extends 6" (150 mm) beyond the drain opening. Apply full coverage of membrane over the collar. Cut out the drain opening so the membrane extends under the clamping ring. Place a bead of Bituthene Mastic or Bituthene Liquid Membrane between the membrane and clamping ring. An alternate method is to apply Bituthene Liquid Membrane 0.090" (2.3 mm) thick so that it extends under the clamping ring and overlaps the deck membrane at least 3" (75 mm). Install clamping ring after Bituthene Liquid Membrane has cured.

Application to Horizontal Surfaces

Apply membrane from the low point to the high point so that laps shed water. Overlap all seams at least 2 1/2" (64 mm). Stagger all end laps.

Roll the entire membrane firmly and completely as soon as possible. Use a linoleum roller or standard water-filled garden roller less than 30" (762 mm) wide, weighing a minimum of 75 lb (34 kg) when filled. Cover the face of the roller with a resilient material such as a 1/2" (13 mm) plastic foam or 2 wraps of indoor/outdoor carpet to allow the membrane to fully contact the primed substrate.

Seal all T-joints and membrane terminations with Bituthene Mastic or Bituthene Liquid Membrane at the end of the day.

For required testing of horizontal applications, see Flood Testing.

Application to Vertical Surfaces

Apply membrane in lengths up to 8' (2 m). Overlap all seams 2 1/2" (64 mm) minimum. On higher walls, apply membrane in 2 or more sections with the upper overlapping the lower by at least 2 1/2" (64 mm). Roll membrane with a hand roller.

Terminate the membrane at grade level. Press the membrane firmly to the wall with the butt end of a hardwood tool such as a hammer handle, or secure into a reglet. A termination bar may be used to secure the top termination. Failure to use heavy pressure at terminations can result in a poor seal.

Terminate the membrane at the base of the wall if the bottom of the interior floor slab is at least 6" (150 mm) above the

TABLE 2 PHYSICAL PROPERTIES OF HYDRODUCT DRAINAGE COMPOSITES

Property & Test Method	Hydroduct 220	Hydroduct 660	Hydroduct 200	Hydroduct 225
Drain core				
Thickness, ASTM C366-B	0.433" (11 mm)	0.433" (11 mm)	0.433" (11 mm)	0.433" (11 mm)
Compressive strength, ASTM D1621 (modified)	15,000 psf (732 kN/m²)	21,000 psf (1025 kN/m²)	15,000 psf (732 kN/m²)	21,000 psf (1025 kN/m²)
Flow, 1.0 gradient, 37.9 kPa load, ASTM D4716	16 gal/min/ft (0.003 L/min/m)	16 gal/min/ft (0.003 L/min/m)	16 gal/min/ft (0.003 L/min/m)	16 gal/min/ft (0.003 L/min/m)
Filter fabric				
Apparent opening size, ASTM D4751	100 US sieve (150 micron)	100 US sieve (150 micron)	100 US sieve (150 micron)	40 US sieve (380 micron)
Permittivity, ASTM D4491	150 gal/min/ft² (6110 L/min/m²)	80 gal/min/ft² (3250 L/min/m²)	150 gal/min/ft² (6110 L/min/m²)	100 gal/min/ft² (4074 L/min/m²)
Tensile strength, ASTM D4632	110 lb (485 N)	230 lb (1020 N)	110 lb (485 N)	290 lb (1291 N)
Weight, ASTM D3776	4.0 oz/yd² (136 N/m²)	8.0 oz/yd² (270 g/m²)	4.0 oz/yd² (136 g/m²)	6.0 oz/yd² (203 g/m²)
Mullen Burst, ASTM D3786	215 psi (1480 kPa)	690 psi (4753 kPa)	215 psi (1430 kPa)	480 psi (3304 kPa)
Puncture, ASTM D4833	65 lb (285 N)	162 lb (720 N)	65 lb (285 N)	105 lb (720 N)

footing. Otherwise, use appropriate inside corner detail where the wall and footing meet. Seal all laps within 12" (300 mm) of all corners with a troweling of mastic. Apply a troweled bead of Bituthene Mastic or Bituthene Liquid Membrane to all vertical and horizontal terminations at the end of each workday.

Protrusions and Penetrations

Apply membrane to within 1" (25 mm) of the base of the protrusion. Apply Liquid Membrane 0.090" (2.3 mm) thick around the protrusion. Extend Bituthene Liquid Membrane over the sheet membrane at least 3" (75 mm) and up the protrusion to just below the finished height of the wearing course (for horizontal applications) or for a minimum of 6" (150 mm) for vertical applications.

FLOOD TESTING

Flood test all horizontal applications with a minimum 2" (50 mm) head of water for 24 hours. Mark any leaks and repair when the membrane is dry. Before flood testing, be sure the structure will withstand the dead load of the water. For well-sloped decks, segment the flood test to avoid deep water near drains.

Conduct the flood test 1 day after completing the application of Bituthene waterproofing system. Immediately after flood test is completed, and all necessary repairs made, install Hydroduct 660 Drainage Composite to protect the Bituthene membrane from traffic and other trades.

MEMBRANE REPAIR

Patch tears and inadequately lapped seams with membrane. Slit fishmouths and repair with a patch extending 6" (150 mm) in all directions from the slit and seal edges of the patch with Bituthene Mastic. Inspect the membrane thoroughly before covering and make any repairs.

PROTECTION

Protection of Membrane

Protect Bituthene membranes to avoid damage from other trades' construction materials or backfill. Place protection immediately in temperatures above 77 degrees F (25 degrees C) to reduce potential for blistering.

On horizontal applications, use Hydroduct 660 Drainage Composite for protection. Adhere as necessary to membrane with Hydroduct Tape.

Alternate methods are to use 1/8" or 1/4" (3 or 6 mm) asphaltic hardboard. When reinforced concrete slabs are placed over the membrane, use Hydroduct 660 Drainage Composite or 1/4" (6 mm) hardboard or 2 layers of 1/8" (3 mm) hardboard.

On vertical applications, use Hydroduct 220 Drainage Composite. Adhere Hydroduct 220 to membrane with Hydroduct Tape. Alternative protection methods are to use 1" (25 mm) expanded polystyrene or 1/4" (6 mm) extruded polystyrene that has a minimum compressive strength of 10 lb/in² (69 kN/m²).

If 1/4" (6 mm) extruded polystyrene protection board is used, backfill should not contain sharp rock or aggregate over 2" (50 mm) in diameter. Adhere polystyrene protection board with Hydroduct Tape or compatible adhesive.

Cover any exposed Bituthene membrane with weather resistant flashing such as copper, aluminum or neoprene. Install Hydroduct 660 Drainage Composite or alternate protection the same day the membrane is applied or immediately after a 24 hour flood test. No waiting before backfill or application of wearing course is necessary.

Placement of Backfill

Use care during backfill operation to avoid damage to waterproofing and drainage system. Follow generally accepted practice for backfill and compaction. Backfill should be added in 6" - 12" (150 - 300 mm) lifts. For bermed areas that cannot be fully compacted, a termination bar is recommended across the top termination of the membrane.

In general, backfill or the final wearing course should be placed as soon as possible after installation of the membrane.

Placement of Reinforcing Steel

When placing reinforcing steel over properly protected membrane, use concrete bar supports (dobies) or chairs with plastic tips or rolled feet to prevent damage from sharp edges. Use special care when using wire mesh, especially if the mesh is curled.

6. Availability & Cost

AVAILABILITY

A network of distributors carries Bituthene waterproofing systems and Hydroduct drainage composite products for delivery to project sites.

COST

Bituthene waterproofing systems and Hydroduct drainage composites are competitively priced. For specific information, contact a local distributor or a Grace Construction Products representative.

7. Warranty

Five year material warranties covering Bituthene and Hydroduct products are available upon request. Contact the manufacturer for further information.

8. Maintenance

None required, if installed in accordance with manufacturer's recommendations.

9. Technical Services

Support is provided by full-time, technically trained Grace representatives and technical service personnel, backed by a central research and development staff.

10. Filing Systems

- Reed First Source
- Additional product information is available from the manufacturer.

SPEC DATA

SHEET WATERPROOFING 07 13 00

Grace Construction Products

W. R. Grace & Co.-Conn. hopes the information here will be helpful. It is based upon data and knowledge considered to be true and accurate and is offered for the users' consideration, investigation and verification, but we do not warrant the results to be obtained. Please read all statements, recommendations or suggestions in conjunction with our conditions of sale, which apply to all goods supplied by us. No statement, recommendation or suggestion is intended for any use which would infringe any patent or copyright. W. R. Grace & Co.-Conn., 62 Whittemore Avenue, Cambridge, MA 02140. In Canada, W. R. Grace & Co. Canada, Ltd., 294 Clements Road, West, Ajax, Ontario, Canada L1S 3C6.

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GRACE

PREPRUFE® 300R & 160R

Pre-applied waterproofing membranes that bond integrally to poured concrete for use below slabs or behind basement walls on confined sites

Description

Preprufe® 300R & 160R membranes are unique composite sheets comprising a thick HDPE film, an aggressive pressure sensitive adhesive and a weather resistant protective coating.

Unlike conventional non-adhering membranes, which are vulnerable to water ingress tracking between the unbonded membrane and structure, the unique Preprufe bond to concrete prevents ingress or migration of water around the structure.

The Preprufe R System includes:

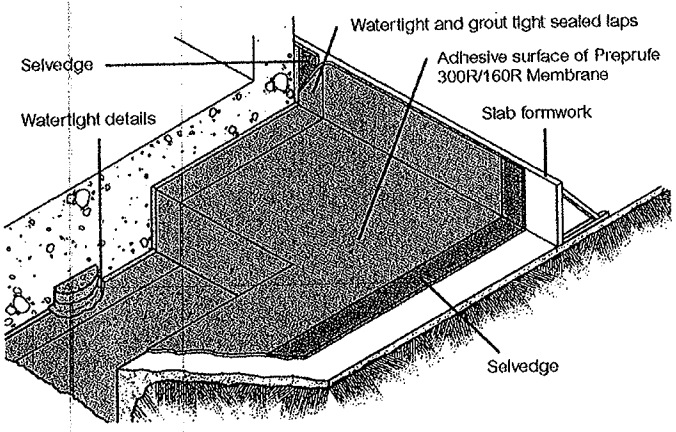
- **Preprufe 300R**—heavy-duty grade for use below slabs and on rafts (i.e. mud slabs). Designed to accept the placing of heavy reinforcement using conventional concrete spacers.
- **Preprufe 160R**—thinner grade for blindside, zero property line applications against soil retention systems.
- **Preprufe Tape LT**—for covering cut edges, roll ends, penetrations and detailing (temperatures between 25°F (-4°C) and 86°F (+30°C)).
- **Preprufe Tape HC**—as above for use in Hot Climates (minimum 50°F (10°C)).
- **Bituthene® Liquid Membrane**—for sealing around penetrations, etc.
- **Adcor™ ES**—waterstop for joints in concrete walls and floors
- **Preprufe Tieback Covers**—preformed cover for soil retention wall tieback heads
- **Preprufe Preformed Corners**—preformed inside and outside corners

Preprufe 300R & 160R membranes are applied either horizontally to smooth prepared concrete, carton forms or well rolled and compacted earth or crushed stone substrate; or vertically to permanent formwork or adjoining structures. Concrete is then cast directly against the adhesive side of the membranes. The specially developed Preprufe adhesive layers work together to form a continuous and integral seal to the structure.

Preprufe can be returned up the inside face of slab formwork but is not recommended for conventional twin-sided formwork on walls, etc. Use Bituthene self-adhesive membrane or Procor® fluid applied membrane to walls after removal of formwork for a fully bonded system to all structural surfaces.

Advantages

- **Forms a unique continuous adhesive bond to concrete poured against it**—prevents water migration and makes it unaffected by ground settlement beneath slabs
- **Fully-adhered watertight laps** and detailing
- **Provides a barrier to water, moisture and gas**—physically isolates the structure from the surrounding ground
- **BBA Certified** for basement Grades 2, 3, & 4 to BS 8102:1990
- **Zero permeance** to moisture
- **Solar reflective**—reduced temperature gain
- **Simple and quick to install**—requiring no priming or fillets
- **Can be applied to permanent formwork**—allows maximum use of confined sites
- **Self protecting**—can be trafficked immediately after application and ready for immediate placing of reinforcement
- **Unaffected by wet conditions**—cannot activate prematurely
- **Inherently waterproof, non-reactive system:**
  - not reliant on confining pressures or hydration
  - unaffected by freeze/thaw, wet/dry cycling
- **Chemical resistant**—effective in most types of soils and waters, protects structure from salt or sulphate attack



Drawings are for illustration purposes only.
Please refer to graceconstruction.com for specific application details.

Installation

The most current application instructions, detail drawings and technical letters can be viewed at graceconstruction.com. For other technical information contact your local Grace representative.

Preprufe 300R & 160R membranes are supplied in rolls 4 ft (1.2 m) wide, with a selvedge on one side to provide self-adhered laps for continuity between rolls. The rolls of Preprufe Membrane and Preprufe Tape are interwound with a disposable plastic release liner which must be removed before placing reinforcement and concrete.

Substrate Preparation

All surfaces—It is essential to create a sound and solid substrate to eliminate movement during the concrete pour. Substrates must be regular and smooth with no gaps or voids greater than 0.5 in. (12 mm). Grout around all penetrations such as utility conduits, etc. for stability (see Figure 1).

Horizontal—The substrate must be free of loose aggregate and sharp protrusions. Avoid curved or rounded substrates. When installing over earth or crushed stone, ensure substrate is well compacted to avoid displacement of substrate due to traffic or concrete pour. The surface does not need to be dry, but standing water must be removed.

Vertical—Use concrete, plywood, insulation or other approved facing to sheet piling to provide support to the membrane. Board systems such as timber lagging must be close butted to provide support and not more than 0.5 in. (12 mm) out of alignment.

Membrane Installation

Preprufe can be applied at temperatures of 25°F (-4°C) or above. When installing Preprufe in cold or marginal weather conditions 55°F (<13°C) the use of Preprufe Tape LT is recommended at all laps and detailing. Preprufe Tape LT should be applied to clean, dry surfaces and the release liner must be removed immediately after application. Alternatively, Preprufe Low Temperature (LT) is available for low temperature condition applications. Refer to Preprufe LT data sheet for more information.

Horizontal substrates—Place the membrane HDPE film side to the substrate with the clear plastic release liner facing towards the concrete pour. End laps should be staggered to avoid a build up of layers. Leave plastic release liner in position until overlap procedure is completed (see Figure 2).

Accurately position succeeding sheets to overlap the previous sheet 3 in. (75 mm) along the marked selvedge. Ensure the underside of the succeeding sheet is clean, dry and free from contamination before attempting to overlap. Peel back the plastic release liner from between the overlaps as the two layers are bonded together. Ensure a continuous bond is achieved without creases and roll firmly with a heavy roller. Completely remove the plastic liner to expose the protective coating. Any initial tack will quickly disappear.

Refer to Grace Tech Letter 15 for information on suitable rebar chairs for Preprufe.

Vertical substrates—Mechanically fasten the membrane vertically using fasteners appropriate to the substrate with the the clear plastic release liner facing towards the concrete pour. The membrane may be installed in any convenient length. Fastening can be made through the selvedge using a small and low profile head fastener so that the membrane lays flat and allows firmly rolled overlaps. Immediately remove the plastic release liner.

Ensure the underside of the succeeding sheet is clean, dry and free from contamination before attempting to overlap. Roll firmly to ensure a watertight seal.

Roll ends and cut edges—Overlap all roll ends and cut edges by a minimum 3 in. (75 mm) and ensure the area is clean and free from contamination, wiping with a damp cloth if necessary. Allow to dry and apply Preprufe Tape LT (or HC in hot climates) centered over the lap edges and roll firmly (see Figure 3). Immediately remove printed plastic release liner from the tape.

Details

Refer to Preprufe Field Application Manual, Section V Application Instructions or visit graceconstruction.com. This manual gives comprehensive guidance and standard details.

Membrane Repair

Inspect the membrane before installation of reinforcement steel, formwork and final placement of concrete. The membrane can be easily cleaned by power washing if required. Repair damage by wiping the area with a damp cloth to ensure the area is clean and free from dust, and allow to dry. Repair small punctures (0.5 in. (12 mm) or less) and slices by applying Preprufe Tape centered over the damaged area and roll firmly. Remove the release liner from the tape. Repair holes and large punctures by applying a patch of Preprufe membrane, which extends 6 in. (150 mm) beyond the damaged area. Seal all edges of the patch with Preprufe Tape, remove the release liner from the tape and roll firmly. Any areas of damaged adhesive should be covered with Preprufe Tape. Remove printed plastic release liner from tape. Where exposed selvedge has lost adhesion or laps have not been sealed, ensure the area is clean and dry and cover with fresh Preprufe Tape, rolling firmly. Alternatively, use a hot air gun or similar to activate adhesive and firmly roll lap to achieve continuity.

Pouring of Concrete

Ensure the plastic release liner is removed from all areas of Preprufe membrane and tape.

It is recommended that concrete be poured within 56 days (42 days in hot climates) of application of the membrane. Following proper ACI guidelines, concrete must be placed carefully and consolidated properly to avoid damage to the membrane. Never use a sharp object to consolidate the concrete.

Removal of Formwork

Preprufe membranes can be applied to removable formwork, such as slab perimeters, elevator and lift pits, etc. Once the concrete is poured the formwork must remain in place until the concrete has gained sufficient compressive strength to develop the surface bond. Preprufe membranes are not recommended for conventional twin-sided wall forming systems.

A minimum concrete compressive strength of 1500 psi (10 N/mm²) is recommended prior to stripping formwork supporting Preprufe membranes. Premature stripping may result in displacement of the membrane and/or spalling of the concrete.

Refer to Grace Tech Letter 17 for information on removal of formwork for Preprufe.

Figure 1

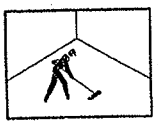


Figure 2

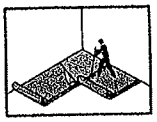
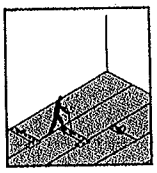
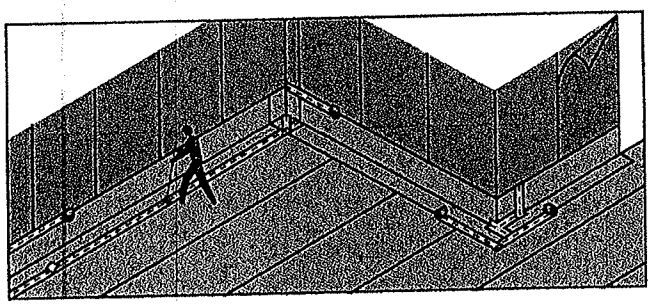


Figure 3

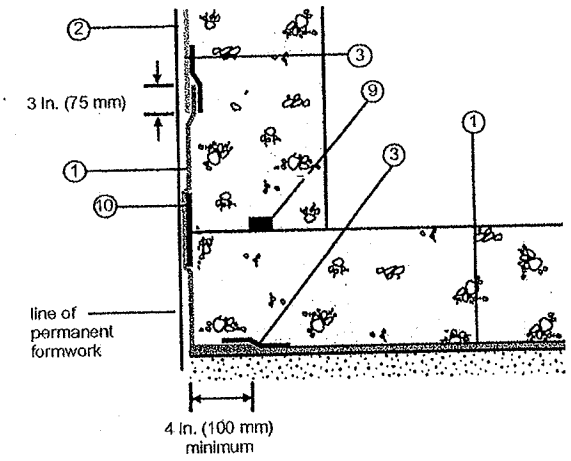




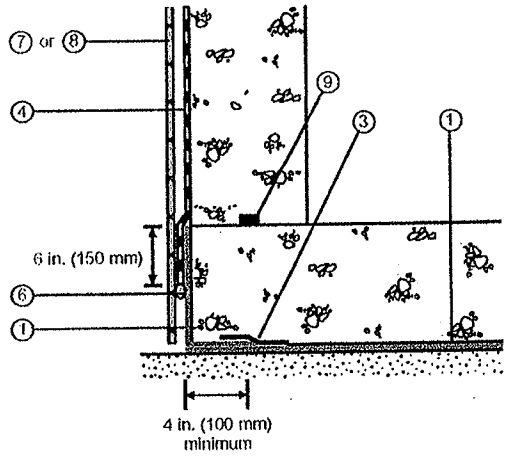
Detail Drawings

Details shown are typical illustrations and not working details. For a list of the most current details, visit us at graceconstruction.com. For technical assistance with detailing and problem solving please call toll free at 866-333-3SBM (3726).

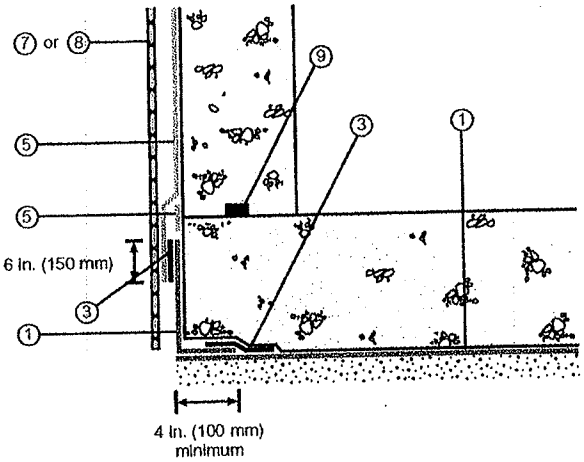
Wall base detail against permanent shutter



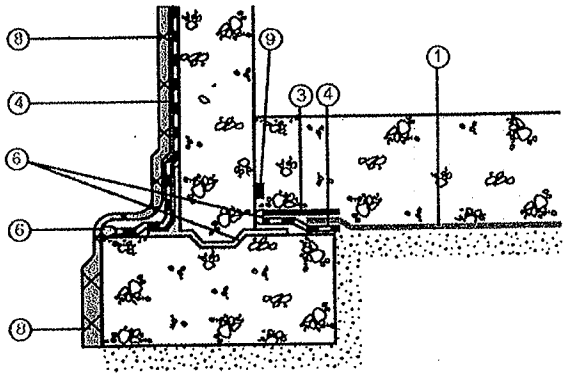
Bituthene wall base detail (Option 1)



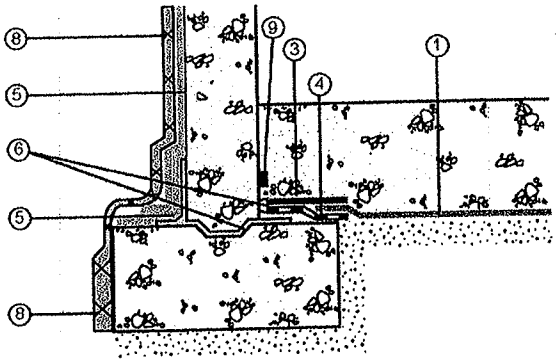
Procor wall base detail (Option 1)



Bituthene wall base detail (Option 2)



Procor wall base detail (Option 2)



1 Preprufe 300R
2 Preprufe 160R
3 Preprufe Tape
4 Bituthene
5 Procor
6 Bituthene Liquid Membrane
7 Protection
8 Hydroduct®
9 Adcor ES
10 Preprufe CJ Tape

Supply

Dimensions (Nominal)	Preprufe 300R Membrane	Preprufe 160R Membrane	Preprufe Tape (LT or HC*)
Thickness	0.046 in. (1.2 mm)	0.032 in. (0.8 mm)	
Roll size	4 ft x 98 ft (1.2 m x 30 m)	4 ft x 115 ft (1.2 m x 35 m)	4 in. x 49 ft (100 mm x 15 m)
Roll area	392 ft² (36 m²)	460 ft² (42 m²)	
Roll weight	108 lbs (50 kg)	92 lbs (42 kg)	4.3 lbs (2 kg)
Minimum side/end laps	3 in. (75 mm)	3 in. (75 mm)	3 in. (75 mm)
* LT denotes Low Temperature (between 25°F (-4°C) and 86°F (+30°C)) HC denotes Hot Climate (50°F (>+10°C))			
Ancillary Products			
Bituthene Liquid Membrane—1.5 US gal (5.7 liter) or 4 US gal (15.1 liter)			

Physical Properties

Property	Typical Value 300R	Typical Value 160R	Test Method
Color	white	white	
Thickness	0.046 in. (1.2 mm)	0.032 in. (0.8 mm)	ASTM D3767
Lateral Water Migration Resistance	Pass at 231 ft (71 m) of hydrostatic head pressure	Pass at 231 ft (71 m) of hydrostatic head pressure	ASTM D5385, modified[1]
Low temperature flexibility	Unaffected at -20°F (-29°C)	Unaffected at -20°F (-29°C)	ASTM D1970
Resistance to hydrostatic head	231 ft (71 m)	231 ft (71 m)	ASTM D5385, modified[2]
Elongation	660%	580%	ASTM D412, modified[3]
Tensile strength	4000 psi (27.6 MPa)	4000 psi (27.6 MPa)	ASTM D412
Crack cycling at -9.4°F (-23°C), 100 cycles	Unaffected, Pass	Unaffected, Pass	ASTM C836
Puncture resistance	221 lbs (990 N)	100 lbs (445 N)	ASTM E154
Peel adhesion to concrete	5 lbs/in. (880 N/m)	5 lbs/in. (880 N/m)	ASTM D903, modified[4]
Lap peel adhesion	5 lbs/in. (880 N/m)	5 lbs/in. (880 N/m)	ASTM D1876, modified[5]
Permeance to water vapor transmission	0.01 perms (0.6 ng/(Pa x s x m²))	0.01 perms (0.6 ng/(Pa x s x m²))	ASTM E96, method B
Water absorption	0.5%	0.5%	ASTM D570

Footnotes:

1. Lateral water migration resistance is tested by casting concrete against membrane with a hole and subjecting the membrane to hydrostatic head pressure with water. The test measures the resistance of lateral water migration between the concrete and the membrane.
2. Hydrostatic head tests of Preprufe Membranes are performed by casting concrete against the membrane with a lap. Before the concrete cures, a 0.125 in. (3 mm) spacer is inserted perpendicular to the membrane to create a gap. The cured block is placed in a chamber where water is introduced to the membrane surface up to the head indicated.
3. Elongation of membrane is run at a rate of 2 in. (50 mm) per minute.
4. Concrete is cast against the protective coating surface of the membrane and allowed to properly dry (7 days minimum). Peel adhesion of membrane to concrete is measured at a rate of 2 in. (50 mm) per minute at room temperature.
5. The test is conducted 15 minutes after the lap is formed (per Grace published recommendations) and run at a rate of 2 in. (50 mm) per minute.

Specification Clauses

Preprufe 300R or 160R shall be applied with its adhesive face presented to receive fresh concrete to which it will integrally bond. Only Grace Construction Products approved membranes shall be bonded to Preprufe 300R/160R. All Preprufe 300R/160R system materials shall be supplied by Grace Construction Products, and applied strictly in accordance with their instructions. Specimen performance and formatted clauses are also available.

NOTE: Use Preprufe Tape to tie-in Procor with Preprufe.

Health and Safety

Refer to relevant Material Safety data sheet. Complete rolls should be handled by a minimum of two persons.

www.graceconstruction.com

For technical assistance call toll free at 866-333-3SBM (3726)

PF-111G Printed in U.S.A. 6/11 FA/PDF

GRACE

GRACE
Construction Products

1. Product Name
Preprufe® 300R and 160R Waterproofing Systems

2. Manufacturer
Grace Construction Products
62 Whittemore Avenue
Cambridge, MA 02140
(866) 333-3SBM (3726)
Fax: (617) 498-4311
www.graceconstruction.com

3. Product Description
BASIC USE
Preprufe® 300R and Preprufe 160R membranes are used in blind side waterproofing applications where positive side waterproofing is desired but the positive side of the structure is not accessible once the concrete is poured.

Preprufe 300R Membrane is used primarily in under slab and below-grade split slab applications. Preprufe 300R Membrane is applied over properly prepared earth, stone or concrete. Concrete is cast against the adhesive side of the membrane. Preprufe 300R Membrane incorporates an exceptionally tough HDPE film and is designed to allow foot traffic directly on the membrane during construction.

Preprufe 160R Membrane is used in vertical applications. It is applied to properly prepared soil retention systems and concrete is cast against the membrane.

COMPOSITION & MATERIALS
Preprufe 300R and Preprufe 160R membranes are multilayered composite sheets consisting of an exceptionally tough HDPE film, a specially formulated synthetic pressure sensitive adhesive and a protective coating.

ACCESSORY COMPONENTS
- Preprufe Tape
- Preprufe Tieback Cover
- Bituthene® Liquid Membrane
- Preprufe CJ Tape

4. Technical Data
APPLICABLE STANDARDS
ASTM International
- ASTM C836 Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course
- ASTM D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers-Tension
- ASTM D570 Standard Test Method for Water Absorption of Plastics
- ASTM D882 Standard Test Method for Tensile Properties of Thin Plastic Sheeting
- ASTM D903 Standard Test Method for Peel or Stripping Strength of Adhesive Bonds
- ASTM D1876 Standard Test Method for Peel Resistance of Adhesives (T-Peel Test)
- ASTM D1970 Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection
- ASTM D3767 Standard Practice for Rubber-Measurement of Dimensions
- ASTM D5385 Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes
- ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials
- ASTM E154 Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover

PHYSICAL PROPERTIES
For detailed information on the physical properties of Preprufe 300R and Preprufe 160R Membranes, see Table 1.

5. Installation
Apply membranes when ambient temperatures are 25 degrees F (-4 degrees C) or above. Substrates must be smooth and sound with no gaps or voids in excess of 1/2" (13 mm).

FORMING SYSTEMS
It is very important to specify a forming system that is compatible with the Preprufe system. One-sided wall forming systems are clearly the best choice since there are no form ties used in this system. Therefore, there are no penetrations to the waterproofing layer. Other compatible systems include gang forms with load gathering form ties. These systems minimize the number of penetrations.

Hand set forming systems or, more specifically, use of form ties with ultimate load capabilities of less than 10,000 lb (44,500 N) per tie are not recommended. These systems have many form ties that penetrate the waterproofing.

Formwork
On vertical applications, use one-sided wall forming systems to minimize punctures in the membrane after the membrane is installed. Review Technical Letter "Forming Systems for use with Preprufe 160R Membrane."

APPLICATION
Vertical Applications
Apply the membrane with the thick white HDPE film side facing the prepared substrate and the protective coating side facing the concrete to be poured. The membrane may be installed in any convenient length vertically. For lengths of membrane greater than 8' (2.4 m), mechanically fasten the membrane at 2' (0.6 m) intervals centered in the self-adhesive selvedge prior to making the side lap, using small head nails or staples.

Using the lap line as a guide, apply subsequent sheets overlapping the in-place sheet 3" (75 mm) along the self-adhesive selvedge of the membrane. Avoid overlapping membrane beyond the guideline to prevent fishmouths. Should they occur, apply Preprufe Tape centered over the fishmouth, roll firmly to form a tight seal and remove release liner.

It is important that all nail heads be covered with the overlapping sheets of membrane. Side laps must be immediately rolled firmly to ensure a tight seal. A metal seam roller is recommended. To maximize adhesion in colder temperatures or in damp conditions, apply gentle heat to the lap area using a hot air gun (see Technical Letters). Overlap the ends of the membrane a minimum of 3" (75 mm). Remove and discard the release liner from both sheets. Apply Preprufe Tape centered over the end lap and edges of membrane not sealed by selvedge. Roll firmly to form a tight seal. Remove release liner from tape and discard.

For additional protection, Hydroduct® Tape may be applied between the sheets in the end lap area prior to application of the Preprufe Tape. Secure the top termination of the membrane with a termination bar and fasteners.

If the top termination is to be covered by the concrete pour, a strip of Preprufe CJ Tape must be placed over the termination bar and fasteners. Place the termination bar 2" (50 mm)

below the top edge of the membrane. If the membrane will tie into subsequent sheets of Preprufe, Bituthene Membrane or other waterproofing, leave an additional 12" (300 mm) length of Preprufe 160R membrane. Protect this length from damage and do not remove the release liner. This length of clean membrane will be used to complete the appropriate waterproofing details after the concrete or lift is poured.

Horizontal Applications

Roll out the membrane with the thick white HDPE film side facing the prepared substrate and the protective coating side facing the concrete to be poured. Remove the clear release liner at the time of installation. Using the lap line as a guide, align and roll out subsequent sheets overlapping the in-place sheet 3" (75 mm) along the self-adhesive selvedge of the membrane. Side laps must be immediately rolled firmly to ensure a tight seal. A heavy metal seam roller is recommended.

Avoid overlapping membrane beyond the guideline to prevent fishmouths. Should this occur, apply Preprufe Tape centered over the fishmouth, roll firmly to form a tight seal and remove release liner. To maximize adhesion in cooler temperatures or in damp conditions, apply gentle heat to the lap area using a hot air gun (see Technical Letters section of website). The membrane may be installed in any convenient length. Overlap the ends of the membrane 3" (75 mm) and remove and discard the release liner from both sheets. Apply Preprufe Tape centered over the end lap and edges of membrane not sealed by selvedge. Roll firmly to form a tight seal. Remove release liner from tape and discard.

For additional protection, Hydroduct Tape may be applied between the sheets in the end lap area prior to application of the Preprufe Tape.

Internal & External Corners

Install the Preprufe Membrane according to standard application instructions detailed for vertical and horizontal applications above. Internal and external corners should be formed as shown in the Detail Drawings returning the membrane a minimum of 4" (100 mm).

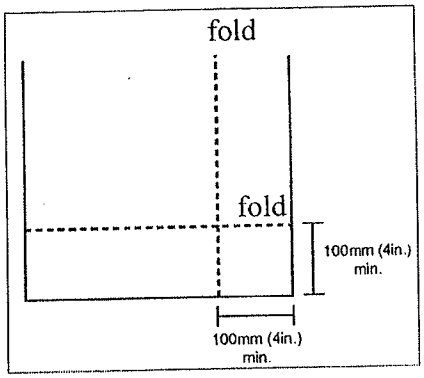


Figure 1

Internal Corners

Fold the membrane as indicated in Figure 1. Crease the fold with nominal hand pressure to ensure a close fit to the substrate profile and avoid hollows. With the white coating facing toward the concrete, ensure that the apex of the corner is covered and sealed with Preprufe Tape. Remove release liner and roll firmly.

External Corners

Fold the membrane as indicated in Figure 1. Crease the fold with nominal hand pressure to

TABLE 1 PHYSICAL PROPERTIES OF PREPRUFE 160R AND PREPRUFE 300R MEMBRANES

Property & test method	Typical values Preprufe 160R Membrane	Preprufe 300R Membrane
Color	White	White
Thickness, ASTM D3767, Method A	0.032" (0.8 mm) nominal	0.046" (1.2 mm) nominal
Low temperature flexibility, ASTM D1970	Unaffected at -10°F (-23°C)	Unaffected at -10°F (-23°C)
Resistance to hydrostatic head, minimum, ASTM D5385, Modified [1]	23' (70 m)	23' (70 m)
Elongation, minimum, ASTM D412, Modified [2]	300%	300%
Tensile strength, film, minimum, ASTM D882	4000 psi (27.6 MPa)	4000 psi (27.6 MPa)
Crack cycling, at -10°F (-23°C), 100 cycles, ASTM C836	Unaffected	Unaffected
Puncture resistance, minimum, ASTM E154	100 lb (445 N)	221 lb (990 N)
Peel adhesion to concrete, minimum, ASTM D903, Modified [3]	5.0 lb/in width (880 N/m)	5.0 lb/in width (880 N/m)
Lap peel adhesion, ASTM D1876, Modified [4]	2.5 lb/in width (440 N/m)	2.5 lb/in width (440 N/m)
Permeance to water vapor transmission, maximum, ASTM D96, Method B	0.01 perms (0.6 ng/(Pa x s x m²))	0.01 perms (0.6 ng/(Pa x s x m²))
Water absorption, maximum, ASTM D570	0.5%	0.5%

[1] Hydrostatic head tests of Preprufe Membranes are performed by casting concrete against the membrane with a lap. Before the concrete cures, a 0.125" (3 mm) spacer is inserted perpendicular to the membrane to create a gap. The cured block is placed in a chamber where water is introduced to the membrane surface up to the head indicated.

[2] Elongation of membrane is run at a rate of 2" (51 mm) per minute.

[3] Concrete is cast against the protective coating surface of the membrane and allowed to properly dry (7 days minimum). Peel adhesion of membrane to concrete is measured at a rate of 2" (51 mm) per minute at room temperature.

[4] The test is conducted 15 minutes after the lap is formed (per Grace published recommendations) and run at a rate of 2" (51 mm) per minute at 25°F (-4°C).

ensure a close fit to the substrate profile and avoid hollows. Cut the Preprufe membrane in order to wrap around corner. With the white coating facing toward the concrete, ensure that the apex of the corner is covered and sealed with Preprufe Tape. Remove release liner and roll firmly.

Round Penetrations

For Service Pipes, Lighting Conduit, Piles, etc. - Follow these steps to seal around penetrations:

1. All penetrations must be firmly secured and stable. Grout around all penetrations that are not stable. Clean loose dust or dirt from the penetration surface using a clean, dry cloth or brush. Remove rust, if applicable, with a wire brush and wipe clean.
2. Cut the field membrane tight to the penetration and remove release liner. If membrane is not within 1/2" (12 mm) of penetration and not more than 2" (50 mm) from penetration, apply Preprufe Tape to cover the gap. Roll firmly into place and remove release liner. If the membrane is greater than 2" (51 mm) from penetration, install more Preprufe Membrane to cover the gap, repeating these instructions until Preprufe Membrane/Tape is within 1/2" (12 mm).
3. Mix and apply Bituthene Liquid Membrane around the penetration. Liquid Membrane should be placed to form a minimum 1" (25.4 mm) continuous fillet between the Preprufe Membrane/Tape and the base of the penetration.
4. Cut a patch of Preprufe Membrane that is a minimum of 12" (300 mm) larger than the diameter or width of the penetration so that the patch extends 6" (150 mm) beyond the penetration in all directions. Remove the release liner and center the patch over penetration and trace/draw the penetration profile onto the patch. Using sheers or a utility knife, make relief cuts through the membrane. Triangles formed by making a relief cut are not to exceed 2" (50 mm) in height when placed over penetration. In other words, penetration diameters greater than 4" (100 mm) need to be trimmed. Remove and discard release liner.
5. Slide the patch over penetration and press into the partially cured Liquid Membrane. Ensure that the patch is pressed firmly into the Liquid Membrane and is positioned directly onto the Preprufe Field Membrane/Tape below. Using a trowel, smooth out any Liquid Membrane that has flowed out of the relief cut.
6. Apply Preprufe Tape centered over the edges of the patch and roll firmly to form a tight seal. Remove release liner from tape and discard.
7. Wrap the penetration with Preprufe Tape, positioning the tape at the base of the patch. Remove enough release liner to overlap Tape onto itself and roll/press firmly into place. Remove remaining release liner and discard.

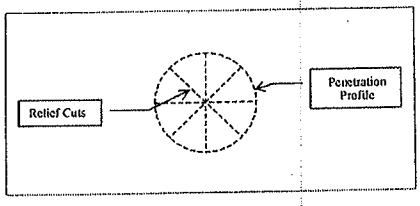


Figure 2

Straight Edge Penetrations

For square piles, steel columns, walers, rakers, etc. - Follow these steps to seal around

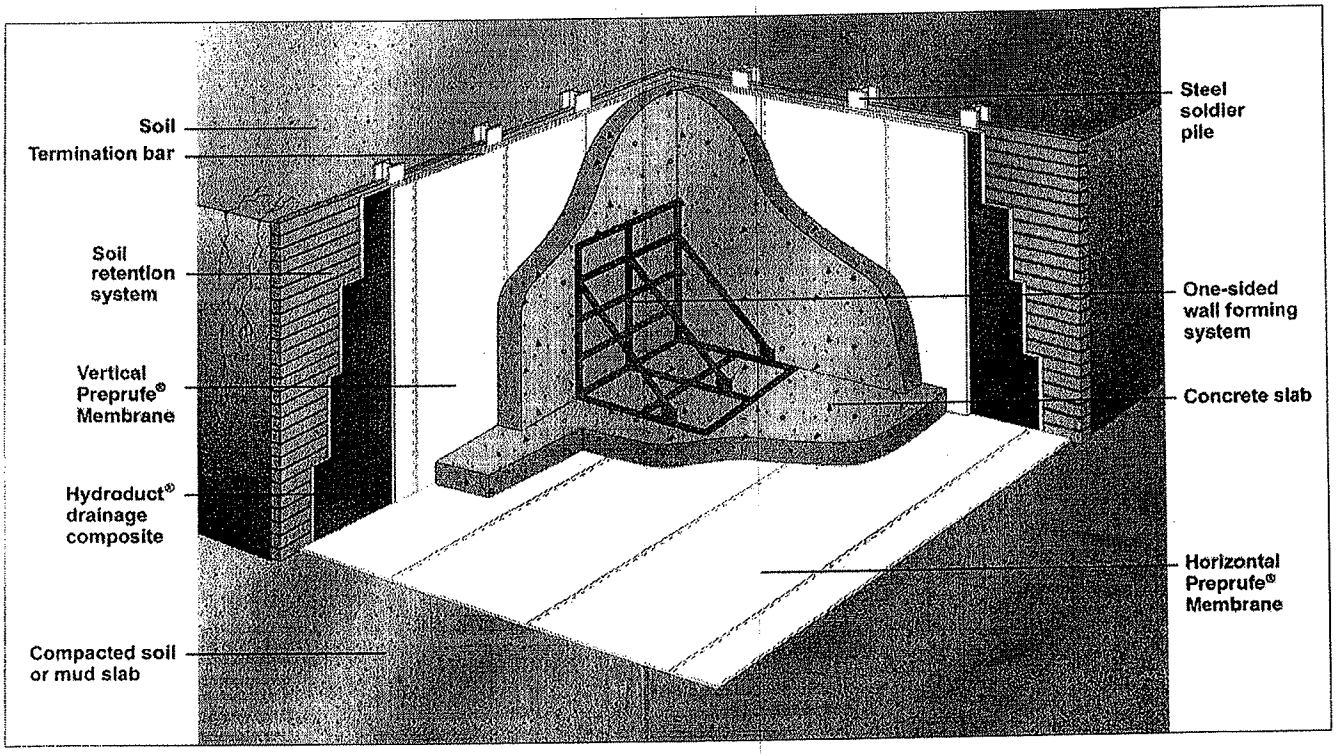


Figure 3 Preprufe® Waterproofing Systems

penetrations:

1. All penetrations must be firmly secured and stable. Grout around all penetrations that are not stable. Clean loose dust or dirt from the penetration surface using a clean, dry cloth or brush. Remove rust, if applicable, with a wire brush and wipe clean.
2. Cut the field membrane tight to the penetration and remove release liner. If membrane is not within 1/2" (12 mm) of penetration and not more than 2" (51 mm) from penetration, apply Preprufe Tape to cover the gap. Roll firmly into place and remove release liner. If the membrane is greater than 2" (51 mm) from penetration, install more Preprufe Membrane to cover the gap repeating these instructions until Preprufe Membrane/Tape is within 1/2" (12 mm).
3. Mix and apply Bituthene Liquid Membrane around the penetration. Liquid Membrane should be placed to form a minimum 1" (25.4 mm) continuous fillet between the Preprufe Membrane/Tape and the base of the penetration. Apply a 90 mil (2.2 mm) continuous coating overlapping a minimum of 3" (75 mm) onto the surface of the Preprufe Membrane and the penetration.
4. Install a minimum 12" (300 mm) strip of Bituthene Membrane centered over the Preprufe Membrane and the penetration intersection.
5. Install Preprufe Tape to cover the strip of Bituthene Membrane by overlapping a minimum of 1" (25.4 mm) until a minimum of 2" (51 mm) overlap onto the Preprufe Membrane is achieved.
6. Terminate the top edge of the strip of Bituthene Membrane and Preprufe Tape along the penetration with a bead of Bituthene Liquid Membrane.

Wall Penetrations

For Rebar, All-Thread, Metal Dowels, etc. - Follow these steps to seal around penetrations:

1. Clean loose dust or dirt from the penetration and the surrounding substrate surface using a clean, dry cloth or brush. Remove rust, if applicable, with a wire brush and wipe clean.
2. Mix and apply Bituthene Liquid Membrane around the penetration. Liquid Membrane should be placed to form a minimum 1" (25.4 mm) continuous fillet between the substrate and the base of the penetration.
3. Cut the field membrane tight to the penetration and remove release liner. If membrane is not within 1/2" (12 mm) of penetration and not more than 2" (51 mm) from penetration, apply Preprufe Tape to cover the gap. Roll firmly into place and remove release. If the membrane is greater than 2" (51 mm) from penetration, install more Preprufe Membrane to cover the gap repeating these instructions until Preprufe Membrane/Tape is within 1/2" (12 mm).
4. Position the field membrane snug to the penetration so that it is a maximum of 1/2" (12 mm) from the base of the penetration and press firmly into the partially cured Liquid Membrane.
5. Apply Liquid Membrane to form a minimum 1" (25.4 mm) continuous fillet between the Preprufe Membrane and the base of the penetration. Extend a 90 mil (2.2 mm) continuous coating of Liquid Membrane overlapping a minimum of 3" (75 mm) onto the surface of the Preprufe Membrane and 6" (150 mm) onto the penetration.
6. Wrap the penetration with Preprufe Tape, positioning the tape at the base of the penetration. Remove enough release liner to overlap tape onto itself and roll/press firmly into place. Remove remaining release liner and discard.

Tiebacks

The Preprufe Tieback Cover is a specially designed, two-part cover used to maintain waterproofing integrity at soil retention tieback heads. The Preprufe Tieback Cover consists of a rigid ABS plastic base and prefabricated Preprufe membrane cover.

1. Install Preprufe Membrane within 2" of tieback as per standard installation instructions.
2. Center the base over tieback head and secure base to soil retention system using appropriate fasteners. Fasteners should have a low profile head.
3. Apply Preprufe Tape centered over the edge of the base flange and roll firmly to form a tight seal. Remove release liner and discard.
4. Position the membrane cover over the base taking care to ensure the cover flange sits flat onto the Preprufe Membrane.
5. Apply Preprufe Tape centered over the edge of the cover flange and roll firmly to form a tight seal. Remove release liner and discard.

Note: All Preprufe Tape should overlap onto surfaces of tape, membrane, base, cover, etc., a minimum of 50 mm (2").

Columns

There are 2 common methods to create a waterproof seal under columns.

- Column Option 1 - Preprufe Membrane is placed over the column footing and directly under the column. Tie-in penetrations such as rebar and threaded rod that penetrate the membrane should be sealed with Bituthene Liquid Membrane. Cut the membrane tight to the penetration. If membrane is not within 1/2" (12 mm) of penetration, apply Preprufe Tape to cover the gap. Mix and apply Bituthene Liquid Membrane around the penetration. Bituthene Liquid Membrane should be placed to form a minimum 1" (25.4 mm) continuous fillet around the penetration at the point of penetration. Bituthene Liquid Membrane should be applied as a 90 mil (2.2 mm) continuous coating overlapping a minimum of 3" (75 mm) onto the surface of the Preprufe membrane.
- Column Option 2 - Preprufe Membrane is placed below the column footing before it is poured. The membrane is installed following the vertical and horizontal application instructions described earlier in this section. When placing the membrane, it is important to leave sufficient length of Preprufe 300R beyond the footing to allow for tie-in to the Preprufe Membrane that will be laid to waterproof the general slab area. The release liner must not be removed from this extra length, and it should be protected from damage until the tie-in details are completed.

Grade Beam Pile Caps

The preferred methods to waterproof pile caps are to either "tank" or "cover" the pile cap.

- Pile Cap Option 1 (Tanking Option) - Install Preprufe Membrane over the prepared substrate as instructed in horizontal applications above. Preprufe Membrane is placed in the area formed for the pile cap before the concrete is poured. When placing the membrane, it is important to leave sufficient length of Preprufe beyond the pile cap area to allow for tie-in to the Preprufe Membrane that will be laid to waterproof the general slab area. Cut membrane tight to each pile and complete detail around each pile as instructed earlier in this section for a Penetration Detail.
- Pile Cap Option 2 (Covering Option) - For mud slabs, clean loose dust or dirt from the

pile cap and mud slab surface using a clean, dry cloth or brush. Apply a continuous 90 mil (2.2 mm) coating of Bituthene Liquid Membrane or Procor over the top of the pile cap. Place a 1" (25.4 mm) bead of Liquid Membrane or Procor around all penetrations at the point of penetration through the pile cap. Prime along the edge of the mud slab a minimum of 6" (150 mm) from the edge of pile cap with a Bituthene Primer and allow to dry. Align a 9" (225 mm) strip of Bituthene Membrane centered over the edge of the pile cap. Remove release liner and roll firmly onto the Liquid Membrane and primed mud slab. Install Preprufe Membrane over the prepared substrate and terminate it 2" (51 mm) onto the pile cap. Apply Preprufe Tape centered over the Preprufe Membrane termination. Remove the release liner and roll firmly. Seal Bituthene Membrane and Preprufe Tape edge with a termination bead of Liquid Membrane.

Pile Cap Option 2 for Compacted Earth

Apply a continuous 90 mil (2.2 mm) coating of Bituthene Liquid Membrane or Procor over the top of the pile cap. Place a 1" (25.4 mm) bead of Liquid Membrane or Procor around all penetrations at the point of penetration through the pile cap. Remove compacted earth away from the sides of pile cap. Clean loose dust or dirt from the pile cap surface using a clean, dry cloth or brush.

Prime the sides of the pile cap a minimum of 6" (150 mm) from the top of pile cap with a Bituthene Primer and allow to dry. Align a 9" (225 mm) strip of Bituthene Membrane centered over the outside edge (outside corner) of the pile cap. Remove release liner and roll firmly onto the Liquid Membrane and primed sides of pile cap. Align a 12" (300 mm) strip of Bituthene Membrane centered over the outside edge (outside corner) of the pile cap. Remove half of release liner by scoring release liner along the center of the strip.

Roll firmly onto the sides of pile cap with the 9" (225 mm) strip of Bituthene Membrane and the remaining primed pile cap. Leave the other half of the 12" (300 mm) strip with the release liner still intact in order to receive the Preprufe Membrane. Replace earth/fill and compact per standard back-filling instructions being careful not to damage the Bituthene strip including the non-bonded portion. Invert the Bituthene strip, and remove the remaining release liner to expose the adhesive portion of the Bituthene.

Install Preprufe Membrane over the prepared substrate and terminate it 2" (51 mm) onto the pile cap. Roll firmly onto the inverted Bituthene strip. Apply Preprufe Tape centered over the Preprufe Membrane termination. Remove the release liner and roll firmly. Seal Bituthene Membrane and Preprufe Tape edge with a termination bead of Liquid Membrane.

Pile Cap Option 2 for Non-Continuous Covering

If the Structural Engineer or the design does not allow for the waterproofing to "cover" the pile cap, there must be a minimum 6" (150 mm) continuous shoulder along the perimeter of the pile cap to allow for a proper termination. Apply a continuous 90 mil (2.2 mm) coating of Bituthene Liquid Membrane or Procor onto the top of the pile cap along the outside edge.

Apply a 6" (150 mm) strip of Bituthene Membrane onto the Bituthene Liquid Membrane or Procor along the edge of the pile cap. Install Preprufe Membrane over the prepared substrate and terminate it 2" (51 mm) onto the pile cap. Apply Preprufe Tape centered over the Preprufe Membrane termination. Remove the release liner and roll firmly. Seal Bituthene Membrane and Preprufe Tape edge with a termination bead of Liquid Membrane.

Construction Joints

Install the Preprufe membrane according to standard horizontal and vertical application instructions detailed above. Preprufe CJ Tape should be applied to the surface of the Preprufe membrane and centered along the line of all concrete joints. Remove release liner and roll firmly.

Tie-Ins

Preprufe 160R to Preprufe 300R Sub Slab Waterproofing - Install Preprufe 300R Membrane over the prepared substrate as detailed in horizontal and vertical applications above. Continue onto the vertical surface of the prepared soil retention system a minimum of 18" (450 mm) above the finished elevation of the structural floor slab.

Secure the top of the membrane to temporarily hold it in place on the vertical substrate. Care should be taken to prevent damage to this exposed membrane from concrete back-splash as well as slag from rebar welding in wall forms. The exposed membrane on the vertical surface can be protected with protection board, plywood or other materials.

Following the vertical application instructions detailed above, install Preprufe 160R Membrane over the prepared vertical soil retention system. Unfasten the vertical length of the Preprufe 300R Membrane and tuck the Preprufe 160R behind the 18" (450 mm) length of Preprufe 300R, ensuring a minimum 3" (75 mm) lap. Complete the detail by installing Preprufe Tape centered over the lap being careful to seal any holes from fasteners. Roll firmly and remove the release liner.

Preprufe 300R to Post-Applied Wall Waterproofing - There are 2 options available to tie Preprufe 300R Membrane into wall waterproofing. In Option 1, the Preprufe 300R Membrane is installed under the concrete slab and the footing. Option 2 is intended for applications where the Preprufe 300R Membrane and wall waterproofing are connected through the wall and footing junction.

- Option 1 - Install Preprufe 300R Membrane over the prepared horizontal substrate and extend it up the vertical surface of the slab formwork. Terminate the membrane 6" (150 mm) above the top elevation of the structural floor slab or wall footing. Once the slab or footing is poured and cured for 7 days, remove the forms and trim the excess membrane above the slab (see Technical Letters). Install the wall membrane according to standard application procedures of the post-applied waterproofing manufacturer. Ensure that the wall membrane overlaps onto the surface of the Preprufe 300R by a minimum of 6" (150 mm).
- Option 2 - Prior to the pouring of the wall, apply a 90 mil (2.2 mm) coating of Bituthene Liquid Membrane on top of the footing area using standard application procedures. Extend the Bituthene Liquid Membrane 3" (75 mm) beyond the proposed wall width in each direction. Install the wall membrane according to standard application procedures of the post-applied waterproofing manufacturer. Ensure that the wall membrane overlaps onto the surface of the Preprufe 300R by a minimum of 6" (150 mm). On the inside of the wall, install a minimum 9" (225 mm) strip of Bituthene sheet membrane over the Bituthene Liquid Membrane that extends beyond the footing area. Install Bituthene Membrane by removing the release liner and firmly rolling the product in place. Install Preprufe 300R Membrane over the prepared substrate and terminate it at the center of the Bituthene sheet membrane strip. Apply Preprufe CJ Tape centered over the Preprufe

300R Membrane termination. Remove the release liner and roll firmly.

Preprufe 160R to Plaza Deck Waterproofing - Install Preprufe 160R over the prepared vertical surface following the standard vertical application instructions above. Terminate the Preprufe 160R Membrane 6" (150 mm) above the proposed height of the finished wall. Once the wall is poured and properly cured, remove temporary forming and trim the excess Preprufe 160R remaining above the wall. Install the plaza deck waterproofing according to the manufacturer's standard installation procedures. Ensure that the plaza deck waterproofing overlaps the 160R membrane a minimum of 9" (225 mm) and terminate it onto the Preprufe 160R using a bead of Bituthene Liquid Membrane.

Preprufe 160R to Post-Applied Wall Waterproofing - Install Preprufe 160R over the prepared vertical surface following the standard vertical application instructions above. Extend the Preprufe 160R Membrane 12" (300 mm) beyond the end of the blind-side wall. As the foundation wall formwork is installed, fold the 12" (300 mm) piece of Preprufe 160R Membrane to form a sharp corner. Secure it to the inside face of the exterior form panel. Once the wall is poured and cured for seven days, remove the formwork and install the post-applied waterproofing according to the manufacturer's standard installation procedures.

Preprufe 300R Membrane Wall Termination

- Option 1 (Liquid Membrane Detail) - Install Preprufe 300R Membrane over a mud slab as detailed in horizontal applications above. For compacted earth, contact a local Grace representative. Install Preprufe 300R Membrane tight to all vertical and horizontal intersections. At the termination of the membrane, place a 1" (25.4 mm) fillet of Bituthene liquid membrane and trowel a 90 mil (2.2 mm) coating a minimum of 3" (75 mm) onto vertical and horizontal surfaces. Remove the release liner and install a minimum 12" (300 mm) strip of Bituthene Membrane centered over the horizontal termination. Install Preprufe Tape to cover the strip of Bituthene Membrane by overlapping a minimum of 1" (25.4 mm) until a minimum of 2" (51 mm) overlap onto the Preprufe Membrane is achieved. Terminate the top edge of the strip of Bituthene Membrane and Preprufe Tape along the wall with a bead of Bituthene Liquid Membrane.
- Option 2 (Sheet Membrane Detail) - Install Preprufe 300R Membrane over the prepared substrate as detailed in horizontal applications above. Install Preprufe 300R Membrane tight to all vertical and horizontal intersections. Install a minimum 6" (150 mm) strip of Bituthene Membrane on the vertical surface along the joint. Mix and apply Bituthene Liquid Membrane to form a minimum 1" (25.4 mm) continuous fillet between the Preprufe Membrane and the wall. Install Preprufe CJ Tape 6" (150 mm) from the edge of the wall onto the Preprufe Membrane and terminate 2" (51 mm) onto the strip of Bituthene Membrane. Install Preprufe CJ Tape onto the strip of Bituthene Membrane and overlap onto the previous Preprufe CJ Tape a minimum of 2" (51 mm). Terminate the top edge of the strip of Bituthene Membrane and Preprufe Tape along the wall with a bead of Bituthene Liquid Membrane.

Membrane Repair

Inspect the membrane for damage before placement of reinforcing steel, formwork and concrete. Repair small punctures 1/2" (12 mm), or less, and slices by applying Preprufe Tape centered over the damaged area and roll firmly. Remove the release liner from the tape. Repair holes and large punctures by applying a patch of Preprufe membrane, which extends 6" (150 mm) beyond the damaged area. Seal all edges of the patch with Preprufe Tape, remove the release liner from the tape and roll firmly.

CONCRETE PLACEMENT

Lightly soiled membrane should be cleaned with air blower and heavily soiled membrane should be cleaned with a power-washer. Cast concrete within 56 days (42 days in hot climates) of application of the membrane. Concrete must be placed carefully to avoid damage to the membrane. Never use a sharp object to consolidate concrete.

REMOVAL OF FORMWORK

Preprufe Membranes can be applied to removable formwork, such as slab perimeters, elevator and lift pits, etc. Once the concrete is poured, the formwork must remain in place until the concrete has gained sufficient compressive strength to develop the surface bond. Preprufe Membranes are not recommended for conventional twin-sided wall forming systems.

A minimum concrete compressive strength of 1500 psi (10 N/mm²) is recommended prior to stripping formwork supporting Preprufe Membranes. Premature stripping may result in displacement of the membrane and/or spalling of the concrete.

As a guide, to reach the minimum compressive strength stated above, a structural concrete mix with an ultimate strength of 6000 psi (40 N/mm²) will typically require a cure time of approximately 6 days at an average ambient temperature of 25 degrees F (-4 degrees C) or 2 days at 70 degrees F (21 degrees C).

6. Availability & Cost

AVAILABILITY

A network of distributors carries Preprufe and Bituthene products for prompt delivery to project sites.

COST

For specific information, contact a local distributor or a Grace Construction Products representative.

7. Warranty

A 5 year material warranty for Preprufe and Bituthene membrane products is available from the manufacturer upon request.

8. Maintenance

Preprufe 300R and Preprufe 160R membranes will not require maintenance when installed in accordance with Grace's recommendations.

9. Technical Services

Support is provided by full-time, technically trained Grace field sales representatives and technical service personnel, backed by a central research and development staff.

10. Filing Systems

- Reed First Source
- Additional product information is available from the manufacturer.

PF-118C Printed in U.S.A. 11/06 AFS/LI/3M

220AF Fibered Emulsion Dampproofing (brush or spray)

DESCRIPTION:
Karnak #220AF Fibered Emulsion Dampproofing is a general purpose coating, manufactured with refined asphalt, clay emulsifiers, and selected non-asbestos fibers. The dried film cures to a tough, flexible, durable finish and will resist variations in temperature and weather. Karnak #220AF Fibered Emulsion Dampproofing will not burn or support combustion in a liquid state. It has no odor or fumes, and resists the absorption of exterior moisture. Karnak #220AF Fibered Emulsion Dampproofing may be applied to slightly damp surfaces.

USES:
Karnak #220AF Fibered Emulsion Dampproofing is a vapor retarder used as a protective coating against dampness on the exterior face of interior walls in cavity wall construction and exterior surfaces of concrete, metal and wood above or below grade. It may also be applied to interior surfaces in the absence of hydrostatic pressure. The emulsion may be utilized as an adhesive for polystyrene insulation prior to backfilling.

SPECIFICATIONS:
ASTM D-1227 Type II Class I
ASTM D-1187 Type I and Type II
SS-R-1781 (except non-Asbestos)
MIL-R 3472A (except non-Asbestos)

SURFACE PREPARATION:
Surface should be free of oil, grease, dirt, laitance and loose material. Dry surfaces may be dampened with water before application. Repair all cracks and holes with Karnak #220AF Fibered Emulsion Dampproofing and Karnak #31 Fiberglass Membrane or Karnak #34 Asphalt Saturated Cotton Fabric, before applying the surface coating.

APPLICATION:
Karnak #220AF Fibered Emulsion Dampproofing is easily applied by brush, roller or spray equipment. Apply Karnak #220AF Fibered Emulsion Dampproofing in one coat. If applying two coats, allow the first coat to dry. Coating should be continuous and free of pinholes and holidays. Cover all slots, joints and grooves and apply into all chases and corners.

APPLICATION:
A) Above-grade dampproofing (interior and exterior):
Apply one coat of Karnak #220AF Fibered Emulsion Dampproofing at a rate of 4

220AF Fibered Emulsion Dampproofing (brush or spray)

to 6 gallons per 100 sq. ft. If applying two coats, each coat should be 2 to 3 gallons per 100 sq. ft. (First coat must be allowed to dry prior to the application of the second coat).

B) Below-grade dampproofing (interior, exterior and cavity walls):
Apply one coat of Karnak #220AF Fibered Emulsion Dampproofing at a rate of 4 to 6 gallons per 100 sq. ft. If applying two coats, each coat should be 2 to 3 gallons per 100 sq. ft. (First coat must be allowed to dry prior to the application of the second coat.)

C) Fabric re-enforced dampproofing:
Apply one coat of Karnak #220AF Fibered Emulsion Dampproofing at a rate of 2 to 3 gallons per 100 sq.ft. Apply Karnak #31 Fiber Glass Membrane or Karnak #34 Asphalt Saturated Cotton Fabric over the wet coating, overlapping all edges. Smooth out all wrinkles, making sure there is no trapped air underneath the fabric. Proceed with second coat at a rate of 2 to 3 gallons per 100 sq. ft.

D) Polystyrene insulation adhesive:
Karnak #220AF Fibered Emulsion Dampproofing is a water-based asphalt emulsion that is 100% compatible with polystyrene insulation or protection board. As an adhesive, Karnak #220AF Fibered Emulsion Dampproofing should be applied in 4" diameter dabs directly to the insulation and immediately pressed into place.

Note: When more than two courses are required, wall ties may be necessary. Allow the film to cure for a minimum of 24 to 48 hours prior to backfilling.

Care should be taken during backfilling not to puncture or damage the coating. A protection board is highly recommended and backfilling should take place within 7 days.

COVERAGE RATE:
Apply at 4 to 6 gallons per 100 square feet. Spray application should be at the same rate.

PHYSICAL PROPERTIES:

Weight per Gallon:	9.2
Solids by Weight	(52%-54%) Nominal
Solids by Volume	(49%-51%) Nominal
Color:	Black
Permeance:	0.5 metric perms
Cure Time:	24 to 48 hours @ 77°F and 50% Relative Humidity

KARNAK 330 CENTRAL AVENUE, CLARK, NJ 07066
732-388-0300 • 800-526-4236 • FAX: 732-388-9422
WEB: http://www.karnakcorp.com

CLASSIFIED UL CLASSIFIED C UL METRO-DADE APPROVED

220AF Fibered Emulsion Dampproofing (brush or spray)

Service Temp. (Cured Film): -40°F to 180°F.

CAUTION:
Do not apply when rain is imminent. **Protect from freezing.** Coating must be dried before exposure to water. Store in a heated room and keep container covered when not in use. **Do not thin.**

Avoid prolonged contact with skin. Dispose of in an environmentally safe manner.

PACKAGING:
Available in 5 gallon pails and 55 gallon drums.

CARE OF TOOLS:
Tools and other equipment should be cleaned with soapy cool water immediately after use. Dried coating may be cleaned with mineral spirits. Take necessary precautions when handling combustible material.

If further information is needed, contact Karnak Technical Services at 1-800-526-4236.

KARNAK

CLASSIFIED UL CLASSIFIED c UL METRO-DADE APPROVED

Appendix L

Source Delineation / Pre-remedial Groundwater Measurements

JADE ENVIRONMENTAL, INC. jadeenv@alum.rpi.edu
59 Circle Dr., Suite 100, Hopewell Junction, New York 12533 (845) 897-2188 tel. (845) 897-2189 fax

May 21, 2011

Mr. John Miller
NYSDEC - Remedial Bureau C
625 Broadway
Albany, New York 12233

Re: Source Delineation / Pre-Remedial Groundwater Data Addendum Report
Clinton Terrace Shopping Center, BCP No: 360110
74-82 Croton Avenue, Ossining, New York 10562-4201

Dear John:

Source Delineation

The following document details the results of our Source Delineation activities at the above referenced Brownfield Site.

As you may notice, the delineation does not follow the standard distribution model at the 8-12' depth interval, however, the data does provide sufficient information to ascertain the extent of soil contamination and provide for a basis for excavation / stockpiling planning. Total and extract concentrations of PCE measured by the lab are summarized below. The lab report is appended. Red shading indicates soil concentrations that characterize the soil as hazardous based on toxicity (TCLP extract conc >700 ppb, Total PCE > 12 ppm). Orange shaded cells indicate PCE concentrations that characterize soil as regulated – non-hazardous.

Boring Id	Depth Interval	PCE Conc TCLP (ppb)	PCE Conc Total (ppb)
ISB-1	0-4'	210	3,700
	4'-8'	680	27,000
	8-12'	17	110
ISB-2	0-4'	92,000	6,500,000
	4'-8'	220,000	17,000,000
	8-12'	18,000	120,000
ISB-3	0-4'	780	28,000
	4'-8'	630	25,000
	8-12'	150	2,700
ISB-4	0-4'	9.4	770
	4'-8'	<5.0	<6.0
	8-12'	2,100	3,700
ISB-5	0-4'	1,900	1,700
	4'-8'	7.3	180
	8-12'	24	32

As can seen in the summary table, soil in the area of ISB-4 is not contaminated between 0-8 feet but is hazardous at 8'-12'. Jade anticipates the PCE is following a sand lens in that depth interval.

Based on our delineation as depicted on the attached maps, Jade estimates the following waste quantities:

Waste Calculation Summary Table		
Depth Interval	**Hazardous**	**Non-Hazardous**
0-4'	50	95
4-8'	72	70
8-12'	72	70
Saturated Zone	None	600
Totals (yds/tons)	200/250	835/1043

Because proposed staging areas have a maximum capacity of 600 yards, soil excavated above the saturated zone will be stockpiled, characterized and disposed prior to excavation below the water table (pre-dewatering water table) will begin.

Groundwater Pre-remedial Measurements

The following table summarizes groundwater measurements and PCE concentrations at select wells. The data will be used as a basis for calculating the appropriate type and quantity of reagent to be used at the end of the excavation to accelerate degradation of residual contamination not physically removed by pumping or excavation. Groundwater measurements and sampling was conducted on May 9, 2011. Depth to water measurements were collected May 16, 2011

Groundwater data was collected using a Horiba Multi-Meter with flow thru cell using dedicated tubing and EPA low flow sampling guidelines. Depth to water measurements were collected using a Solinst electronic Groundwater Depth gauge.

JADE ENVIRONMENTAL, INC.
59 Circle Dr., Suite 100, Hopewell Junction, New York 12533
jadeenv@alum.rpi.edu
(845) 897-2188 tel. (845) 897-2189 fax

Pre-Remedial Groundwater Measurements

Well Id	Depth to Water	pH	Conductivity	Turbidity	DO	Temp C	ORP	Time	PCE Conc (ppb)
A	9.37	7.33	0.321	10.0	7.17	18.6	102	2:17	160
		7.32	0.318	10.0	7.17	18.5	94	2:21	
		7.34	0.318	10.0	7.32	18.2	87	2:25	
		7.34	0.321	10.0	7.38	18.0	83	2:28	
B	10.42				No Data				
C	10.48	7.05	0.420	999	2.09	14.5	-26	1:33	110
		7.06	0.391	999	1.87	14.4	-24	1:37	
		7.06	0.378	999	1.81	14.4	-23	1:40	
		7.06	0.366	999	1.75	14.5	-20	1:43	
D	11.28	6.67	0.368	999	5.99	14.7	226	1:10	180
		6.77	0.281	999	5.03	14.1	228	1:13	
		6.8	0.241	999	4.82	14.1	230	1:16	
		6.82	0.235	999	4.81	14	230	1:19	
E	11.02	7.10	0.304	999	8.72	11.1	152	2:55	27
		7.01	0.308	999	8.11	11.1	159	2:58	
		7.05	0.308	999	7.87	11.0	160	3:01	
F	10.62				No Data				
G	6.83				No Data				
H	9.44	7.12	0.320	446	9.33	14.2	205	12:22	10,000
		6.86	0.319	534	8.86	13.9	211	12:26	
		6.75	0.291	562	7.25	13.9	214	12:30	
		6.78	0.261	654	6.17	13.9	215	12:36	
		6.78	0.256	999	5.24	14.1	217	12:45	
		6.79	0.257	999	5.01	13.6	218	12:48	
		6.79	0.245	999	4.85	13.8	220	12:51	
I	9.5				No Data				
J	Basement	6.97	0.115	1700	7.55	14.3	183	4:10	90
		6.92	0.117	103	7.13	14.2	184	4:13	
		6.92	0.118	122	6.93	14.2	184	4:17	
		6.95	0.117	76.8	6.86	14.1	183	4:20	
		6.97	0.118	999	682	14.1	183	4:24	
		7.00	0.117	871	673	14.1	182	4:27	
K	Basement	7.30	54.0	999	9.68	16.3	152	3:45	140
		7.11	53.7	999	8.63	16.5	166	3:48	
		7.17	53.2	837	8.43	16.6	166	3:52	
		7.28	52.9	639	8.29	16.6	166	3:56	
		7.37	52.7	503	8.17	16.7	165	4:01	
		7.41	53.1	413	8.08	16.8	167	4:04	
L	9.61	6.58	0.3	571	6.11	19.0	225	1:02	

As can be seen, groundwater collected from monitoring well H which is approximately 30' directly down gradient of the suspected PCE release is contaminated at 10,000 ppb. Surrounding wells exhibit concentrations worthy of monitored natural attenuation, which will be the final method of mitigation at this site.

Summary

Hazardous
Jade estimates approximately 200 yards of "hazardous" soil will be excavated from the vadoze zone, stockpiled (TCLP extract PCE conc >700 ppb, Total PCE>12 ppm) and ultimately require disposal as a hazardous waste.

Non-hazardous
Jade estimates upwards of 250 yards of soil will also be excavated from the vadoze zone, stockpiled and ultimately require disposal as a "non-hazardous" regulated waste – with a beneficial reuse as daily cover at an approved landfill.

Saturated Zone
Jade estimates upwards of 600 yards of soil will be excavated from the saturated zone and also disposed as "non-hazardous" regulated waste also with the beneficial reuse as daily cover at an approved landfill.

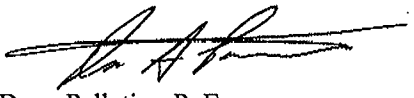
Because the proposed staging area has a total capacity of 600 yds, all soil excavated from the vadoze zone will have to be characterized and disposed before excavation from the saturated zone can begin.

A copy of this report will be forwarded to Regenisis for their use in determining the appropriate type and quantity of reagent that could best address.

If you should have any questions regarding these findings, please do not hesitate to call.

Sincerely,

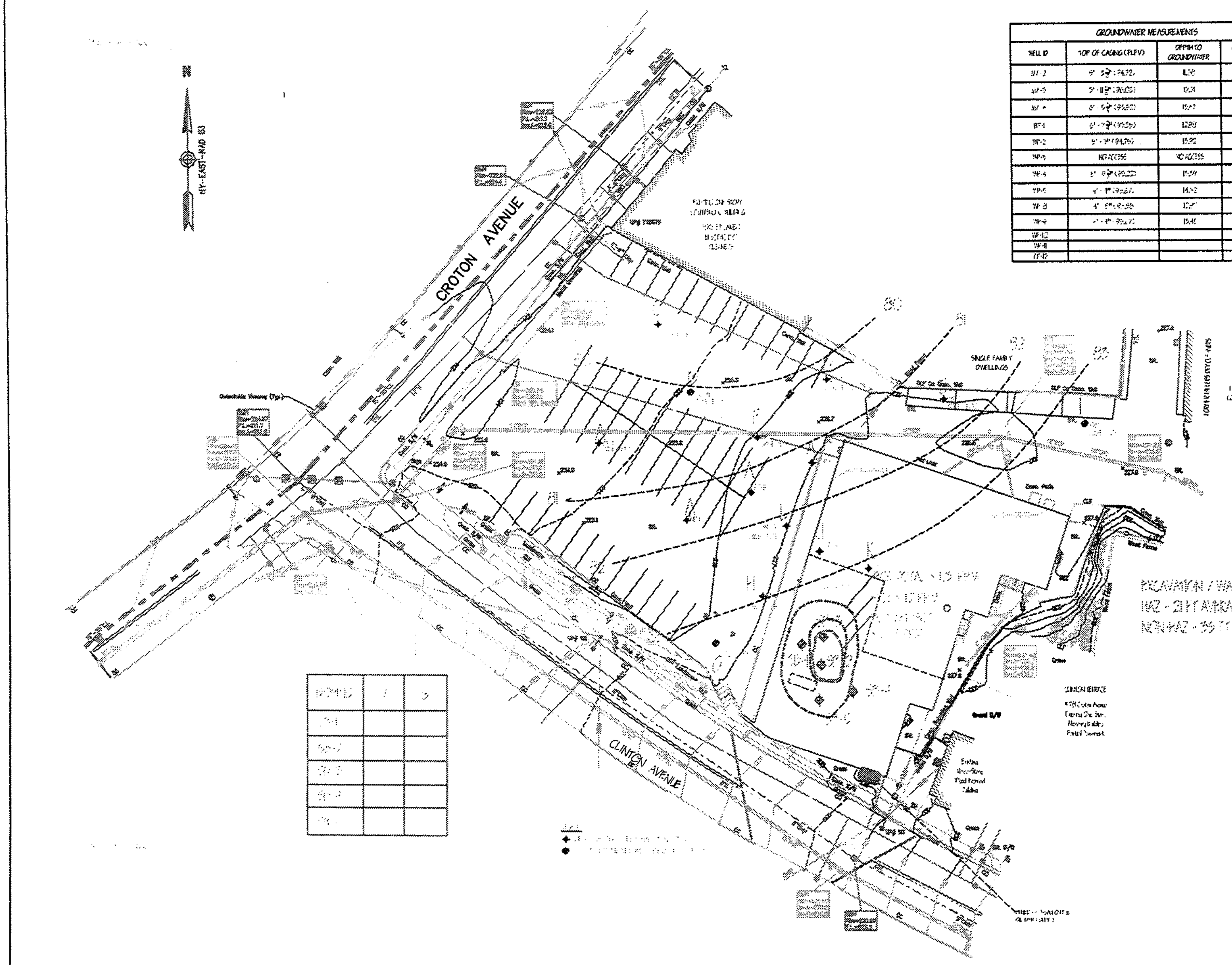
Jade Environmental, Inc.



Dave Pelletier, P. E.
Project Engineer

Attachments – Four Limits of Excavation Maps
Lab reports

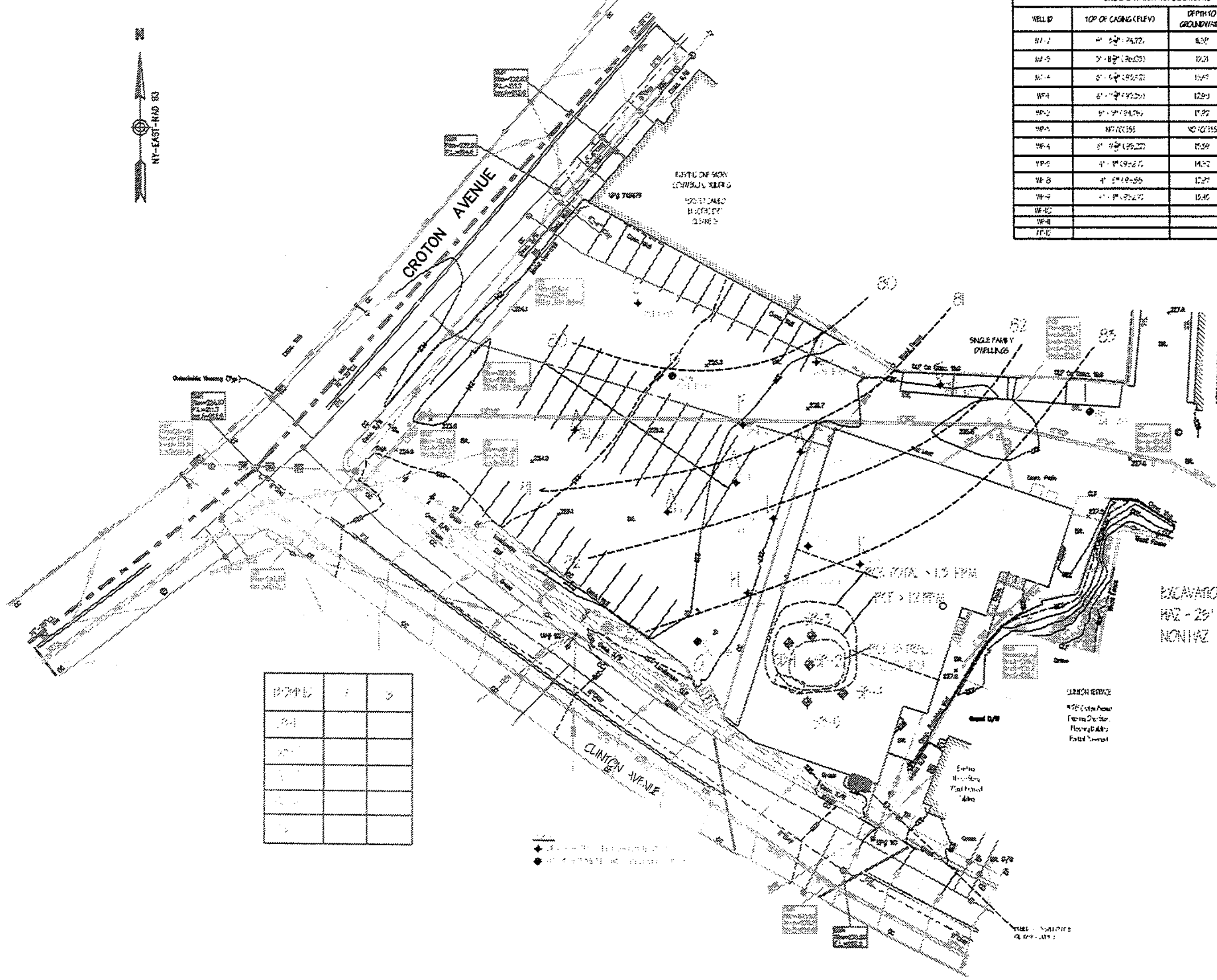
Cc: S. Krauss – DLC Mgmt
B. Mehlich – Mehlich Associates



GROUNDWATER MEASUREMENTS			
WELL ID	TOP OF CASING (ELEV)	DEPTH TO GROUNDWATER	GROUNDWATER ELEVATION
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	NO ACCESS	NO ACCESS	NA
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]			
[illegible]			
[illegible]			

FIELD MEASUREMENTS [illegible]

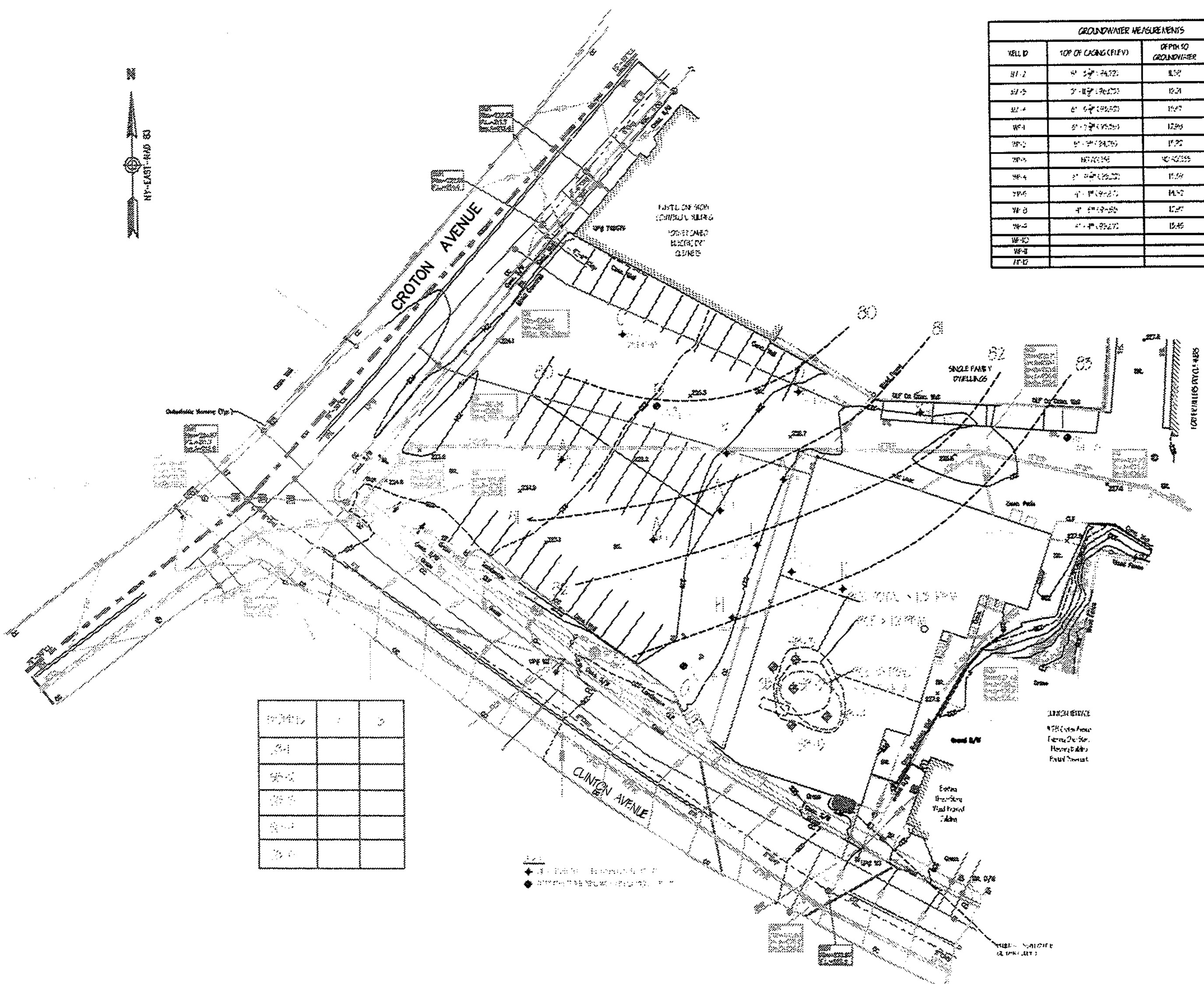
0-4' LIMITS OF EXCAVATION		
CLINTON TERRACE SHOPPING CENTER		
74-82 CROTON AVENUE		
OSSINING, NEW YORK		
JADE ENVIRONMENTAL, INC		
1' - 20'	D. PELLETIER	JAN 9 2009



GROUNDWATER MEASUREMENTS			
WELL ID	TOP OF CASING (ELEV)	DEPTH TO GROUNDWATER	GROUNDWATER ELEVATION
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
WP-1	[illegible]	[illegible]	[illegible]
WP-2	[illegible]	[illegible]	[illegible]
WP-3	NO ACCESS	NO ACCESS	NA
WP-4	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
WP-8	[illegible]	[illegible]	[illegible]
WP-9	[illegible]	[illegible]	[illegible]
WP-10			
WP-11			
[illegible]			

FIELD MEASUREMENTS			
TEST POINT	▲	■	●
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	—
WP-1	[illegible]	[illegible]	—
WP-2	[illegible]	[illegible]	—
[illegible]	[illegible]	—	[illegible]
WP-4	[illegible]	[illegible]	—
[illegible]		[illegible]	[illegible]
WP-5	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
WP-10	[illegible]	[illegible]	—
WP-11	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
SB-1	[illegible]	[illegible]	—
SB-2	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]		[illegible]	[illegible]

4-8' LIMITS OF EXCAVATION		
CLINTON TERRACE SHOPPING CENTER		
74-82 CROTON AVENUE		
OSSINING, NEW YORK		
JADE ENVIRONMENTAL, INC		
1" - 20'	D. PELLETIER	JAN 9 2009



EXCAVATION WASTE QUANTITY ESTIMATE

GROUNDWATER MEASUREMENTS			
WELL ID	TOP OF CASING (ELEV)	DEPTH TO GROUNDWATER	GROUNDWATER ELEVATION
MW-2	[illegible]	[illegible]	[illegible]
MW-3	[illegible]	[illegible]	[illegible]
MW-4	[illegible]	[illegible]	[illegible]
WP-1	[illegible]	[illegible]	[illegible]
WP-2	[illegible]	[illegible]	[illegible]
WP-3	NO ACCESS	NO ACCESS	NA
WP-4	[illegible]	[illegible]	[illegible]
WP-5	[illegible]	[illegible]	[illegible]
WP-8	[illegible]	[illegible]	[illegible]
WP-9	[illegible]	15.45	[illegible]
WP-10			
WP-11			
WP-12			

FIELD MEASUREMENTS			
[illegible]	▲	■	●
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	—
WP-1	[illegible]	[illegible]	—
WP-2	[illegible]	[illegible]	—
[illegible]	[illegible]	—	[illegible]
[illegible]	[illegible]	[illegible]	—
[illegible]		[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]		[illegible]	[illegible]

8-12' LIMITS OF EXCAVATION

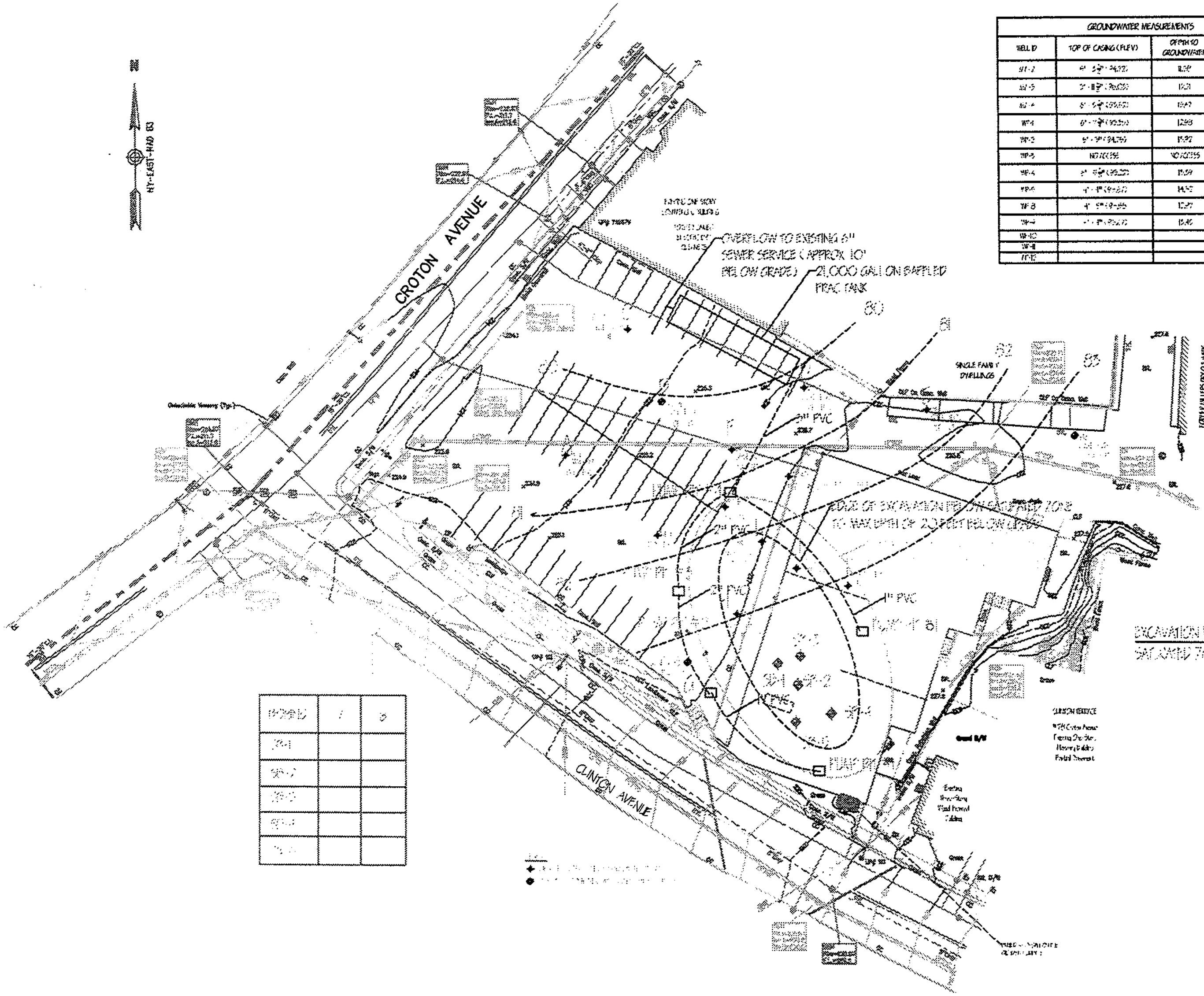
CLINTON TERRACE SHOPPING CENTER

74-82 CROTON AVENUE

OSSINING, NEW YORK

JADE ENVIRONMENTAL, INC

1' - 20'	D. PELLETIER	JAN 9 2009



GROUNDWATER MEASUREMENTS			
WELL ID	TOP OF CASING (ELEV)	DEPTH TO GROUNDWATER	GROUNDWATER ELEVATION
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	NO ACCESS	NO ACCESS	NA
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]			
[illegible]			
[illegible]			

YIELD MEASUREMENTS			
[illegible]	▲	■	●
[illegible]	[illegible]	[illegible]	—
[illegible]	-	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	—	[illegible]
[illegible]	[illegible]	[illegible]	—
[illegible]		[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]	—
[illegible]		[illegible]	[illegible]

EXCAVATION WASTE QUANTITY CALCULATION

LIMITS OF EXCAVATION SAT. ZONE
LOCATION OF PUMP PITS/ PIPING
CLINTON TERRACE SHOPPING CENTER
OSSINING, NEW YORK
JADE ENVIRONMENTAL, INC
1" - 20' D. PELLETIER JAN 9 2009

PHOENIX
Environmental Laboratories, Inc.

Thursday, May 12, 2011

Attn: Mr. David Pelletier
Jade Environmental, Inc.
59 Circle Drive
Hopewell Junction, NY 12533

Project ID: OSSINING POST REMOVAL
Sample ID#s: BA30020 - BA30026

This laboratory is in compliance with the QA/QC procedures outlined in EPA 600/4-79-019, Handbook for Analytical Quality in Water and Waste Water, March 1979, SW846 QA/QC and NELAC requirements of procedures used.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

May 12, 2011

FOR: Attn: Mr. David Pelletier
Jade Environmental, Inc.
59 Circle Drive
Hopewell Junction, NY 12533

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		05/09/11	0:00
Location Code:	JADEENV	Received by:	LB	05/10/11	17:05
Rush Request:	RUSH##	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBA30020
Phoenix ID: BA30020

Project ID: OSSINING POST REMOVAL
Client ID: A

Parameter	Result	RL	Units	Date	Time	By	Reference
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,1,1-Trichloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	05/10/11		R/T	SW8021/8260
1,1,2-Trichloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,1-Dichloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,1-Dichloroethene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,1-Dichloropropene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,2,3-Trichloropropane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,2-Dichlorobenzene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,2-Dichloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,2-Dichloropropane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,3-Dichlorobenzene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,3-Dichloropropane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,4-Dichlorobenzene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
2,2-Dichloropropane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Bromobenzene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Bromodichloromethane	ND	0.5	ug/L	05/10/11		R/T	SW8021/8260
Bromoform	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Bromomethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Carbon tetrachloride	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Chlorobenzene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Chloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Chloroform	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Chloromethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
cis-1,2-Dichloroethene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260

Project ID: OSSINING POST REMOVAL
Client ID: A

Phoenix I.D.: BA30020

Parameter	Result	RL	Units	Date	Time	By	Reference
cis-1,3-Dichloropropene	ND	0.5	ug/L	05/10/11		R/T	SW8021/8260
Dibromochloromethane	ND	0.5	ug/L	05/10/11		R/T	SW8021/8260
Dibromoethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Dibromomethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Dichlorodifluoromethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Methylene chloride	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Tetrachloroethene	160	20.0	ug/L	05/10/11		R/T	SW8021/8260
trans-1,2-Dichloroethene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
trans-1,3-Dichloropropene	ND	0.5	ug/L	05/10/11		R/T	SW8021/8260
trans-1,4-dichloro-2-butene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Trichloroethene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Trichlorofluoromethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Trichlorotrifluoroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Vinyl chloride	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	05/10/11		R/T	SW8021/8260
% Bromofluorobenzene	98		%	05/10/11		R/T	SW8021/8260
% Dibromofluoromethane	81		%	05/10/11		R/T	SW8021/8260
% Toluene-d8	105		%	05/10/11		R/T	SW8021/8260

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
May 13, 2011

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

May 12, 2011

FOR: Attn: Mr. David Pelletier
Jade Environmental, Inc.
59 Circle Drive
Hopewell Junction, NY 12533

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		05/09/11	0:00
Location Code:	JADEENV	Received by:	LB	05/10/11	17:05
Rush Request:	RUSH##	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBA30020
Phoenix ID: BA30021

Project ID: OSSINING POST REMOVAL
Client ID: C

Parameter	Result	RL	Units	Date	Time	By	Reference
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,1,1-Trichloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	05/10/11		R/T	SW8021/8260
1,1,2-Trichloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,1-Dichloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,1-Dichloroethene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,1-Dichloropropene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,2,3-Trichloropropane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,2-Dichlorobenzene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,2-Dichloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,2-Dichloropropane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,3-Dichlorobenzene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,3-Dichloropropane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,4-Dichlorobenzene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
2,2-Dichloropropane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Bromobenzene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Bromodichloromethane	ND	0.5	ug/L	05/10/11		R/T	SW8021/8260
Bromoform	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Bromomethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Carbon tetrachloride	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Chlorobenzene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Chloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Chloroform	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Chloromethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
cis-1,2-Dichloroethene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260

Project ID: OSSINING POST REMOVAL
Client ID: C

Phoenix I.D.: BA30021

Parameter	Result	RL	Units	Date	Time	By	Reference
cis-1,3-Dichloropropene	ND	0.5	ug/L	05/10/11		R/T	SW8021/8260
Dibromochloromethane	ND	0.5	ug/L	05/10/11		R/T	SW8021/8260
Dibromoethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Dibromomethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Dichlorodifluoromethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Methylene chloride	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Tetrachloroethene	110	20.0	ug/L	05/10/11		R/T	SW8021/8260
trans-1,2-Dichloroethene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
trans-1,3-Dichloropropene	ND	0.5	ug/L	05/10/11		R/T	SW8021/8260
trans-1,4-dichloro-2-butene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Trichloroethene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Trichlorofluoromethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Trichlorotrifluoroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Vinyl chloride	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	106		%	05/10/11		R/T	SW8021/8260
% Bromofluorobenzene	101		%	05/10/11		R/T	SW8021/8260
% Dibromofluoromethane	109		%	05/10/11		R/T	SW8021/8260
% Toluene-d8	101		%	05/10/11		R/T	SW8021/8260

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
May 13, 2011

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

May 12, 2011

FOR: Attn: Mr. David Pelletier
Jade Environmental, Inc.
59 Circle Drive
Hopewell Junction, NY 12533

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		05/09/11	0:00
Location Code:	JADEENV	Received by:	LB	05/10/11	17:05
Rush Request:	RUSH##	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBA30020
Phoenix ID: BA30022

Project ID: OSSINING POST REMOVAL
Client ID: D

Parameter	Result	RL	Units	Date	Time	By	Reference
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,1,1-Trichloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	05/10/11		R/T	SW8021/8260
1,1,2-Trichloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,1-Dichloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,1-Dichloroethene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,1-Dichloropropene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,2,3-Trichloropropane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,2-Dichlorobenzene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,2-Dichloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,2-Dichloropropane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,3-Dichlorobenzene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,3-Dichloropropane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,4-Dichlorobenzene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
2,2-Dichloropropane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Bromobenzene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Bromodichloromethane	ND	0.5	ug/L	05/10/11		R/T	SW8021/8260
Bromoform	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Bromomethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Carbon tetrachloride	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Chlorobenzene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Chloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Chloroform	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Chloromethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
cis-1,2-Dichloroethene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260

Project ID: OSSINING POST REMOVAL
Client ID: D

Phoenix I.D.: BA30022

Parameter	Result	RL	Units	Date	Time	By	Reference
cis-1,3-Dichloropropene	ND	0.5	ug/L	05/10/11		R/T	SW8021/8260
Dibromochloromethane	ND	0.5	ug/L	05/10/11		R/T	SW8021/8260
Dibromoethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Dibromomethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Dichlorodifluoromethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Methylene chloride	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Tetrachloroethene	180	20.0	ug/L	05/10/11		R/T	SW8021/8260
trans-1,2-Dichloroethene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
trans-1,3-Dichloropropene	ND	0.5	ug/L	05/10/11		R/T	SW8021/8260
trans-1,4-dichloro-2-butene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Trichloroethene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Trichlorofluoromethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Trichlorotrifluoroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Vinyl chloride	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	103		%	05/10/11		R/T	SW8021/8260
% Bromofluorobenzene	99		%	05/10/11		R/T	SW8021/8260
% Dibromofluoromethane	97		%	05/10/11		R/T	SW8021/8260
% Toluene-d8	101		%	05/10/11		R/T	SW8021/8260

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
May 13, 2011

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

May 12, 2011

FOR: Attn: Mr. David Pelletier
Jade Environmental, Inc.
59 Circle Drive
Hopewell Junction, NY 12533

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		05/09/11	0:00
Location Code:	JADEENV	Received by:	LB	05/10/11	17:05
Rush Request:	RUSH##	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBA30020
Phoenix ID: BA30023

Project ID: OSSINING POST REMOVAL

Client ID: E

Parameter	Result	RL	Units	Date	Time	By	Reference
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,1,1-Trichloroethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	05/11/11		R/T	SW8021/8260
1,1,2-Trichloroethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,1-Dichloroethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,1-Dichloroethene	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,1-Dichloropropene	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,2,3-Trichloropropane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,2-Dichlorobenzene	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,2-Dichloroethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,2-Dichloropropane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,3-Dichlorobenzene	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,3-Dichloropropane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,4-Dichlorobenzene	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
2,2-Dichloropropane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Bromobenzene	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Bromodichloromethane	ND	0.5	ug/L	05/11/11		R/T	SW8021/8260
Bromoform	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Bromomethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Carbon tetrachloride	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Chlorobenzene	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Chloroethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Chloroform	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Chloromethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
cis-1,2-Dichloroethene	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260

Project ID: OSSINING POST REMOVAL
Client ID: E

Phoenix I.D.: BA30023

Parameter	Result	RL	Units	Date	Time	By	Reference
cis-1,3-Dichloropropene	ND	0.5	ug/L	05/11/11		R/T	SW8021/8260
Dibromochloromethane	ND	0.5	ug/L	05/11/11		R/T	SW8021/8260
Dibromoethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Dibromomethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Dichlorodifluoromethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Methylene chloride	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Tetrachloroethene	27	1.0	ug/L	05/11/11		R/T	SW8021/8260
trans-1,2-Dichloroethene	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
trans-1,3-Dichloropropene	ND	0.5	ug/L	05/11/11		R/T	SW8021/8260
trans-1,4-dichloro-2-butene	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Trichloroethene	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Trichlorofluoromethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Trichlorotrifluoroethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Vinyl chloride	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	104		%	05/11/11		R/T	SW8021/8260
% Bromofluorobenzene	100		%	05/11/11		R/T	SW8021/8260
% Dibromofluoromethane	93		%	05/11/11		R/T	SW8021/8260
% Toluene-d8	103		%	05/11/11		R/T	SW8021/8260

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
May 13, 2011

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

May 12, 2011

FOR: Attn: Mr. David Pelletier
Jade Environmental, Inc.
59 Circle Drive
Hopewell Junction, NY 12533

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		05/09/11	0:00
Location Code:	JADEENV	Received by:	LB	05/10/11	17:05
Rush Request:	RUSH##	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBA30020
Phoenix ID: BA30024

Project ID: OSSINING POST REMOVAL
Client ID: H

Parameter	Result	RL	Units	Date	Time	By	Reference
Iron (Dissolved)	1.42	0.002	mg/L	05/11/11		EK	6010/200.7
Iron	4.29	0.002	mg/L	05/10/11		LK	6010/200.7
Manganese (Dissolved)	0.050	0.001	mg/L	05/11/11		EK	6010/200.7
Manganese	0.067	0.001	mg/L	05/10/11		EK	6010/200.7
C.O.D.	64	10	mg/L	05/12/11		MF	SM5220 D
Nitrate as Nitrogen	15	0.05	mg/L	05/11/11	5:32	BS/EG	300.0/9056
Sulfate	54	3.0	mg/L	05/11/11		BS/EG	300.0
Filtration	Completed			05/10/11		AG	0.45um Filter
Dissolved Metals Preparation	Completed			05/10/11		AG	SW846-3005
Total Metals Digestion	Completed			05/10/11		AG	
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,1,1-Trichloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	05/10/11		R/T	SW8021/8260
1,1,2-Trichloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,1-Dichloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,1-Dichloroethene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,1-Dichloropropene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,2,3-Trichloropropane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,2-Dichlorobenzene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,2-Dichloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,2-Dichloropropane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,3-Dichlorobenzene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,3-Dichloropropane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,4-Dichlorobenzene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
2,2-Dichloropropane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260

Project ID: OSSINING POST REMOVAL
Client ID: H

Phoenix I.D.: BA30024

Parameter	Result	RL	Units	Date	Time	By	Reference
Bromobenzene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Bromodichloromethane	ND	0.5	ug/L	05/10/11		R/T	SW8021/8260
Bromoform	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Bromomethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Carbon tetrachloride	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Chlorobenzene	2.1	1.0	ug/L	05/10/11		R/T	SW8021/8260
Chloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Chloroform	1.1	1.0	ug/L	05/10/11		R/T	SW8021/8260
Chloromethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
cis-1,2-Dichloroethene	2.9	1.0	ug/L	05/10/11		R/T	SW8021/8260
cis-1,3-Dichloropropene	ND	0.5	ug/L	05/10/11		R/T	SW8021/8260
Dibromochloromethane	ND	0.5	ug/L	05/10/11		R/T	SW8021/8260
Dibromoethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Dibromomethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Dichlorodifluoromethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Methylene chloride	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Tetrachloroethene	10000	1000	ug/L	05/10/11		R/T	SW8021/8260
trans-1,2-Dichloroethene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
trans-1,3-Dichloropropene	ND	0.5	ug/L	05/10/11		R/T	SW8021/8260
trans-1,4-dichloro-2-butene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Trichloroethene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Trichlorofluoromethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Trichlorotrifluoroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Vinyl chloride	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	104		%	05/10/11		R/T	SW8021/8260
% Bromofluorobenzene	98		%	05/10/11		R/T	SW8021/8260
% Dibromofluoromethane	102		%	05/10/11		R/T	SW8021/8260
% Toluene-d8	100		%	05/10/11		R/T	SW8021/8260

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
May 13, 2011

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

May 12, 2011

FOR: Attn: Mr. David Pelletier
Jade Environmental, Inc.
59 Circle Drive
Hopewell Junction, NY 12533

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		05/09/11	0:00
Location Code:	JADEENV	Received by:	LB	05/10/11	17:05
Rush Request:	RUSH##	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBA30020
Phoenix ID: BA30025

Project ID: OSSINING POST REMOVAL
Client ID: J

Parameter	Result	RL	Units	Date	Time	By	Reference
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,1,1-Trichloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	05/10/11		R/T	SW8021/8260
1,1,2-Trichloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,1-Dichloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,1-Dichloroethene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,1-Dichloropropene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,2,3-Trichloropropane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,2-Dichlorobenzene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,2-Dichloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,2-Dichloropropane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,3-Dichlorobenzene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,3-Dichloropropane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
1,4-Dichlorobenzene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
2,2-Dichloropropane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Bromobenzene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Bromodichloromethane	ND	0.5	ug/L	05/10/11		R/T	SW8021/8260
Bromoform	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Bromomethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Carbon tetrachloride	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Chlorobenzene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Chloroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Chloroform	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Chloromethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
cis-1,2-Dichloroethene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260

Project ID: OSSINING POST REMOVAL
Client ID: J

Phoenix I.D.: BA30025

Parameter	Result	RL	Units	Date	Time	By	Reference
cis-1,3-Dichloropropene	ND	0.5	ug/L	05/10/11		R/T	SW8021/8260
Dibromochloromethane	ND	0.5	ug/L	05/10/11		R/T	SW8021/8260
Dibromoethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Dibromomethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Dichlorodifluoromethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Methylene chloride	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Tetrachloroethene	90	20.0	ug/L	05/10/11		R/T	SW8021/8260
trans-1,2-Dichloroethene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
trans-1,3-Dichloropropene	ND	0.5	ug/L	05/10/11		R/T	SW8021/8260
trans-1,4-dichloro-2-butene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Trichloroethene	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Trichlorofluoromethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Trichlorotrifluoroethane	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
Vinyl chloride	ND	1.0	ug/L	05/10/11		R/T	SW8021/8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	105		%	05/10/11		R/T	SW8021/8260
% Bromofluorobenzene	100		%	05/10/11		R/T	SW8021/8260
% Dibromofluoromethane	99		%	05/10/11		R/T	SW8021/8260
% Toluene-d8	103		%	05/10/11		R/T	SW8021/8260

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
May 13, 2011

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

May 12, 2011

FOR: Attn: Mr. David Pelletier
Jade Environmental, Inc.
59 Circle Drive
Hopewell Junction, NY 12533

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		05/09/11	0:00
Location Code:	JADEENV	Received by:	LB	05/10/11	17:05
Rush Request:	RUSH##	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBA30020
Phoenix ID: BA30026

Project ID: OSSINING POST REMOVAL
Client ID: K

Parameter	Result	RL	Units	Date	Time	By	Reference
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,1,1-Trichloroethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	05/11/11		R/T	SW8021/8260
1,1,2-Trichloroethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,1-Dichloroethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,1-Dichloroethene	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,1-Dichloropropene	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,2,3-Trichloropropane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,2-Dichlorobenzene	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,2-Dichloroethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,2-Dichloropropane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,3-Dichlorobenzene	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,3-Dichloropropane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
1,4-Dichlorobenzene	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
2,2-Dichloropropane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Bromobenzene	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Bromodichloromethane	ND	0.5	ug/L	05/11/11		R/T	SW8021/8260
Bromoform	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Bromomethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Carbon tetrachloride	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Chlorobenzene	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Chloroethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Chloroform	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Chloromethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
cis-1,2-Dichloroethene	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260

Project ID: OSSINING POST REMOVAL
Client ID: K

Phoenix I.D.: BA30026

Parameter	Result	RL	Units	Date	Time	By	Reference
cis-1,3-Dichloropropene	ND	0.5	ug/L	05/11/11		R/T	SW8021/8260
Dibromochloromethane	ND	0.5	ug/L	05/11/11		R/T	SW8021/8260
Dibromoethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Dibromomethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Dichlorodifluoromethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Methylene chloride	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Tetrachloroethene	140	20.0	ug/L	05/11/11		R/T	SW8021/8260
trans-1,2-Dichloroethene	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
trans-1,3-Dichloropropene	ND	0.5	ug/L	05/11/11		R/T	SW8021/8260
trans-1,4-dichloro-2-butene	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Trichloroethene	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Trichlorofluoromethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Trichlorotrifluoroethane	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
Vinyl chloride	ND	1.0	ug/L	05/11/11		R/T	SW8021/8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	104		%	05/11/11		R/T	SW8021/8260
% Bromofluorobenzene	98		%	05/11/11		R/T	SW8021/8260
% Dibromofluoromethane	98		%	05/11/11		R/T	SW8021/8260
% Toluene-d8	104		%	05/11/11		R/T	SW8021/8260

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
May 13, 2011

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

QA/QC Report

May 13, 2011

QA/QC Data

SDG I.D.: GBA30020

Parameter	Blank	Dup RPD	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 176564, QC Sample No: BA29416 (BA30024)								
ICP Metals - Aqueous								
Iron	BDL	NC	116	116	0.0	98.7	98.8	0.1
Manganese	BDL	NC	106	107	0.9	99.7	101	1.3
QA/QC Batch 176635, QC Sample No: BA29853 (BA30024)								
ICP Metals - Dissolved								
Iron	BDL	NC	97.3	93.8	3.7	94.0	89.6	4.8
Manganese	BDL	NC	101	98.0	3.0	95.3	93.0	2.4

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Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

QA/QC Report

May 13, 2011

QA/QC Data

SDG I.D.: GBA30020

Parameter	Blank	Dup RPD	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 176701, QC Sample No: BA30034 (BA30024)								
Nitrate as Nitrogen	BDL	NC	94.4			99.8		
Sulfate	BDL	2.30	92.7			100		
QA/QC Batch 176802, QC Sample No: BA30274 (BA30024)								
C.O.D.	BDL	NC	99.0			102		

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Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

QA/QC Report

May 13, 2011

QA/QC Data

SDG I.D.: GBA30020

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD	
QA/QC Batch 176692, QC Sample No: BA29840 (BA30020, BA30021, BA30022, BA30024, BA30025, BA30026)								
Volatiles								
1,1,1,2-Tetrachloroethane	ND	111	93	17.6	98	102	4.0	
1,1,1-Trichloroethane	ND	85	91	6.8	97	112	14.4	
1,1,2,2-Tetrachloroethane	ND	100	92	8.3	96	108	11.8	
1,1,2-Trichloroethane	ND	106	93	13.1	83	94	12.4	
1,1-Dichloroethane	ND	81	111	31.3	110	123	11.2	
1,1-Dichloroethene	ND	81	92	12.7	105	119	12.5	
1,1-Dichloropropene	ND	130	65	66.7	85	87	2.3	2
1,2,3-Trichloropropane	ND	109	103	5.7	104	119	13.5	
1,2-Dibromo-3-chloropropane	ND	101	95	6.1	94	110	15.7	
1,2-Dichlorobenzene	ND	113	96	16.3	103	111	7.5	
1,2-Dichloroethane	ND	116	98	16.8	95	107	11.9	
1,2-Dichloropropane	ND	106	90	16.3	95	106	10.9	
1,3-Dichlorobenzene	ND	113	93	19.4	104	109	4.7	
1,3-Dichloropropane	ND	109	98	10.6	104	108	3.8	
1,4-Dichlorobenzene	ND	108	91	17.1	99	105	5.9	
2,2-Dichloropropane	ND	91	111	19.8	78	86	9.8	
Bromobenzene	ND	99	89	10.6	101	112	10.3	
Bromodichloromethane	ND	113	93	19.4	90	101	11.5	
Bromoform	ND	110	100	9.5	99	90	9.5	
Bromomethane	ND	48	67	33.0	53	86	47.5	2,3
Carbon tetrachloride	ND	121	76	45.7	90	97	7.5	
Chlorobenzene	ND	105	86	19.9	97	103	6.0	
Chloroethane	ND	87	104	17.8	112	131	15.6	
Chloroform	ND	85	95	11.1	94	107	12.9	
Chloromethane	ND	77	93	18.8	98	109	10.6	
cis-1,2-Dichloroethene	ND	82	125	41.5	95	105	10.0	
cis-1,3-Dichloropropene	ND	104	87	17.8	87	94	7.7	
Dibromochloromethane	ND	107	91	16.2	96	94	2.1	
Dibromoethane	ND	105	91	14.3	84	94	11.2	
Dibromomethane	ND	105	92	13.2	90	101	11.5	
Dichlorodifluoromethane	ND	55	51	7.5	72	85	16.6	2
Methylene chloride	ND	71	96	29.9	91	101	10.4	
trans-1,2-Dichloroethene	ND	65	78	18.2	97	107	9.8	2
trans-1,3-Dichloropropene	ND	106	91	15.2	87	95	8.8	
trans-1,4-dichloro-2-butene	ND	119	109	8.8	90	61	38.4	
Trichloroethene	ND	106	80	28.0	92	98	6.3	
Trichlorofluoromethane	ND	97	102	5.0	94	112	17.5	
Trichlorotrifluoroethane	ND	81	81	0.0	101	112	10.3	
Vinyl chloride	ND	75	87	14.8	105	118	11.7	
% 1,2-dichlorobenzene-d4	109	106	104	1.9	103	104	1.0	
% Bromofluorobenzene	92	94	105	11.1	103	104	1.0	

QA/QC Data

SDG I.D.: GBA30020

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD	
% Dibromofluoromethane	86	93	101	8.2	92	93	1.1	
% Toluene-d8	101	101	100	1.0	93	100	7.3	
QA/QC Batch 176789, QC Sample No: BA30109 (BA30020 (20X) , BA30021 (20X) , BA30022 (20X) , BA30023, BA30024 (1000X) , BA30026 (20X))								
Volatiles								
1,1,1,2-Tetrachloroethane	ND	103	104	1.0	109	112	2.7	
1,1,1-Trichloroethane	ND	125	113	10.1	125	128	2.4	
1,1,2,2-Tetrachloroethane	ND	103	95	8.1	102	106	3.8	
1,1,2-Trichloroethane	ND	98	90	8.5	95	98	3.1	
1,1-Dichloroethane	ND	112	106	5.5	132	131	0.8	3
1,1-Dichloroethene	ND	107	101	5.8	111	127	13.4	
1,1-Dichloropropene	ND	80	117	37.6	87	94	7.7	
1,2,3-Trichloropropane	ND	122	114	6.8	116	119	2.6	
1,2-Dibromo-3-chloropropane	ND	94	89	5.5	79	85	7.3	
1,2-Dichlorobenzene	ND	108	103	4.7	106	108	1.9	
1,2-Dichloroethane	ND	111	107	3.7	117	117	0.0	
1,2-Dichloropropane	ND	96	94	2.1	103	107	3.8	
1,3-Dichlorobenzene	ND	105	108	2.8	110	114	3.6	
1,3-Dichloropropane	ND	101	101	0.0	106	110	3.7	
1,4-Dichlorobenzene	ND	102	106	3.8	105	111	5.6	
2,2-Dichloropropane	ND	132	118	11.2	92	99	7.3	
Bromobenzene	ND	98	105	6.9	105	112	6.5	
Bromodichloromethane	ND	106	100	5.8	109	110	0.9	
Bromoform	ND	88	92	4.4	94	100	6.2	
Bromomethane	ND	103	103	0.0	95	123	25.7	
Carbon tetrachloride	ND	113	109	3.6	114	116	1.7	
Chlorobenzene	ND	98	100	2.0	105	111	5.6	
Chloroethane	ND	120	113	6.0	115	140	19.6	
Chloroform	ND	123	112	9.4	111	116	4.4	
Chloromethane	ND	99	99	0.0	88	116	27.5	
cis-1,2-Dichloroethene	ND	110	105	4.7	98	107	8.8	
cis-1,3-Dichloropropene	ND	93	89	4.4	91	95	4.3	
Dibromochloromethane	ND	91	94	3.2	97	100	3.0	
Dibromoethane	ND	95	88	7.7	97	95	2.1	
Dibromomethane	ND	101	96	5.1	102	100	2.0	
Dichlorodifluoromethane	ND	72	65	10.2	91	101	10.4	
Methylene chloride	ND	110	91	18.9	107	119	10.6	
Tetrachloroethene	ND	97	99	2.0	109	112	2.7	
trans-1,2-Dichloroethene	ND	104	83	22.5	124	140	12.1	3
trans-1,3-Dichloropropene	ND	97	90	7.5	98	98	0.0	
trans-1,4-dichloro-2-butene	ND	65	64	1.6	56	64	13.3	
Trichloroethene	ND	95	99	4.1	102	104	1.9	
Trichlorofluoromethane	ND	134	122	9.4	125	133	6.2	
Trichlorotrifluoroethane	ND	108	102	5.7	115	125	8.3	
Vinyl chloride	ND	100	97	3.0	100	127	23.8	
% 1,2-dichlorobenzene-d4	104	108	102	5.7	101	98	3.0	
% Bromofluorobenzene	100	94	99	5.2	102	105	2.9	
% Dibromofluoromethane	93	137	127	7.6	89	93	4.4	2
% Toluene-d8	102	101	96	5.1	103	101	2.0	

2 = This parameter is outside laboratory lcs/lcsd specified limits.
3 = This parameter is outside laboratory ms/msd specified limits.

QA/QC Data

SDG I.D.: GBA30020

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria

Phyllis Shiller, Laboratory Director
May 13, 2011

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 4 Pg 1 of 1

Data Delivery:
☐ Fax #: ______
☑ Email: ______

Customer: Jade Environmental, Inc.
Address: 59 Circle Dr.
Hopewell Jct., NY 12533

Project: Ossining Port Removal
Report to: Dave Pelletier
Invoice to: Same

Project P.O: ______
Phone #: ______
Fax #: ______

Client Sample - Information - Identification

Sampler's Signature ______ Date ______

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	VOC + 8010	COD	Iron (Total/Dissolved)	Manganese (Total/Dissolved)	Nitrate	Sulfate	Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H20	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
30020	A	GW	5/9	See Data Sheet	✓									2	~~2~~					
30021	C	↓	↓		✓									2	~~2~~					
30022	D	↓	↓		✓									2	~~2~~					
30023	E	↓	↓		✓									2	~~2~~					
*30024	H	↓	↓		✓	✓	✓	✓	✓	✓				4	*	1	1			
30025	J	↓	↓		✓									2	~~2~~					
30026	K	↓	↓		✓									2	~~2~~					

Relinquished by:	Accepted by:	Date:	Time:
Dave Pelletier	[signature]	5/10/11	11:55
[signature]	Lisa Arnold	5/10	17:05

Comments, Special Requirements or Regulations:
*Amber recd 1/4 Full (LDA)

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other

* SURCHARGE APPLIES

CT/RI
☐ RCP Cert.
☐ GW Protect.
☐ GA Mobility
☐ GB Mobility
☐ SW Protect.
☐ Res. Vol.
☐ Ind. Vol.
☐ Res. Criteria
☐ Other

MA
☐ MCP Cert.
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: NY

Data Format
☑ Excel
☑ PDF
☐ GIS/Key
☐ EQuIS
☐ Other ______

Data Package
☐ ASP-A
☐ NJ Reduced Deliv. *
☐ NJ Hazsite EDD
☑ Phoenix Std Report
☐ Other

PHOENIX
Environmental Laboratories, Inc.

Friday, April 29, 2011

Attn: Mr. David Pelletier
Jade Environmental, Inc.
59 Circle Drive
Hopewell Junction, NY 12533

Project ID: CRORON AVE
Sample ID#s: BA24594 - BA24609

This laboratory is in compliance with the QA/QC procedures outlined in EPA 600/4-79-019, Handbook for Analytical Quality in Water and Waste Water, March 1979, SW846 QA/QC and NELAC requirements of procedures used.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

April 29, 2011

FOR: Attn: Mr. David Pelletier
Jade Environmental, Inc.
59 Circle Drive
Hopewell Junction, NY 12533

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:		04/25/11	0:00
Location Code:	JADEENV	Received by:	SW	04/26/11	18:38
Rush Request:	RUSH##	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBA24594
Phoenix ID: BA24594

Project ID: CRORON AVE
Client ID: ISB-1 (0-4)

Parameter	Result	RL	Units	Date	Time	By	Reference
Percent Solid	92		%	04/26/11		JL	E160.3
TCLP Extraction Volatiles	Completed			04/26/11		X	EPA 1311
TCLP 8010							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1,1-Trichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1,2-Trichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1-Dichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1-Dichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2,3-Trichloropropane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2-Dichlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2-Dichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2-Dichloropropane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,3-Dichlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,4-Dichlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromodichloromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromoform	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromomethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Carbon tetrachloride	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chloroform	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chloromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
cis-1,2-Dichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
cis-1,3-Dichloropropene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Dibromochloromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-1 (0-4)

Phoenix I.D.: BA24594

Parameter	Result	RL	Units	Date	Time	By	Reference
Dibromomethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Dichlorodifluoromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Tetrachloroethene	210	25.0	ug/L	04/27/11		H/J	8021/8260
trans-1,2-Dichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
trans-1,3-Dichloropropene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Trichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Trichlorofluoromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Vinyl chloride	ND	5.0	ug/L	04/27/11		H/J	8021/8260
QA/QC Surrogates							
% BFB (Surrogate Recovery)	94		%	04/27/11		H/J	8021/8260
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	11	11	ug/Kg	04/29/11		RM	8021/8260
1,1,1-Trichloroethane	ND	11	ug/Kg	04/29/11		RM	8021/8260
1,1,2,2-Tetrachloroethane	ND	11	ug/Kg	04/29/11		RM	8021/8260
1,1,2-Trichloroethane	ND	11	ug/Kg	04/29/11		RM	8021/8260
1,1-Dichloroethane	ND	11	ug/Kg	04/29/11		RM	8021/8260
1,1-Dichloroethene	ND	11	ug/Kg	04/29/11		RM	8021/8260
1,2,3-Trichloropropane	ND	11	ug/Kg	04/29/11		RM	8021/8260
1,2-Dichlorobenzene	ND	11	ug/Kg	04/29/11		RM	8021/8260
1,2-Dichloroethane	ND	11	ug/Kg	04/29/11		RM	8021/8260
1,2-Dichloropropane	ND	11	ug/Kg	04/29/11		RM	8021/8260
1,3-Dichlorobenzene	ND	11	ug/Kg	04/29/11		RM	8021/8260
1,4-Dichlorobenzene	ND	11	ug/Kg	04/29/11		RM	8021/8260
Bromobenzene	ND	11	ug/Kg	04/29/11		RM	8021/8260
Bromodichloromethane	ND	11	ug/Kg	04/29/11		RM	8021/8260
Bromoform	ND	11	ug/Kg	04/29/11		RM	8021/8260
Bromomethane	ND	11	ug/Kg	04/29/11		RM	8021/8260
Carbon tetrachloride	ND	11	ug/Kg	04/29/11		RM	8021/8260
Chlorobenzene	ND	11	ug/Kg	04/29/11		RM	8021/8260
Chloroethane	ND	11	ug/Kg	04/29/11		RM	8021/8260
Chloroform	ND	11	ug/Kg	04/29/11		RM	8021/8260
Chloromethane	ND	11	ug/Kg	04/29/11		RM	8021/8260
cis-1,2-Dichloroethene	ND	11	ug/Kg	04/29/11		RM	8021/8260
cis-1,3-Dichloropropene	ND	11	ug/Kg	04/29/11		RM	8021/8260
Dibromochloromethane	ND	11	ug/Kg	04/29/11		RM	8021/8260
Dibromomethane	ND	11	ug/Kg	04/29/11		RM	8021/8260
Dichlorodifluoromethane	ND	11	ug/Kg	04/29/11		RM	8021/8260
Methylene chloride	ND	33	ug/Kg	04/29/11		RM	8021/8260
Tetrachloroethene	3700	550	ug/Kg	04/29/11		RM	8021/8260
trans-1,2-Dichloroethene	ND	11	ug/Kg	04/29/11		RM	8021/8260
trans-1,3-Dichloropropene	ND	11	ug/Kg	04/29/11		RM	8021/8260
Trichloroethene	ND	11	ug/Kg	04/29/11		RM	8021/8260
Trichlorofluoromethane	ND	11	ug/Kg	04/29/11		RM	8021/8260
Vinyl chloride	ND	11	ug/Kg	04/29/11		RM	8021/8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	91		%	04/29/11		RM	8021/8260
% Bromofluorobenzene	79		%	04/29/11		RM	8021/8260
% Dibromofluoromethane	108		%	04/29/11		RM	8021/8260
% Toluene-d8	98		%	04/29/11		RM	8021/8260

Project ID: CRORON AVE
Client ID: ISB-1 (0-4)

Phoenix I.D.: BA24594

Parameter	Result	RL	Units	Date	Time	By	Reference

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
May 02, 2011

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

April 29, 2011

FOR: Attn: Mr. David Pelletier
Jade Environmental, Inc.
59 Circle Drive
Hopewell Junction, NY 12533

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:		04/25/11	0:00
Location Code:	JADEENV	Received by:	SW	04/26/11	18:38
Rush Request:	RUSH##	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBA24594
Phoenix ID: BA24595

Project ID: CRORON AVE
Client ID: ISB-1 (4-8)

Parameter	Result	RL	Units	Date	Time	By	Reference
Percent Solid	86		%	04/26/11		JL	E160.3
TCLP Extraction Volatiles	Completed			04/26/11		X	EPA 1311
TCLP 8010							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1,1-Trichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1,2-Trichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1-Dichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1-Dichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2,3-Trichloropropane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2-Dichlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2-Dichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2-Dichloropropane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,3-Dichlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,4-Dichlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromodichloromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromoform	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromomethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Carbon tetrachloride	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chloroform	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chloromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
cis-1,2-Dichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
cis-1,3-Dichloropropene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Dibromochloromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-1 (4-8)

Phoenix I.D.: BA24595

Parameter	Result	RL	Units	Date	Time	By	Reference
Dibromomethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Dichlorodifluoromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Tetrachloroethene	680	100	ug/L	04/27/11		H/J	8021/8260
trans-1,2-Dichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
trans-1,3-Dichloropropene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Trichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Trichlorofluoromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Vinyl chloride	ND	5.0	ug/L	04/27/11		H/J	8021/8260
QA/QC Surrogates							
% BFB (Surrogate Recovery)	93		%	04/27/11		H/J	8021/8260
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	580	ug/Kg	04/29/11		R/J	8021/8260
1,1,1-Trichloroethane	ND	580	ug/Kg	04/29/11		R/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	580	ug/Kg	04/29/11		R/J	8021/8260
1,1,2-Trichloroethane	ND	580	ug/Kg	04/29/11		R/J	8021/8260
1,1-Dichloroethane	ND	580	ug/Kg	04/29/11		R/J	8021/8260
1,1-Dichloroethene	ND	580	ug/Kg	04/29/11		R/J	8021/8260
1,2,3-Trichloropropane	ND	580	ug/Kg	04/29/11		R/J	8021/8260
1,2-Dichlorobenzene	ND	580	ug/Kg	04/29/11		R/J	8021/8260
1,2-Dichloroethane	ND	580	ug/Kg	04/29/11		R/J	8021/8260
1,2-Dichloropropane	ND	580	ug/Kg	04/29/11		R/J	8021/8260
1,3-Dichlorobenzene	ND	580	ug/Kg	04/29/11		R/J	8021/8260
1,4-Dichlorobenzene	ND	580	ug/Kg	04/29/11		R/J	8021/8260
Bromobenzene	ND	580	ug/Kg	04/29/11		R/J	8021/8260
Bromodichloromethane	ND	580	ug/Kg	04/29/11		R/J	8021/8260
Bromoform	ND	580	ug/Kg	04/29/11		R/J	8021/8260
Bromomethane	ND	580	ug/Kg	04/29/11		R/J	8021/8260
Carbon tetrachloride	ND	580	ug/Kg	04/29/11		R/J	8021/8260
Chlorobenzene	ND	580	ug/Kg	04/29/11		R/J	8021/8260
Chloroethane	ND	580	ug/Kg	04/29/11		R/J	8021/8260
Chloroform	ND	580	ug/Kg	04/29/11		R/J	8021/8260
Chloromethane	ND	580	ug/Kg	04/29/11		R/J	8021/8260
cis-1,2-Dichloroethene	ND	580	ug/Kg	04/29/11		R/J	8021/8260
cis-1,3-Dichloropropene	ND	580	ug/Kg	04/29/11		R/J	8021/8260
Dibromochloromethane	ND	580	ug/Kg	04/29/11		R/J	8021/8260
Dibromomethane	ND	580	ug/Kg	04/29/11		R/J	8021/8260
Dichlorodifluoromethane	ND	580	ug/Kg	04/29/11		R/J	8021/8260
Methylene chloride	ND	580	ug/Kg	04/29/11		R/J	8021/8260
Tetrachloroethene	27000	2900	ug/Kg	04/29/11		R/J	8021/8260
trans-1,2-Dichloroethene	ND	580	ug/Kg	04/29/11		R/J	8021/8260
trans-1,3-Dichloropropene	ND	580	ug/Kg	04/29/11		R/J	8021/8260
Trichloroethene	ND	580	ug/Kg	04/29/11		R/J	8021/8260
Trichlorofluoromethane	ND	580	ug/Kg	04/29/11		R/J	8021/8260
Vinyl chloride	ND	580	ug/Kg	04/29/11		R/J	8021/8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	04/29/11		R/J	8021/8260
% Bromofluorobenzene	91		%	04/29/11		R/J	8021/8260
% Dibromofluoromethane	109		%	04/29/11		R/J	8021/8260
% Toluene-d8	99		%	04/29/11		R/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-1 (4-8)

Phoenix I.D.: BA24595

Parameter	Result	RL	Units	Date	Time	By	Reference

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
May 02, 2011

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

April 29, 2011

FOR: Attn: Mr. David Pelletier
Jade Environmental, Inc.
59 Circle Drive
Hopewell Junction, NY 12533

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:		04/25/11	0:00
Location Code:	JADEENV	Received by:	SW	04/26/11	18:38
Rush Request:	RUSH##	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBA24594
Phoenix ID: BA24596

Project ID: CRORON AVE
Client ID: ISB-1 (8-12)

Parameter	Result	RL	Units	Date	Time	By	Reference
Percent Solid	88		%	04/26/11		JL	E160.3
TCLP Extraction Volatiles	Completed			04/26/11		X	EPA 1311
TCLP 8010							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1,1-Trichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1,2-Trichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1-Dichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1-Dichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2,3-Trichloropropane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2-Dichlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2-Dichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2-Dichloropropane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,3-Dichlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,4-Dichlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromodichloromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromoform	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromomethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Carbon tetrachloride	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chloroform	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chloromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
cis-1,2-Dichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
cis-1,3-Dichloropropene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Dibromochloromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-1 (8-12)

Phoenix I.D.: BA24596

Parameter	Result	RL	Units	Date	Time	By	Reference
Dibromomethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Dichlorodifluoromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Tetrachloroethene	17	5.0	ug/L	04/28/11		H/J	8021/8260
trans-1,2-Dichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
trans-1,3-Dichloropropene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Trichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Trichlorofluoromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Vinyl chloride	ND	5.0	ug/L	04/28/11		H/J	8021/8260
QA/QC Surrogates							
% BFB (Surrogate Recovery)	95		%	04/28/11		H/J	8021/8260
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	11	ug/Kg	04/28/11		R/J	8021/8260
1,1,1-Trichloroethane	ND	11	ug/Kg	04/28/11		R/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	11	ug/Kg	04/28/11		R/J	8021/8260
1,1,2-Trichloroethane	ND	11	ug/Kg	04/28/11		R/J	8021/8260
1,1-Dichloroethane	ND	11	ug/Kg	04/28/11		R/J	8021/8260
1,1-Dichloroethene	ND	11	ug/Kg	04/28/11		R/J	8021/8260
1,2,3-Trichloropropane	ND	11	ug/Kg	04/28/11		R/J	8021/8260
1,2-Dichlorobenzene	ND	11	ug/Kg	04/28/11		R/J	8021/8260
1,2-Dichloroethane	ND	11	ug/Kg	04/28/11		R/J	8021/8260
1,2-Dichloropropane	ND	11	ug/Kg	04/28/11		R/J	8021/8260
1,3-Dichlorobenzene	ND	11	ug/Kg	04/28/11		R/J	8021/8260
1,4-Dichlorobenzene	ND	11	ug/Kg	04/28/11		R/J	8021/8260
Bromobenzene	ND	11	ug/Kg	04/28/11		R/J	8021/8260
Bromodichloromethane	ND	11	ug/Kg	04/28/11		R/J	8021/8260
Bromoform	ND	11	ug/Kg	04/28/11		R/J	8021/8260
Bromomethane	ND	11	ug/Kg	04/28/11		R/J	8021/8260
Carbon tetrachloride	ND	11	ug/Kg	04/28/11		R/J	8021/8260
Chlorobenzene	ND	11	ug/Kg	04/28/11		R/J	8021/8260
Chloroethane	ND	11	ug/Kg	04/28/11		R/J	8021/8260
Chloroform	ND	11	ug/Kg	04/28/11		R/J	8021/8260
Chloromethane	ND	11	ug/Kg	04/28/11		R/J	8021/8260
cis-1,2-Dichloroethene	ND	11	ug/Kg	04/28/11		R/J	8021/8260
cis-1,3-Dichloropropene	ND	11	ug/Kg	04/28/11		R/J	8021/8260
Dibromochloromethane	ND	11	ug/Kg	04/28/11		R/J	8021/8260
Dibromomethane	ND	11	ug/Kg	04/28/11		R/J	8021/8260
Dichlorodifluoromethane	ND	11	ug/Kg	04/28/11		R/J	8021/8260
Methylene chloride	ND	11	ug/Kg	04/28/11		R/J	8021/8260
Tetrachloroethene	110	11	ug/Kg	04/28/11		R/J	8021/8260
trans-1,2-Dichloroethene	ND	11	ug/Kg	04/28/11		R/J	8021/8260
trans-1,3-Dichloropropene	ND	11	ug/Kg	04/28/11		R/J	8021/8260
Trichloroethene	ND	11	ug/Kg	04/28/11		R/J	8021/8260
Trichlorofluoromethane	ND	11	ug/Kg	04/28/11		R/J	8021/8260
Vinyl chloride	ND	11	ug/Kg	04/28/11		R/J	8021/8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	04/28/11		R/J	8021/8260
% Bromofluorobenzene	87		%	04/28/11		R/J	8021/8260
% Dibromofluoromethane	105		%	04/28/11		R/J	8021/8260
% Toluene-d8	98		%	04/28/11		R/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-1 (8-12)

Phoenix I.D.: BA24596

Parameter	Result	RL	Units	Date	Time	By	Reference

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
May 02, 2011

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

April 29, 2011

FOR: Attn: Mr. David Pelletier
Jade Environmental, Inc.
59 Circle Drive
Hopewell Junction, NY 12533

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:		04/25/11	0:00
Location Code:	JADEENV	Received by:	SW	04/26/11	18:38
Rush Request:	RUSH##	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBA24594
Phoenix ID: BA24597

Project ID: CRORON AVE
Client ID: ISB-1 (12-16)

Parameter	Result	RL	Units	Date	Time	By	Reference
Iron	15100	56	mg/Kg	04/29/11		LK	6010/200.7
Manganese	224	3.7	mg/Kg	04/29/11		LK	6010/200.7
Percent Solid	83		%	04/26/11		JL	E160.3
TCLP Extraction Volatiles	Completed			04/26/11		X	EPA 1311
Total Metals Digest	Completed			04/26/11		AG	SW846 - 3050
TCLP 8010							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1,1-Trichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1,2-Trichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1-Dichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1-Dichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2,3-Trichloropropane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2-Dichlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2-Dichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2-Dichloropropane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,3-Dichlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,4-Dichlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromodichloromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromoform	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromomethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Carbon tetrachloride	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chloroform	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chloromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-1 (12-16)

Phoenix I.D.: BA24597

Parameter	Result	RL	Units	Date	Time	By	Reference
cis-1,2-Dichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
cis-1,3-Dichloropropene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Dibromochloromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Dibromomethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Dichlorodifluoromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Tetrachloroethene	85	5.0	ug/L	04/27/11		H/J	8021/8260
trans-1,2-Dichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
trans-1,3-Dichloropropene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Trichloroethene	16	5.0	ug/L	04/27/11		H/J	8021/8260
Trichlorofluoromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Vinyl chloride	ND	5.0	ug/L	04/27/11		H/J	8021/8260
QA/QC Surrogates							
% BFB (Surrogate Recovery)	94		%	04/27/11		H/J	8021/8260
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
1,1,1-Trichloroethane	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
1,1,2-Trichloroethane	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
1,1-Dichloroethane	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
1,1-Dichloroethene	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
1,2,3-Trichloropropane	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
1,2-Dichlorobenzene	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
1,2-Dichloroethane	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
1,2-Dichloropropane	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
1,3-Dichlorobenzene	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
1,4-Dichlorobenzene	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
Bromobenzene	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
Bromodichloromethane	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
Bromoform	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
Bromomethane	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
Carbon tetrachloride	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
Chlorobenzene	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
Chloroethane	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
Chloroform	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
Chloromethane	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
cis-1,2-Dichloroethene	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
cis-1,3-Dichloropropene	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
Dibromochloromethane	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
Dibromomethane	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
Dichlorodifluoromethane	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
Methylene chloride	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
Tetrachloroethene	620	300	ug/Kg	04/27/11		R/J	8021/8260
trans-1,2-Dichloroethene	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
trans-1,3-Dichloropropene	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
Trichloroethene	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
Trichlorofluoromethane	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
Vinyl chloride	ND	6.0	ug/Kg	04/27/11		R/J	8021/8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	04/27/11		R/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-1 (12-16)

Phoenix I.D.: BA24597

Parameter	Result	RL	Units	Date	Time	By	Reference
% Bromofluorobenzene	86		%	04/27/11		R/J	8021/8260
% Dibromofluoromethane	114		%	04/27/11		R/J	8021/8260
% Toluene-d8	100		%	04/27/11		R/J	8021/8260

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
May 02, 2011

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

April 29, 2011

FOR: Attn: Mr. David Pelletier
Jade Environmental, Inc.
59 Circle Drive
Hopewell Junction, NY 12533

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:		04/25/11	0:00
Location Code:	JADEENV	Received by:	SW	04/26/11	18:38
Rush Request:	RUSH##	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBA24594
Phoenix ID: BA24598

Project ID: CRORON AVE
Client ID: ISB-2 (0-4)

Parameter	Result	RL	Units	Date	Time	By	Reference
Percent Solid	86		%	04/26/11		JL	E160.3
TCLP Extraction Volatiles	Completed			04/26/11		X	EPA 1311
TCLP 8010							
1,1,1,2-Tetrachloroethane	12	5.0	ug/L	04/27/11		H/J	8021/8260
1,1,1-Trichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1,2-Trichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1-Dichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1-Dichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2,3-Trichloropropane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2-Dichlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2-Dichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2-Dichloropropane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,3-Dichlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,4-Dichlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromodichloromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromoform	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromomethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Carbon tetrachloride	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chlorobenzene	21	5.0	ug/L	04/27/11		H/J	8021/8260
Chloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chloroform	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chloromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
cis-1,2-Dichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
cis-1,3-Dichloropropene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Dibromochloromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-2 (0-4)

Phoenix I.D.: BA24598

Parameter	Result	RL	Units	Date	Time	By	Reference
Dibromomethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Dichlorodifluoromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Tetrachloroethene	92000	5000	ug/L	04/27/11		H/J	8021/8260
trans-1,2-Dichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
trans-1,3-Dichloropropene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Trichloroethene	30	5.0	ug/L	04/27/11		H/J	8021/8260
Trichlorofluoromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Vinyl chloride	ND	5.0	ug/L	04/27/11		H/J	8021/8260
QA/QC Surrogates							
% BFB (Surrogate Recovery)	94		%	04/27/11		H/J	8021/8260
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	2900	ug/Kg	04/27/11		RM	8021/8260
1,1,1-Trichloroethane	ND	2900	ug/Kg	04/27/11		RM	8021/8260
1,1,2,2-Tetrachloroethane	ND	2900	ug/Kg	04/27/11		RM	8021/8260
1,1,2-Trichloroethane	ND	2900	ug/Kg	04/27/11		RM	8021/8260
1,1-Dichloroethane	ND	2900	ug/Kg	04/27/11		RM	8021/8260
1,1-Dichloroethene	ND	2900	ug/Kg	04/27/11		RM	8021/8260
1,2,3-Trichloropropane	ND	2900	ug/Kg	04/27/11		RM	8021/8260
1,2-Dichlorobenzene	ND	2900	ug/Kg	04/27/11		RM	8021/8260
1,2-Dichloroethane	ND	2900	ug/Kg	04/27/11		RM	8021/8260
1,2-Dichloropropane	ND	2900	ug/Kg	04/27/11		RM	8021/8260
1,3-Dichlorobenzene	ND	2900	ug/Kg	04/27/11		RM	8021/8260
1,4-Dichlorobenzene	ND	2900	ug/Kg	04/27/11		RM	8021/8260
Bromobenzene	ND	2900	ug/Kg	04/27/11		RM	8021/8260
Bromodichloromethane	ND	2900	ug/Kg	04/27/11		RM	8021/8260
Bromoform	ND	2900	ug/Kg	04/27/11		RM	8021/8260
Bromomethane	ND	2900	ug/Kg	04/27/11		RM	8021/8260
Carbon tetrachloride	ND	2900	ug/Kg	04/27/11		RM	8021/8260
Chlorobenzene	ND	2900	ug/Kg	04/27/11		RM	8021/8260
Chloroethane	ND	2900	ug/Kg	04/27/11		RM	8021/8260
Chloroform	ND	2900	ug/Kg	04/27/11		RM	8021/8260
Chloromethane	ND	2900	ug/Kg	04/27/11		RM	8021/8260
cis-1,2-Dichloroethene	ND	2900	ug/Kg	04/27/11		RM	8021/8260
cis-1,3-Dichloropropene	ND	2900	ug/Kg	04/27/11		RM	8021/8260
Dibromochloromethane	ND	2900	ug/Kg	04/27/11		RM	8021/8260
Dibromomethane	ND	2900	ug/Kg	04/27/11		RM	8021/8260
Dichlorodifluoromethane	ND	2900	ug/Kg	04/27/11		RM	8021/8260
Methylene chloride	ND	2900	ug/Kg	04/27/11		RM	8021/8260
Tetrachloroethene	6500000	29000	ug/Kg	04/27/11		RM	8021/8260
trans-1,2-Dichloroethene	ND	2900	ug/Kg	04/27/11		RM	8021/8260
trans-1,3-Dichloropropene	ND	2900	ug/Kg	04/27/11		RM	8021/8260
Trichloroethene	ND	2900	ug/Kg	04/27/11		RM	8021/8260
Trichlorofluoromethane	ND	2900	ug/Kg	04/27/11		RM	8021/8260
Vinyl chloride	ND	2900	ug/Kg	04/27/11		RM	8021/8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	04/27/11		RM	8021/8260
% Bromofluorobenzene	99		%	04/27/11		RM	8021/8260
% Dibromofluoromethane	111		%	04/27/11		RM	8021/8260
% Toluene-d8	100		%	04/27/11		RM	8021/8260

Project ID: CRORON AVE
Client ID: ISB-2 (0-4)

Phoenix I.D.: BA24598

Parameter	Result	RL	Units	Date	Time	By	Reference

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
May 02, 2011

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

April 29, 2011

FOR: Attn: Mr. David Pelletier
Jade Environmental, Inc.
59 Circle Drive
Hopewell Junction, NY 12533

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:		04/25/11	0:00
Location Code:	JADEENV	Received by:	SW	04/26/11	18:38
Rush Request:	RUSH##	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBA24594
Phoenix ID: BA24599

Project ID: CRORON AVE
Client ID: ISB-2 (4-8)

Parameter	Result	RL	Units	Date	Time	By	Reference
Percent Solid	81		%	04/26/11		JL	E160.3
TCLP Extraction Volatiles	Completed			04/26/11		X	EPA 1311
TCLP 8010							
1,1,1,2-Tetrachloroethane	86	5.0	ug/L	04/27/11		H/J	8021/8260
1,1,1-Trichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1,2-Trichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1-Dichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1-Dichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2,3-Trichloropropane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2-Dichlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2-Dichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2-Dichloropropane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,3-Dichlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,4-Dichlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromodichloromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromoform	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromomethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Carbon tetrachloride	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chlorobenzene	59	5.0	ug/L	04/27/11		H/J	8021/8260
Chloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chloroform	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chloromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
cis-1,2-Dichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
cis-1,3-Dichloropropene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Dibromochloromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-2 (4-8)

Phoenix I.D.: BA24599

Parameter	Result	RL	Units	Date	Time	By	Reference
Dibromomethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Dichlorodifluoromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Tetrachloroethene	220000	25000	ug/L	04/27/11		H/J	8021/8260
trans-1,2-Dichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
trans-1,3-Dichloropropene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Trichloroethene	62	5.0	ug/L	04/27/11		H/J	8021/8260
Trichlorofluoromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Vinyl chloride	ND	5.0	ug/L	04/27/11		H/J	8021/8260
QA/QC Surrogates							
% BFB (Surrogate Recovery)	96		%	04/27/11		H/J	8021/8260
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	2800	620	ug/Kg	04/29/11		R/J	8021/8260
1,1,1-Trichloroethane	ND	620	ug/Kg	04/29/11		R/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	620	ug/Kg	04/29/11		R/J	8021/8260
1,1,2-Trichloroethane	ND	620	ug/Kg	04/29/11		R/J	8021/8260
1,1-Dichloroethane	ND	620	ug/Kg	04/29/11		R/J	8021/8260
1,1-Dichloroethene	ND	620	ug/Kg	04/29/11		R/J	8021/8260
1,2,3-Trichloropropane	ND	620	ug/Kg	04/29/11		R/J	8021/8260
1,2-Dichlorobenzene	ND	620	ug/Kg	04/29/11		R/J	8021/8260
1,2-Dichloroethane	ND	620	ug/Kg	04/29/11		R/J	8021/8260
1,2-Dichloropropane	ND	620	ug/Kg	04/29/11		R/J	8021/8260
1,3-Dichlorobenzene	ND	620	ug/Kg	04/29/11		R/J	8021/8260
1,4-Dichlorobenzene	ND	620	ug/Kg	04/29/11		R/J	8021/8260
Bromobenzene	ND	620	ug/Kg	04/29/11		R/J	8021/8260
Bromodichloromethane	ND	620	ug/Kg	04/29/11		R/J	8021/8260
Bromoform	ND	620	ug/Kg	04/29/11		R/J	8021/8260
Bromomethane	ND	620	ug/Kg	04/29/11		R/J	8021/8260
Carbon tetrachloride	ND	620	ug/Kg	04/29/11		R/J	8021/8260
Chlorobenzene	2000	620	ug/Kg	04/29/11		R/J	8021/8260
Chloroethane	ND	620	ug/Kg	04/29/11		R/J	8021/8260
Chloroform	ND	620	ug/Kg	04/29/11		R/J	8021/8260
Chloromethane	ND	620	ug/Kg	04/29/11		R/J	8021/8260
cis-1,2-Dichloroethene	ND	620	ug/Kg	04/29/11		R/J	8021/8260
cis-1,3-Dichloropropene	ND	620	ug/Kg	04/29/11		R/J	8021/8260
Dibromochloromethane	ND	620	ug/Kg	04/29/11		R/J	8021/8260
Dibromomethane	ND	620	ug/Kg	04/29/11		R/J	8021/8260
Dichlorodifluoromethane	ND	620	ug/Kg	04/29/11		R/J	8021/8260
Methylene chloride	ND	620	ug/Kg	04/29/11		R/J	8021/8260
Tetrachloroethene	17000000	2500000	ug/Kg	04/29/11		R/J	8021/8260
trans-1,2-Dichloroethene	ND	620	ug/Kg	04/29/11		R/J	8021/8260
trans-1,3-Dichloropropene	ND	620	ug/Kg	04/29/11		R/J	8021/8260
Trichloroethene	2500	620	ug/Kg	04/29/11		R/J	8021/8260
Trichlorofluoromethane	ND	620	ug/Kg	04/29/11		R/J	8021/8260
Vinyl chloride	ND	620	ug/Kg	04/29/11		R/J	8021/8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	04/29/11		R/J	8021/8260
% Bromofluorobenzene	100		%	04/29/11		R/J	8021/8260
% Dibromofluoromethane	111		%	04/29/11		R/J	8021/8260
% Toluene-d8	98		%	04/29/11		R/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-2 (4-8)

Phoenix I.D.: BA24599

Parameter	Result	RL	Units	Date	Time	By	Reference

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
May 02, 2011

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

April 29, 2011

FOR: Attn: Mr. David Pelletier
Jade Environmental, Inc.
59 Circle Drive
Hopewell Junction, NY 12533

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:		04/25/11	0:00
Location Code:	JADEENV	Received by:	SW	04/26/11	18:38
Rush Request:	RUSH##	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBA24594
Phoenix ID: BA24600

Project ID: CRORON AVE
Client ID: ISB-2 (8-12)

Parameter	Result	RL	Units	Date	Time	By	Reference
Percent Solid	83		%	04/26/11		JL	E160.3
TCLP Extraction Volatiles	Completed			04/26/11		X	EPA 1311
TCLP 8010							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1,1-Trichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1,2-Trichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1-Dichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1-Dichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2,3-Trichloropropane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2-Dichlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2-Dichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2-Dichloropropane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,3-Dichlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,4-Dichlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromodichloromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromoform	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromomethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Carbon tetrachloride	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chloroform	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chloromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
cis-1,2-Dichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
cis-1,3-Dichloropropene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Dibromochloromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-2 (8-12)

Phoenix I.D.: BA24600

Parameter	Result	RL	Units	Date	Time	By	Reference
Dibromomethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Dichlorodifluoromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Tetrachloroethene	18000	27500	ug/L	04/27/11		H/J	8021/8260
trans-1,2-Dichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
trans-1,3-Dichloropropene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Trichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Trichlorofluoromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Vinyl chloride	ND	5.0	ug/L	04/27/11		H/J	8021/8260
QA/QC Surrogates							
% BFB (Surrogate Recovery)	91		%	04/27/11		H/J	8021/8260
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	6000	ug/Kg	04/29/11		RM	8021/8260
1,1,1-Trichloroethane	ND	6000	ug/Kg	04/29/11		RM	8021/8260
1,1,2,2-Tetrachloroethane	ND	6000	ug/Kg	04/29/11		RM	8021/8260
1,1,2-Trichloroethane	ND	6000	ug/Kg	04/29/11		RM	8021/8260
1,1-Dichloroethane	ND	6000	ug/Kg	04/29/11		RM	8021/8260
1,1-Dichloroethene	ND	6000	ug/Kg	04/29/11		RM	8021/8260
1,2,3-Trichloropropane	ND	6000	ug/Kg	04/29/11		RM	8021/8260
1,2-Dichlorobenzene	ND	6000	ug/Kg	04/29/11		RM	8021/8260
1,2-Dichloroethane	ND	6000	ug/Kg	04/29/11		RM	8021/8260
1,2-Dichloropropane	ND	6000	ug/Kg	04/29/11		RM	8021/8260
1,3-Dichlorobenzene	ND	6000	ug/Kg	04/29/11		RM	8021/8260
1,4-Dichlorobenzene	ND	6000	ug/Kg	04/29/11		RM	8021/8260
Bromobenzene	ND	6000	ug/Kg	04/29/11		RM	8021/8260
Bromodichloromethane	ND	6000	ug/Kg	04/29/11		RM	8021/8260
Bromoform	ND	6000	ug/Kg	04/29/11		RM	8021/8260
Bromomethane	ND	6000	ug/Kg	04/29/11		RM	8021/8260
Carbon tetrachloride	ND	6000	ug/Kg	04/29/11		RM	8021/8260
Chlorobenzene	ND	6000	ug/Kg	04/29/11		RM	8021/8260
Chloroethane	ND	6000	ug/Kg	04/29/11		RM	8021/8260
Chloroform	ND	6000	ug/Kg	04/29/11		RM	8021/8260
Chloromethane	ND	6000	ug/Kg	04/29/11		RM	8021/8260
cis-1,2-Dichloroethene	ND	6000	ug/Kg	04/29/11		RM	8021/8260
cis-1,3-Dichloropropene	ND	6000	ug/Kg	04/29/11		RM	8021/8260
Dibromochloromethane	ND	6000	ug/Kg	04/29/11		RM	8021/8260
Dibromomethane	ND	6000	ug/Kg	04/29/11		RM	8021/8260
Dichlorodifluoromethane	ND	6000	ug/Kg	04/29/11		RM	8021/8260
Methylene chloride	ND	10000	ug/Kg	04/29/11		RM	8021/8260
Tetrachloroethene	120000	6000	ug/Kg	04/29/11		RM	8021/8260
trans-1,2-Dichloroethene	ND	6000	ug/Kg	04/29/11		RM	8021/8260
trans-1,3-Dichloropropene	ND	6000	ug/Kg	04/29/11		RM	8021/8260
Trichloroethene	ND	6000	ug/Kg	04/29/11		RM	8021/8260
Trichlorofluoromethane	ND	6000	ug/Kg	04/29/11		RM	8021/8260
Vinyl chloride	ND	6000	ug/Kg	04/29/11		RM	8021/8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	04/29/11		RM	8021/8260
% Bromofluorobenzene	92		%	04/29/11		RM	8021/8260
% Dibromofluoromethane	106		%	04/29/11		RM	8021/8260
% Toluene-d8	104		%	04/29/11		RM	8021/8260

Project ID: CRORON AVE
Client ID: ISB-2 (8-12)

Phoenix I.D.: BA24600

Parameter	Result	RL	Units	Date	Time	By	Reference

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
May 02, 2011

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

April 29, 2011

FOR: Attn: Mr. David Pelletier
Jade Environmental, Inc.
59 Circle Drive
Hopewell Junction, NY 12533

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:		04/25/11	0:00
Location Code:	JADEENV	Received by:	SW	04/26/11	18:38
Rush Request:	RUSH##	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBA24594
Phoenix ID: BA24601

Project ID: CRORON AVE
Client ID: ISB-3 (0-4)

Parameter	Result	RL	Units	Date	Time	By	Reference
Percent Solid	88		%	04/26/11		JL	E160.3
TCLP Extraction Volatiles	Completed			04/26/11		X	EPA 1311
TCLP 8010							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1,1-Trichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1,2-Trichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1-Dichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1-Dichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2,3-Trichloropropane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2-Dichlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2-Dichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2-Dichloropropane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,3-Dichlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,4-Dichlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromodichloromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromoform	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromomethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Carbon tetrachloride	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chloroform	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chloromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
cis-1,2-Dichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
cis-1,3-Dichloropropene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Dibromochloromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-3 (0-4)

Phoenix I.D.: BA24601

Parameter	Result	RL	Units	Date	Time	By	Reference
Dibromomethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Dichlorodifluoromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Tetrachloroethene	780	250	ug/L	04/27/11		H/J	8021/8260
trans-1,2-Dichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
trans-1,3-Dichloropropene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Trichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Trichlorofluoromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Vinyl chloride	ND	5.0	ug/L	04/27/11		H/J	8021/8260
QA/QC Surrogates							
% BFB (Surrogate Recovery)	90		%	04/27/11		H/J	8021/8260
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	280	ug/Kg	04/28/11		R/J	8021/8260
1,1,1-Trichloroethane	ND	280	ug/Kg	04/28/11		R/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	280	ug/Kg	04/28/11		R/J	8021/8260
1,1,2-Trichloroethane	ND	280	ug/Kg	04/28/11		R/J	8021/8260
1,1-Dichloroethane	ND	280	ug/Kg	04/28/11		R/J	8021/8260
1,1-Dichloroethene	ND	280	ug/Kg	04/28/11		R/J	8021/8260
1,2,3-Trichloropropane	ND	280	ug/Kg	04/28/11		R/J	8021/8260
1,2-Dichlorobenzene	ND	280	ug/Kg	04/28/11		R/J	8021/8260
1,2-Dichloroethane	ND	280	ug/Kg	04/28/11		R/J	8021/8260
1,2-Dichloropropane	ND	280	ug/Kg	04/28/11		R/J	8021/8260
1,3-Dichlorobenzene	ND	280	ug/Kg	04/28/11		R/J	8021/8260
1,4-Dichlorobenzene	ND	280	ug/Kg	04/28/11		R/J	8021/8260
Bromobenzene	ND	280	ug/Kg	04/28/11		R/J	8021/8260
Bromodichloromethane	ND	280	ug/Kg	04/28/11		R/J	8021/8260
Bromoform	ND	280	ug/Kg	04/28/11		R/J	8021/8260
Bromomethane	ND	280	ug/Kg	04/28/11		R/J	8021/8260
Carbon tetrachloride	ND	280	ug/Kg	04/28/11		R/J	8021/8260
Chlorobenzene	ND	280	ug/Kg	04/28/11		R/J	8021/8260
Chloroethane	ND	280	ug/Kg	04/28/11		R/J	8021/8260
Chloroform	ND	280	ug/Kg	04/28/11		R/J	8021/8260
Chloromethane	ND	280	ug/Kg	04/28/11		R/J	8021/8260
cis-1,2-Dichloroethene	ND	280	ug/Kg	04/28/11		R/J	8021/8260
cis-1,3-Dichloropropene	ND	280	ug/Kg	04/28/11		R/J	8021/8260
Dibromochloromethane	ND	280	ug/Kg	04/28/11		R/J	8021/8260
Dibromomethane	ND	280	ug/Kg	04/28/11		R/J	8021/8260
Dichlorodifluoromethane	ND	280	ug/Kg	04/28/11		R/J	8021/8260
Methylene chloride	ND	280	ug/Kg	04/28/11		R/J	8021/8260
Tetrachloroethene	28000	2800	ug/Kg	04/28/11		R/J	8021/8260
trans-1,2-Dichloroethene	ND	280	ug/Kg	04/28/11		R/J	8021/8260
trans-1,3-Dichloropropene	ND	280	ug/Kg	04/28/11		R/J	8021/8260
Trichloroethene	ND	280	ug/Kg	04/28/11		R/J	8021/8260
Trichlorofluoromethane	ND	280	ug/Kg	04/28/11		R/J	8021/8260
Vinyl chloride	ND	280	ug/Kg	04/28/11		R/J	8021/8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	04/28/11		R/J	8021/8260
% Bromofluorobenzene	91		%	04/28/11		R/J	8021/8260
% Dibromofluoromethane	114		%	04/28/11		R/J	8021/8260
% Toluene-d8	99		%	04/28/11		R/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-3 (0-4)

Phoenix I.D.: BA24601

Parameter	Result	RL	Units	Date	Time	By	Reference

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
May 02, 2011

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

April 29, 2011

FOR: Attn: Mr. David Pelletier
Jade Environmental, Inc.
59 Circle Drive
Hopewell Junction, NY 12533

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:		04/25/11	0:00
Location Code:	JADEENV	Received by:	SW	04/26/11	18:38
Rush Request:	RUSH##	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBA24594
Phoenix ID: BA24602

Project ID: CRORON AVE
Client ID: ISB-3 (4-8)

Parameter	Result	RL	Units	Date	Time	By	Reference
Percent Solid	82		%	04/26/11		JL	E160.3
TCLP Extraction Volatiles	Completed			04/26/11		X	EPA 1311
TCLP 8010							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1,1-Trichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1,2-Trichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1-Dichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,1-Dichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2,3-Trichloropropane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2-Dichlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2-Dichloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,2-Dichloropropane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,3-Dichlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
1,4-Dichlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromodichloromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromoform	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Bromomethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Carbon tetrachloride	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chlorobenzene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chloroethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chloroform	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Chloromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
cis-1,2-Dichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
cis-1,3-Dichloropropene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Dibromochloromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-3 (4-8)

Phoenix I.D.: BA24602

Parameter	Result	RL	Units	Date	Time	By	Reference
Dibromomethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Dichlorodifluoromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Tetrachloroethene	630	100	ug/L	04/27/11		H/J	8021/8260
trans-1,2-Dichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
trans-1,3-Dichloropropene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Trichloroethene	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Trichlorofluoromethane	ND	5.0	ug/L	04/27/11		H/J	8021/8260
Vinyl chloride	ND	5.0	ug/L	04/27/11		H/J	8021/8260
QA/QC Surrogates							
% BFB (Surrogate Recovery)	91		%	04/27/11		H/J	8021/8260
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	33	6.1	ug/Kg	04/28/11		R/J	8021/8260
1,1,1-Trichloroethane	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
1,1,2-Trichloroethane	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
1,1-Dichloroethane	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
1,1-Dichloroethene	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
1,2,3-Trichloropropane	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
1,2-Dichlorobenzene	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
1,2-Dichloroethane	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
1,2-Dichloropropane	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
1,3-Dichlorobenzene	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
1,4-Dichlorobenzene	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
Bromobenzene	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
Bromodichloromethane	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
Bromoform	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
Bromomethane	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
Carbon tetrachloride	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
Chlorobenzene	13	6.1	ug/Kg	04/28/11		R/J	8021/8260
Chloroethane	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
Chloroform	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
Chloromethane	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
cis-1,2-Dichloroethene	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
cis-1,3-Dichloropropene	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
Dibromochloromethane	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
Dibromomethane	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
Dichlorodifluoromethane	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
Methylene chloride	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
Tetrachloroethene	25000	3000	ug/Kg	04/28/11		R/J	8021/8260
trans-1,2-Dichloroethene	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
trans-1,3-Dichloropropene	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
Trichloroethene	9.1	6.1	ug/Kg	04/28/11		R/J	8021/8260
Trichlorofluoromethane	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
Vinyl chloride	ND	6.1	ug/Kg	04/28/11		R/J	8021/8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	95		%	04/28/11		R/J	8021/8260
% Bromofluorobenzene	72		%	04/28/11		R/J	8021/8260
% Dibromofluoromethane	115		%	04/28/11		R/J	8021/8260
% Toluene-d8	95		%	04/28/11		R/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-3 (4-8)

Phoenix I.D.: BA24602

Parameter	Result	RL	Units	Date	Time	By	Reference

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
May 02, 2011

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

April 29, 2011

FOR: Attn: Mr. David Pelletier
Jade Environmental, Inc.
59 Circle Drive
Hopewell Junction, NY 12533

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:		04/25/11	0:00
Location Code:	JADEENV	Received by:	SW	04/26/11	18:38
Rush Request:	RUSH##	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBA24594
Phoenix ID: BA24603

Project ID: CRORON AVE
Client ID: ISB-3 (8-12)

Parameter	Result	RL	Units	Date	Time	By	Reference
Percent Solid	83		%	04/26/11		JL	E160.3
TCLP Extraction Volatiles	Completed			04/27/11		X	EPA 1311
TCLP 8010							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1,1-Trichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1,2-Trichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1-Dichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1-Dichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2,3-Trichloropropane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2-Dichlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2-Dichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2-Dichloropropane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,3-Dichlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,4-Dichlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromodichloromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromoform	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromomethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Carbon tetrachloride	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chloroform	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chloromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
cis-1,2-Dichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
cis-1,3-Dichloropropene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Dibromochloromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-3 (8-12)

Phoenix I.D.: BA24603

Parameter	Result	RL	Units	Date	Time	By	Reference
Dibromomethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Dichlorodifluoromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Tetrachloroethene	150	5.0	ug/L	04/28/11		H/J	8021/8260
trans-1,2-Dichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
trans-1,3-Dichloropropene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Trichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Trichlorofluoromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Vinyl chloride	ND	5.0	ug/L	04/28/11		H/J	8021/8260
QA/QC Surrogates							
% BFB (Surrogate Recovery)	96		%	04/28/11		H/J	8021/8260
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	300	ug/Kg	04/29/11		R/J	8021/8260
1,1,1-Trichloroethane	ND	300	ug/Kg	04/29/11		R/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	300	ug/Kg	04/29/11		R/J	8021/8260
1,1,2-Trichloroethane	ND	300	ug/Kg	04/29/11		R/J	8021/8260
1,1-Dichloroethane	ND	300	ug/Kg	04/29/11		R/J	8021/8260
1,1-Dichloroethene	ND	300	ug/Kg	04/29/11		R/J	8021/8260
1,2,3-Trichloropropane	ND	300	ug/Kg	04/29/11		R/J	8021/8260
1,2-Dichlorobenzene	ND	300	ug/Kg	04/29/11		R/J	8021/8260
1,2-Dichloroethane	ND	300	ug/Kg	04/29/11		R/J	8021/8260
1,2-Dichloropropane	ND	300	ug/Kg	04/29/11		R/J	8021/8260
1,3-Dichlorobenzene	ND	300	ug/Kg	04/29/11		R/J	8021/8260
1,4-Dichlorobenzene	ND	300	ug/Kg	04/29/11		R/J	8021/8260
Bromobenzene	ND	300	ug/Kg	04/29/11		R/J	8021/8260
Bromodichloromethane	ND	300	ug/Kg	04/29/11		R/J	8021/8260
Bromoform	ND	300	ug/Kg	04/29/11		R/J	8021/8260
Bromomethane	ND	300	ug/Kg	04/29/11		R/J	8021/8260
Carbon tetrachloride	ND	300	ug/Kg	04/29/11		R/J	8021/8260
Chlorobenzene	ND	300	ug/Kg	04/29/11		R/J	8021/8260
Chloroethane	ND	300	ug/Kg	04/29/11		R/J	8021/8260
Chloroform	ND	300	ug/Kg	04/29/11		R/J	8021/8260
Chloromethane	ND	300	ug/Kg	04/29/11		R/J	8021/8260
cis-1,2-Dichloroethene	ND	300	ug/Kg	04/29/11		R/J	8021/8260
cis-1,3-Dichloropropene	ND	300	ug/Kg	04/29/11		R/J	8021/8260
Dibromochloromethane	ND	300	ug/Kg	04/29/11		R/J	8021/8260
Dibromomethane	ND	300	ug/Kg	04/29/11		R/J	8021/8260
Dichlorodifluoromethane	ND	300	ug/Kg	04/29/11		R/J	8021/8260
Methylene chloride	ND	300	ug/Kg	04/29/11		R/J	8021/8260
Tetrachloroethene	2700	300	ug/Kg	04/29/11		R/J	8021/8260
trans-1,2-Dichloroethene	ND	300	ug/Kg	04/29/11		R/J	8021/8260
trans-1,3-Dichloropropene	ND	300	ug/Kg	04/29/11		R/J	8021/8260
Trichloroethene	ND	300	ug/Kg	04/29/11		R/J	8021/8260
Trichlorofluoromethane	ND	300	ug/Kg	04/29/11		R/J	8021/8260
Vinyl chloride	ND	300	ug/Kg	04/29/11		R/J	8021/8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	04/29/11		R/J	8021/8260
% Bromofluorobenzene	96		%	04/29/11		R/J	8021/8260
% Dibromofluoromethane	106		%	04/29/11		R/J	8021/8260
% Toluene-d8	98		%	04/29/11		R/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-3 (8-12)

Phoenix I.D.: BA24603

Parameter	Result	RL	Units	Date	Time	By	Reference

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
May 02, 2011

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

April 29, 2011

FOR: Attn: Mr. David Pelletier
Jade Environmental, Inc.
59 Circle Drive
Hopewell Junction, NY 12533

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:		04/25/11	0:00
Location Code:	JADEENV	Received by:	SW	04/26/11	18:38
Rush Request:	RUSH##	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBA24594
Phoenix ID: BA24604

Project ID: CRORON AVE
Client ID: ISB-4 (0-4)

Parameter	Result	RL	Units	Date	Time	By	Reference
Percent Solid	87		%	04/26/11		JL	E160.3
TCLP Extraction Volatiles	Completed			04/27/11		X	EPA 1311
TCLP 8010							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1,1-Trichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1,2-Trichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1-Dichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1-Dichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2,3-Trichloropropane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2-Dichlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2-Dichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2-Dichloropropane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,3-Dichlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,4-Dichlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromodichloromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromoform	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromomethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Carbon tetrachloride	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chloroform	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chloromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
cis-1,2-Dichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
cis-1,3-Dichloropropene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Dibromochloromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-4 (0-4)

Phoenix I.D.: BA24604

Parameter	Result	RL	Units	Date	Time	By	Reference
Dibromomethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Dichlorodifluoromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Tetrachloroethene	9.4	5.0	ug/L	04/28/11		H/J	8021/8260
trans-1,2-Dichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
trans-1,3-Dichloropropene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Trichloroethene	5.1	5.0	ug/L	04/28/11		H/J	8021/8260
Trichlorofluoromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Vinyl chloride	ND	5.0	ug/L	04/28/11		H/J	8021/8260
QA/QC Surrogates							
% BFB (Surrogate Recovery)	97		%	04/28/11		H/J	8021/8260
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
1,1,1-Trichloroethane	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
1,1,2-Trichloroethane	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
1,1-Dichloroethane	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
1,1-Dichloroethene	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
1,2,3-Trichloropropane	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
1,2-Dichlorobenzene	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
1,2-Dichloroethane	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
1,2-Dichloropropane	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
1,3-Dichlorobenzene	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
1,4-Dichlorobenzene	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
Bromobenzene	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
Bromodichloromethane	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
Bromoform	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
Bromomethane	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
Carbon tetrachloride	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
Chlorobenzene	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
Chloroethane	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
Chloroform	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
Chloromethane	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
cis-1,2-Dichloroethene	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
cis-1,3-Dichloropropene	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
Dibromochloromethane	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
Dibromomethane	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
Dichlorodifluoromethane	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
Methylene chloride	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
Tetrachloroethene	770	290	ug/Kg	04/28/11		R/J	8021/8260
trans-1,2-Dichloroethene	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
trans-1,3-Dichloropropene	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
Trichloroethene	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
Trichlorofluoromethane	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
Vinyl chloride	ND	5.7	ug/Kg	04/28/11		R/J	8021/8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	04/28/11		R/J	8021/8260
% Bromofluorobenzene	84		%	04/28/11		R/J	8021/8260
% Dibromofluoromethane	111		%	04/28/11		R/J	8021/8260
% Toluene-d8	98		%	04/28/11		R/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-4 (0-4)

Phoenix I.D.: BA24604

Parameter	Result	RL	Units	Date	Time	By	Reference

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
May 02, 2011

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

April 29, 2011

FOR: Attn: Mr. David Pelletier
Jade Environmental, Inc.
59 Circle Drive
Hopewell Junction, NY 12533

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:		04/25/11	0:00
Location Code:	JADEENV	Received by:	SW	04/26/11	18:38
Rush Request:	RUSH##	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBA24594
Phoenix ID: BA24605

Project ID: CRORON AVE
Client ID: ISB-4 (4-8)

Parameter	Result	RL	Units	Date	Time	By	Reference
Percent Solid	84		%	04/26/11		JL	E160.3
TCLP Extraction Volatiles	Completed			04/27/11		X	EPA 1311
TCLP 8010							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1,1-Trichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1,2-Trichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1-Dichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1-Dichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2,3-Trichloropropane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2-Dichlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2-Dichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2-Dichloropropane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,3-Dichlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,4-Dichlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromodichloromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromoform	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromomethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Carbon tetrachloride	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chloroform	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chloromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
cis-1,2-Dichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
cis-1,3-Dichloropropene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Dibromochloromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-4 (4-8)

Phoenix I.D.: BA24605

Parameter	Result	RL	Units	Date	Time	By	Reference
Dibromomethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Dichlorodifluoromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Tetrachloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
trans-1,2-Dichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
trans-1,3-Dichloropropene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Trichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Trichlorofluoromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Vinyl chloride	ND	5.0	ug/L	04/28/11		H/J	8021/8260
QA/QC Surrogates							
% BFB (Surrogate Recovery)	94		%	04/28/11		H/J	8021/8260
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
1,1,1-Trichloroethane	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
1,1,2-Trichloroethane	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
1,1-Dichloroethane	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
1,1-Dichloroethene	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
1,2,3-Trichloropropane	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
1,2-Dichlorobenzene	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
1,2-Dichloroethane	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
1,2-Dichloropropane	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
1,3-Dichlorobenzene	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
1,4-Dichlorobenzene	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
Bromobenzene	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
Bromodichloromethane	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
Bromoform	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
Bromomethane	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
Carbon tetrachloride	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
Chlorobenzene	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
Chloroethane	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
Chloroform	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
Chloromethane	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
cis-1,2-Dichloroethene	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
cis-1,3-Dichloropropene	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
Dibromochloromethane	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
Dibromomethane	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
Dichlorodifluoromethane	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
Methylene chloride	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
Tetrachloroethene	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
trans-1,2-Dichloroethene	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
trans-1,3-Dichloropropene	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
Trichloroethene	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
Trichlorofluoromethane	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
Vinyl chloride	ND	6.0	ug/Kg	04/29/11		R/J	8021/8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	04/29/11		R/J	8021/8260
% Bromofluorobenzene	91		%	04/29/11		R/J	8021/8260
% Dibromofluoromethane	101		%	04/29/11		R/J	8021/8260
% Toluene-d8	99		%	04/29/11		R/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-4 (4-8)

Phoenix I.D.: BA24605

Parameter	Result	RL	Units	Date	Time	By	Reference

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
May 02, 2011

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

April 29, 2011

FOR: Attn: Mr. David Pelletier
Jade Environmental, Inc.
59 Circle Drive
Hopewell Junction, NY 12533

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:		04/25/11	0:00
Location Code:	JADEENV	Received by:	SW	04/26/11	18:38
Rush Request:	RUSH##	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBA24594
Phoenix ID: BA24606

Project ID: CRORON AVE
Client ID: ISB-4 (8-12)

Parameter	Result	RL	Units	Date	Time	By	Reference
Percent Solid	86		%	04/26/11		JL	E160.3
TCLP Extraction Volatiles	Completed			04/27/11		X	EPA 1311
TCLP 8010							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1,1-Trichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1,2-Trichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1-Dichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1-Dichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2,3-Trichloropropane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2-Dichlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2-Dichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2-Dichloropropane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,3-Dichlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,4-Dichlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromodichloromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromoform	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromomethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Carbon tetrachloride	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chloroform	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chloromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
cis-1,2-Dichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
cis-1,3-Dichloropropene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Dibromochloromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-4 (8-12)

Phoenix I.D.: BA24606

Parameter	Result	RL	Units	Date	Time	By	Reference
Dibromomethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Dichlorodifluoromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Tetrachloroethene	2100	250	ug/L	04/28/11		H/J	8021/8260
trans-1,2-Dichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
trans-1,3-Dichloropropene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Trichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Trichlorofluoromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Vinyl chloride	ND	5.0	ug/L	04/28/11		H/J	8021/8260
QA/QC Surrogates							
% BFB (Surrogate Recovery)	95		%	04/28/11		H/J	8021/8260
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	12	ug/Kg	04/28/11		R/P	8021/8260
1,1,1-Trichloroethane	ND	12	ug/Kg	04/28/11		R/P	8021/8260
1,1,2,2-Tetrachloroethane	ND	12	ug/Kg	04/28/11		R/P	8021/8260
1,1,2-Trichloroethane	ND	12	ug/Kg	04/28/11		R/P	8021/8260
1,1-Dichloroethane	ND	12	ug/Kg	04/28/11		R/P	8021/8260
1,1-Dichloroethene	ND	12	ug/Kg	04/28/11		R/P	8021/8260
1,2,3-Trichloropropane	ND	12	ug/Kg	04/28/11		R/P	8021/8260
1,2-Dichlorobenzene	ND	12	ug/Kg	04/28/11		R/P	8021/8260
1,2-Dichloroethane	ND	12	ug/Kg	04/28/11		R/P	8021/8260
1,2-Dichloropropane	ND	12	ug/Kg	04/28/11		R/P	8021/8260
1,3-Dichlorobenzene	ND	12	ug/Kg	04/28/11		R/P	8021/8260
1,4-Dichlorobenzene	ND	12	ug/Kg	04/28/11		R/P	8021/8260
Bromobenzene	ND	12	ug/Kg	04/28/11		R/P	8021/8260
Bromodichloromethane	ND	12	ug/Kg	04/28/11		R/P	8021/8260
Bromoform	ND	12	ug/Kg	04/28/11		R/P	8021/8260
Bromomethane	ND	12	ug/Kg	04/28/11		R/P	8021/8260
Carbon tetrachloride	ND	12	ug/Kg	04/28/11		R/P	8021/8260
Chlorobenzene	ND	12	ug/Kg	04/28/11		R/P	8021/8260
Chloroethane	ND	12	ug/Kg	04/28/11		R/P	8021/8260
Chloroform	ND	12	ug/Kg	04/28/11		R/P	8021/8260
Chloromethane	ND	12	ug/Kg	04/28/11		R/P	8021/8260
cis-1,2-Dichloroethene	ND	12	ug/Kg	04/28/11		R/P	8021/8260
cis-1,3-Dichloropropene	ND	12	ug/Kg	04/28/11		R/P	8021/8260
Dibromochloromethane	ND	12	ug/Kg	04/28/11		R/P	8021/8260
Dibromomethane	ND	12	ug/Kg	04/28/11		R/P	8021/8260
Dichlorodifluoromethane	ND	12	ug/Kg	04/28/11		R/P	8021/8260
Methylene chloride	ND	12	ug/Kg	04/28/11		R/P	8021/8260
Tetrachloroethene	3700	250	ug/Kg	04/28/11		R/P	8021/8260
trans-1,2-Dichloroethene	ND	12	ug/Kg	04/28/11		R/P	8021/8260
trans-1,3-Dichloropropene	ND	12	ug/Kg	04/28/11		R/P	8021/8260
Trichloroethene	ND	12	ug/Kg	04/28/11		R/P	8021/8260
Trichlorofluoromethane	ND	12	ug/Kg	04/28/11		R/P	8021/8260
Vinyl chloride	ND	12	ug/Kg	04/28/11		R/P	8021/8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	107		%	04/28/11		R/P	8021/8260
% Bromofluorobenzene	95		%	04/28/11		R/P	8021/8260
% Dibromofluoromethane	101		%	04/28/11		R/P	8021/8260
% Toluene-d8	98		%	04/28/11		R/P	8021/8260

Project ID: CRORON AVE
Client ID: ISB-4 (8-12)

Phoenix I.D.: BA24606

Parameter	Result	RL	Units	Date	Time	By	Reference

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

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Phyllis Shiller, Laboratory Director
May 02, 2011

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

April 29, 2011

FOR: Attn: Mr. David Pelletier
Jade Environmental, Inc.
59 Circle Drive
Hopewell Junction, NY 12533

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:		04/25/11	0:00
Location Code:	JADEENV	Received by:	SW	04/26/11	18:38
Rush Request:	RUSH##	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBA24594
Phoenix ID: BA24607

Project ID: CRORON AVE
Client ID: ISB-5 (0-4)

Parameter	Result	RL	Units	Date	Time	By	Reference
Percent Solid	88		%	04/26/11		JL	E160.3
TCLP Extraction Volatiles	Completed			04/27/11		X	EPA 1311
TCLP 8010							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1,1-Trichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1,2-Trichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1-Dichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1-Dichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2,3-Trichloropropane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2-Dichlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2-Dichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2-Dichloropropane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,3-Dichlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,4-Dichlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromodichloromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromoform	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromomethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Carbon tetrachloride	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chloroform	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chloromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
cis-1,2-Dichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
cis-1,3-Dichloropropene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Dibromochloromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-5 (0-4)

Phoenix I.D.: BA24607

Parameter	Result	RL	Units	Date	Time	By	Reference
Dibromomethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Dichlorodifluoromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Tetrachloroethene	1900	250	ug/L	04/28/11		H/J	8021/8260
trans-1,2-Dichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
trans-1,3-Dichloropropene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Trichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Trichlorofluoromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Vinyl chloride	ND	5.0	ug/L	04/28/11		H/J	8021/8260
QA/QC Surrogates							
% BFB (Surrogate Recovery)	93		%	04/28/11		H/J	8021/8260
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
1,1,1-Trichloroethane	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
1,1,2-Trichloroethane	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
1,1-Dichloroethane	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
1,1-Dichloroethene	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
1,2,3-Trichloropropane	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
1,2-Dichlorobenzene	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
1,2-Dichloroethane	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
1,2-Dichloropropane	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
1,3-Dichlorobenzene	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
1,4-Dichlorobenzene	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
Bromobenzene	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
Bromodichloromethane	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
Bromoform	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
Bromomethane	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
Carbon tetrachloride	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
Chlorobenzene	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
Chloroethane	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
Chloroform	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
Chloromethane	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
cis-1,2-Dichloroethene	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
cis-1,3-Dichloropropene	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
Dibromochloromethane	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
Dibromomethane	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
Dichlorodifluoromethane	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
Methylene chloride	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
Tetrachloroethene	1700	280	ug/Kg	04/27/11		R/J	8021/8260
trans-1,2-Dichloroethene	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
trans-1,3-Dichloropropene	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
Trichloroethene	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
Trichlorofluoromethane	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
Vinyl chloride	ND	5.7	ug/Kg	04/27/11		R/J	8021/8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	04/27/11		R/J	8021/8260
% Bromofluorobenzene	90		%	04/27/11		R/J	8021/8260
% Dibromofluoromethane	100		%	04/27/11		R/J	8021/8260
% Toluene-d8	101		%	04/27/11		R/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-5 (0-4)

Phoenix I.D.: BA24607

Parameter	Result	RL	Units	Date	Time	By	Reference

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
May 02, 2011

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

April 29, 2011

FOR: Attn: Mr. David Pelletier
Jade Environmental, Inc.
59 Circle Drive
Hopewell Junction, NY 12533

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:		04/25/11	0:00
Location Code:	JADEENV	Received by:	SW	04/26/11	18:38
Rush Request:	RUSH##	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBA24594
Phoenix ID: BA24608

Project ID: CRORON AVE
Client ID: ISB-5 (4-8)

Parameter	Result	RL	Units	Date	Time	By	Reference
Percent Solid	86		%	04/26/11		JL	E160.3
TCLP Extraction Volatiles	Completed			04/27/11		X	EPA 1311
TCLP 8010							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	04/29/11		H/J	8021/8260
1,1,1-Trichloroethane	ND	5.0	ug/L	04/29/11		H/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	04/29/11		H/J	8021/8260
1,1,2-Trichloroethane	ND	5.0	ug/L	04/29/11		H/J	8021/8260
1,1-Dichloroethane	ND	5.0	ug/L	04/29/11		H/J	8021/8260
1,1-Dichloroethene	ND	5.0	ug/L	04/29/11		H/J	8021/8260
1,2,3-Trichloropropane	ND	5.0	ug/L	04/29/11		H/J	8021/8260
1,2-Dichlorobenzene	ND	5.0	ug/L	04/29/11		H/J	8021/8260
1,2-Dichloroethane	ND	5.0	ug/L	04/29/11		H/J	8021/8260
1,2-Dichloropropane	ND	5.0	ug/L	04/29/11		H/J	8021/8260
1,3-Dichlorobenzene	ND	5.0	ug/L	04/29/11		H/J	8021/8260
1,4-Dichlorobenzene	ND	5.0	ug/L	04/29/11		H/J	8021/8260
Bromobenzene	ND	5.0	ug/L	04/29/11		H/J	8021/8260
Bromodichloromethane	ND	5.0	ug/L	04/29/11		H/J	8021/8260
Bromoform	ND	5.0	ug/L	04/29/11		H/J	8021/8260
Bromomethane	ND	5.0	ug/L	04/29/11		H/J	8021/8260
Carbon tetrachloride	ND	5.0	ug/L	04/29/11		H/J	8021/8260
Chlorobenzene	ND	5.0	ug/L	04/29/11		H/J	8021/8260
Chloroethane	ND	5.0	ug/L	04/29/11		H/J	8021/8260
Chloroform	ND	5.0	ug/L	04/29/11		H/J	8021/8260
Chloromethane	ND	5.0	ug/L	04/29/11		H/J	8021/8260
cis-1,2-Dichloroethene	ND	5.0	ug/L	04/29/11		H/J	8021/8260
cis-1,3-Dichloropropene	ND	5.0	ug/L	04/29/11		H/J	8021/8260
Dibromochloromethane	ND	5.0	ug/L	04/29/11		H/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-5 (4-8)

Phoenix I.D.: BA24608

Parameter	Result	RL	Units	Date	Time	By	Reference
Dibromomethane	ND	5.0	ug/L	04/29/11		H/J	8021/8260
Dichlorodifluoromethane	ND	5.0	ug/L	04/29/11		H/J	8021/8260
Tetrachloroethene	7.3	5.0	ug/L	04/29/11		H/J	8021/8260
trans-1,2-Dichloroethene	ND	5.0	ug/L	04/29/11		H/J	8021/8260
trans-1,3-Dichloropropene	ND	5.0	ug/L	04/29/11		H/J	8021/8260
Trichloroethene	ND	5.0	ug/L	04/29/11		H/J	8021/8260
Trichlorofluoromethane	ND	5.0	ug/L	04/29/11		H/J	8021/8260
Vinyl chloride	ND	5.0	ug/L	04/29/11		H/J	8021/8260
QA/QC Surrogates							
% BFB (Surrogate Recovery)	93		%	04/29/11		H/J	8021/8260
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
1,1,1-Trichloroethane	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
1,1,2-Trichloroethane	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
1,1-Dichloroethane	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
1,1-Dichloroethene	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
1,2,3-Trichloropropane	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
1,2-Dichlorobenzene	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
1,2-Dichloroethane	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
1,2-Dichloropropane	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
1,3-Dichlorobenzene	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
1,4-Dichlorobenzene	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
Bromobenzene	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
Bromodichloromethane	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
Bromoform	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
Bromomethane	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
Carbon tetrachloride	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
Chlorobenzene	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
Chloroethane	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
Chloroform	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
Chloromethane	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
cis-1,2-Dichloroethene	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
cis-1,3-Dichloropropene	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
Dibromochloromethane	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
Dibromomethane	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
Dichlorodifluoromethane	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
Methylene chloride	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
Tetrachloroethene	180	5.8	ug/Kg	04/28/11		H/J	8021/8260
trans-1,2-Dichloroethene	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
trans-1,3-Dichloropropene	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
Trichloroethene	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
Trichlorofluoromethane	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
Vinyl chloride	ND	5.8	ug/Kg	04/28/11		H/J	8021/8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	04/28/11		H/J	8021/8260
% Bromofluorobenzene	86		%	04/28/11		H/J	8021/8260
% Dibromofluoromethane	124		%	04/28/11		H/J	8021/8260
% Toluene-d8	98		%	04/28/11		H/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-5 (4-8)

Phoenix I.D.: BA24608

Parameter	Result	RL	Units	Date	Time	By	Reference

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

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Phyllis Shiller, Laboratory Director
May 02, 2011

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

April 29, 2011

FOR: Attn: Mr. David Pelletier
Jade Environmental, Inc.
59 Circle Drive
Hopewell Junction, NY 12533

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:		04/25/11	0:00
Location Code:	JADEENV	Received by:	SW	04/26/11	18:38
Rush Request:	RUSH##	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBA24594
Phoenix ID: BA24609

Project ID: CRORON AVE
Client ID: ISB-5 (8-12)

Parameter	Result	RL	Units	Date	Time	By	Reference
Percent Solid	90		%	04/26/11		JL	E160.3
TCLP Extraction Volatiles	Completed			04/27/11		X	EPA 1311
TCLP 8010							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1,1-Trichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1,2-Trichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1-Dichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,1-Dichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2,3-Trichloropropane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2-Dichlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2-Dichloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,2-Dichloropropane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,3-Dichlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
1,4-Dichlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromodichloromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromoform	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Bromomethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Carbon tetrachloride	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chlorobenzene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chloroethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chloroform	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Chloromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
cis-1,2-Dichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
cis-1,3-Dichloropropene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Dibromochloromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-5 (8-12)

Phoenix I.D.: BA24609

Parameter	Result	RL	Units	Date	Time	By	Reference
Dibromomethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Dichlorodifluoromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Tetrachloroethene	24	5.0	ug/L	04/28/11		H/J	8021/8260
trans-1,2-Dichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
trans-1,3-Dichloropropene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Trichloroethene	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Trichlorofluoromethane	ND	5.0	ug/L	04/28/11		H/J	8021/8260
Vinyl chloride	ND	5.0	ug/L	04/28/11		H/J	8021/8260
QA/QC Surrogates							
% BFB (Surrogate Recovery)	94		%	04/28/11		H/J	8021/8260
Halogenated Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
1,1,1-Trichloroethane	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
1,1,2,2-Tetrachloroethane	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
1,1,2-Trichloroethane	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
1,1-Dichloroethane	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
1,1-Dichloroethene	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
1,2,3-Trichloropropane	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
1,2-Dichlorobenzene	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
1,2-Dichloroethane	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
1,2-Dichloropropane	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
1,3-Dichlorobenzene	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
1,4-Dichlorobenzene	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
Bromobenzene	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
Bromodichloromethane	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
Bromoform	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
Bromomethane	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
Carbon tetrachloride	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
Chlorobenzene	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
Chloroethane	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
Chloroform	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
Chloromethane	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
cis-1,2-Dichloroethene	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
cis-1,3-Dichloropropene	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
Dibromochloromethane	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
Dibromomethane	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
Dichlorodifluoromethane	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
Methylene chloride	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
Tetrachloroethene	32	5.6	ug/Kg	04/28/11		R/J	8021/8260
trans-1,2-Dichloroethene	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
trans-1,3-Dichloropropene	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
Trichloroethene	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
Trichlorofluoromethane	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
Vinyl chloride	ND	5.6	ug/Kg	04/28/11		R/J	8021/8260
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	04/28/11		R/J	8021/8260
% Bromofluorobenzene	84		%	04/28/11		R/J	8021/8260
% Dibromofluoromethane	106		%	04/28/11		R/J	8021/8260
% Toluene-d8	99		%	04/28/11		R/J	8021/8260

Project ID: CRORON AVE
Client ID: ISB-5 (8-12)

Phoenix I.D.: BA24609

Parameter	Result	RL	Units	Date	Time	By	Reference

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
May 02, 2011

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

QA/QC Report

May 02, 2011

QA/QC Data

SDG I.D.: GBA24594

Parameter	Blank	Dup RPD	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 175482, QC Sample No: BA24145 (BA24597)								
ICP Metals - Soil								
Iron	BDL	6.00	88.5	88.4	0.1	NC	NC	NC
Manganese	BDL	14.6	100	97.6	2.4	86.0	80.9	6.1

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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

QA/QC Report

May 02, 2011

QA/QC Data

SDG I.D.: GBA24594

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD	
QA/QC Batch 175749, QC Sample No: BA24166 (BA24602, BA24608)								
Volatiles								
1,1,1,2-Tetrachloroethane	ND	85	93	9.0	87	92	5.6	
1,1,1-Trichloroethane	ND	84	97	14.4	91	93	2.2	
1,1,2,2-Tetrachloroethane	ND	86	88	2.3	87	85	2.3	
1,1,2-Trichloroethane	ND	90	91	1.1	86	85	1.2	
1,1-Dichloroethane	ND	74	92	21.7	81	88	8.3	
1,1-Dichloroethene	ND	81	92	12.7	87	92	5.6	
1,2,3-Trichloropropane	ND	99	88	11.8	91	80	12.9	
1,2-Dichlorobenzene	ND	84	86	2.4	88	89	1.1	
1,2-Dichloroethane	ND	93	91	2.2	92	88	4.4	
1,2-Dichloropropane	ND	83	89	7.0	85	89	4.6	
1,3-Dichlorobenzene	ND	82	87	5.9	88	91	3.4	
1,4-Dichlorobenzene	ND	81	85	4.8	89	91	2.2	
Bromobenzene	ND	88	94	6.6	90	90	0.0	
Bromodichloromethane	ND	89	94	5.5	88	89	1.1	
Bromoform	ND	92	88	4.4	87	84	3.5	
Bromomethane	ND	79	81	2.5	73	63	14.7	
Carbon tetrachloride	ND	89	97	8.6	91	100	9.4	
Chlorobenzene	ND	79	86	8.5	85	90	5.7	
Chloroethane	ND	76	86	12.3	<40	<40	NC	3
Chloroform	ND	83	93	11.4	88	89	1.1	
Chloromethane	ND	70	77	9.5	77	79	2.6	
cis-1,2-Dichloroethene	ND	97	105	7.9	91	90	1.1	
cis-1,3-Dichloropropene	ND	88	88	0.0	90	89	1.1	
Dibromochloromethane	ND	88	88	0.0	87	86	1.2	
Dibromomethane	ND	90	86	4.5	90	85	5.7	
Dichlorodifluoromethane	ND	55	62	12.0	82	87	5.9	2
Methylene chloride	ND	78	82	5.0	74	71	4.1	
Tetrachloroethene	ND	87	101	14.9	85	96	12.2	
trans-1,2-Dichloroethene	ND	73	80	9.2	86	91	5.6	
trans-1,3-Dichloropropene	ND	91	85	6.8	90	87	3.4	
Trichloroethene	ND	86	92	6.7	86	94	8.9	
Trichlorofluoromethane	ND	86	110	24.5	71	69	2.9	
Vinyl chloride	ND	69	78	12.2	79	84	6.1	2
% 1,2-dichlorobenzene-d4	98	103	100	3.0	100	97	3.0	
% Bromofluorobenzene	95	98	97	1.0	99	97	2.0	
% Dibromofluoromethane	96	96	96	0.0	104	89	15.5	
% Toluene-d8	99	99	99	0.0	98	100	2.0	

QA/QC Data

SDG I.D.: GBA24594

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 176054, QC Sample No: BA24594 (BA24594, BA24595 (20X) , BA24598 (1000X) , BA24599 (5000X) , BA24600 (500X) , BA24601 (50X) , BA24602 (20X))							
Volatiles							
1,1,1,2-Tetrachloroethane	ND	122	112	8.5	110	116	5.3
1,1,1-Trichloroethane	ND	114	105	8.2	101	109	7.6
1,1,2,2-Tetrachloroethane	ND	117	108	8.0	101	110	8.5
1,1,2-Trichloroethane	ND	116	107	8.1	97	108	10.7
1,1-Dichloroethane	ND	114	103	10.1	101	106	4.8
1,1-Dichloroethene	ND	108	101	6.7	99	107	7.8
1,2,3-Trichloropropane	ND	121	104	15.1	108	117	8.0
1,2-Dichlorobenzene	ND	119	112	6.1	99	110	10.5
1,2-Dichloroethane	ND	115	102	12.0	102	108	5.7
1,2-Dichloropropane	ND	115	104	10.0	103	110	6.6
1,3-Dichlorobenzene	ND	120	111	7.8	100	110	9.5
1,4-Dichlorobenzene	ND	120	109	9.6	98	110	11.5
Bromobenzene	ND	122	113	7.7	105	114	8.2
Bromodichloromethane	ND	119	106	11.6	104	109	4.7
Bromoform	ND	117	105	10.8	103	115	11.0
Bromomethane	ND	133	128	3.8	119	125	4.9
Carbon tetrachloride	ND	120	106	12.4	104	114	9.2
Chlorobenzene	ND	118	107	9.8	104	113	8.3
Chloroethane	ND	113	100	12.2	97	105	7.9
Chloroform	ND	115	107	7.2	101	108	6.7
Chloromethane	ND	102	99	3.0	93	101	8.2
cis-1,2-Dichloroethene	ND	128	117	9.0	100	105	4.9
cis-1,3-Dichloropropene	ND	112	101	10.3	99	103	4.0
Dibromochloromethane	ND	118	106	10.7	108	114	5.4
Dibromomethane	ND	116	102	12.8	98	108	9.7
Dichlorodifluoromethane	ND	69	65	6.0	80	89	10.7
Methylene chloride	ND	117	109	7.1	103	105	1.9
Tetrachloroethene	ND	118	105	11.7	106	112	5.5
trans-1,2-Dichloroethene	ND	98	90	8.5	97	104	7.0
trans-1,3-Dichloropropene	ND	112	102	9.3	95	101	6.1
Trichloroethene	ND	120	109	9.6	105	113	7.3
Trichlorofluoromethane	ND	136	125	8.4	98	108	9.7
Vinyl chloride	ND	98	92	6.3	94	102	8.2
% 1,2-dichlorobenzene-d4	104	100	103	3.0	101	102	1.0
% Bromofluorobenzene	92	96	96	0.0	98	96	2.1
% Dibromofluoromethane	97	106	101	4.8	98	101	3.0
% Toluene-d8	98	98	101	3.0	96	98	2.1
QA/QC Batch 175712, QC Sample No: BA24781 (BA24597, BA24598, BA24606 (50X) , BA24607)							
Volatiles							
1,1,1,2-Tetrachloroethane	ND	86	116	29.7	100	83	18.6
1,1,1-Trichloroethane	ND	86	118	31.4	101	87	14.9
1,1,2,2-Tetrachloroethane	ND	79	107	30.1	87	76	13.5
1,1,2-Trichloroethane	ND	93	117	22.9	96	91	5.3
1,1-Dichloroethane	ND	82	117	35.2	94	74	23.8
1,1-Dichloroethene	ND	84	117	32.8	92	78	16.5
1,2,3-Trichloropropane	ND	99	114	14.1	100	99	1.0
1,2-Dichlorobenzene	ND	81	105	25.8	89	77	14.5
1,2-Dichloroethane	ND	94	116	21.0	96	90	6.5

QA/QC Data

SDG I.D.: GBA24594

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD	
1,2-Dichloropropane	ND	90	118	26.9	96	82	15.7	
1,3-Dichlorobenzene	ND	77	100	26.0	85	71	17.9	
1,4-Dichlorobenzene	ND	76	97	24.3	83	71	15.6	
Bromobenzene	ND	87	116	28.6	98	83	16.6	
Bromodichloromethane	ND	90	119	27.8	101	88	13.8	
Bromoform	ND	90	111	20.9	97	94	3.1	
Bromomethane	ND	92	111	18.7	75	70	6.9	
Carbon tetrachloride	ND	89	118	28.0	106	89	17.4	
Chlorobenzene	ND	80	107	28.9	91	75	19.3	
Chloroethane	ND	89	115	25.5	80	70	13.3	
Chloroform	ND	90	115	24.4	96	80	18.2	
Chloromethane	ND	84	108	25.0	76	61	21.9	3
cis-1,2-Dichloroethene	ND	102	132	25.6	96	86	11.0	2
cis-1,3-Dichloropropene	ND	87	106	19.7	89	83	7.0	
Dibromochloromethane	ND	86	113	27.1	99	89	10.6	
Dibromomethane	ND	91	113	21.6	96	89	7.6	
Dichlorodifluoromethane	ND	62	86	32.4	75	60	22.2	2,3
Methylene chloride	ND	82	101	20.8	79	76	3.9	
Tetrachloroethene	ND	80	112	33.3	112	80	33.3	
trans-1,2-Dichloroethene	ND	76	98	25.3	94	79	17.3	
trans-1,3-Dichloropropene	ND	88	105	17.6	88	85	3.5	
Trichloroethene	ND	91	123	29.9	105	88	17.6	
Trichlorofluoromethane	ND	93	149	46.3	95	69	31.7	
Vinyl chloride	ND	78	105	29.5	78	66	16.7	3
% 1,2-dichlorobenzene-d4	99	103	101	2.0	100	103	3.0	
% Bromofluorobenzene	87	98	97	1.0	97	97	0.0	
% Dibromofluoromethane	97	101	98	3.0	98	100	2.0	
% Toluene-d8	101	100	100	0.0	99	99	0.0	

QA/QC Batch 175759, QC Sample No: BA24790 (BA24594, BA24595, BA24597, BA24598, BA24599, BA24600, BA24601, BA24602)

Volatiles

1,1,1,2-Tetrachloroethane	ND	113	110	2.7	118	115	2.6	
1,1,1-Trichloroethane	ND	106	103	2.9	112	108	3.6	
1,1,2,2-Tetrachloroethane	ND	119	114	4.3	110	116	5.3	
1,1,2-Trichloroethane	ND	111	110	0.9	107	106	0.9	
1,1-Dichloroethane	ND	107	104	2.8	107	104	2.8	
1,1-Dichloroethene	ND	107	102	4.8	105	103	1.9	
1,2,3-Trichloropropane	ND	99	109	9.6	95	95	0.0	
1,2-Dichlorobenzene	ND	119	112	6.1	114	113	0.9	
1,2-Dichloroethane	ND	104	102	1.9	108	105	2.8	
1,2-Dichloropropane	ND	110	108	1.8	108	107	0.9	
1,3-Dichlorobenzene	ND	121	115	5.1	116	113	2.6	
1,4-Dichlorobenzene	ND	120	112	6.9	113	112	0.9	
Bromobenzene	ND	119	110	7.9	117	116	0.9	
Bromodichloromethane	ND	110	105	4.7	111	106	4.6	
Bromoform	ND	109	106	2.8	114	116	1.7	
Bromomethane	ND	140	135	3.6	130	130	0.0	
Carbon tetrachloride	ND	106	102	3.8	113	113	0.0	
Chlorobenzene	ND	112	108	3.6	113	111	1.8	
Chloroethane	ND	106	102	3.8	106	101	4.8	
Chloroform	ND	109	106	2.8	108	102	5.7	
Chloromethane	ND	106	104	1.9	100	98	2.0	

QA/QC Data

SDG I.D.: GBA24594

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD	
cis-1,2-Dichloroethene	ND	122	119	2.5	107	104	2.8	
cis-1,3-Dichloropropene	ND	108	105	2.8	108	105	2.8	
Dibromochloromethane	ND	111	107	3.7	117	119	1.7	
Dibromomethane	ND	104	108	3.8	108	107	0.9	
Dichlorodifluoromethane	ND	70	67	4.4	91	86	5.6	
Methylene chloride	ND	106	106	0.0	106	101	4.8	
Tetrachloroethene	ND	111	105	5.6	128	124	3.2	
trans-1,2-Dichloroethene	ND	96	92	4.3	106	103	2.9	
trans-1,3-Dichloropropene	ND	108	106	1.9	110	108	1.8	
Trichloroethene	ND	112	108	3.6	111	110	0.9	
Trichlorofluoromethane	ND	126	121	4.0	113	107	5.5	
Vinyl chloride	ND	98	95	3.1	99	99	0.0	
% 1,2-dichlorobenzene-d4	99	102	101	1.0	101	101	0.0	
% Bromofluorobenzene	92	97	96	1.0	95	97	2.1	
% Dibromofluoromethane	102	103	95	8.1	106	96	9.9	
% Toluene-d8	99	98	98	0.0	97	96	1.0	

QA/QC Batch 175835, QC Sample No: BA25391 (BA24596, BA24597 (50X) , BA24601, BA24603, BA24604 (50X) , BA24606, BA24609)

Volatiles

1,1,1,2-Tetrachloroethane	ND	96	81	16.9	95	89	6.5	
1,1,1-Trichloroethane	ND	96	82	15.7	99	90	9.5	
1,1,2,2-Tetrachloroethane	ND	94	83	12.4	81	80	1.2	
1,1,2-Trichloroethane	ND	96	89	7.6	85	87	2.3	
1,1-Dichloroethane	ND	98	79	21.5	90	78	14.3	
1,1-Dichloroethene	ND	95	76	22.2	89	79	11.9	
1,2,3-Trichloropropane	ND	89	91	2.2	79	87	9.6	
1,2-Dichlorobenzene	ND	94	83	12.4	90	87	3.4	
1,2-Dichloroethane	ND	94	88	6.6	89	89	0.0	
1,2-Dichloropropane	ND	97	83	15.6	88	83	5.8	
1,3-Dichlorobenzene	ND	94	82	13.6	96	88	8.7	
1,4-Dichlorobenzene	ND	91	81	11.6	94	88	6.6	
Bromobenzene	ND	95	84	12.3	96	90	6.5	
Bromodichloromethane	ND	97	85	13.2	92	88	4.4	
Bromoform	ND	88	82	7.1	84	88	4.7	
Bromomethane	ND	91	88	3.4	61	59	3.3	
Carbon tetrachloride	ND	94	82	13.6	103	94	9.1	
Chlorobenzene	ND	92	76	19.0	92	85	7.9	
Chloroethane	ND	92	80	14.0	<40	<40	NC	3
Chloroform	ND	97	84	14.4	93	87	6.7	
Chloromethane	ND	88	77	13.3	77	71	8.1	
cis-1,2-Dichloroethene	ND	109	99	9.6	92	89	3.3	
cis-1,3-Dichloropropene	ND	92	86	6.7	89	89	0.0	
Dibromochloromethane	ND	92	81	12.7	87	88	1.1	
Dibromomethane	ND	92	87	5.6	86	90	4.5	
Dichlorodifluoromethane	ND	66	57	14.6	88	82	7.1	2
Methylene chloride	ND	87	81	7.1	74	73	1.4	
Tetrachloroethene	ND	95	78	19.7	93	82	12.6	
trans-1,2-Dichloroethene	ND	83	73	12.8	93	85	9.0	
trans-1,3-Dichloropropene	ND	94	87	7.7	85	88	3.5	
Trichloroethene	ND	96	82	15.7	97	90	7.5	
Trichlorofluoromethane	ND	119	86	32.2	43	<40	NC	3
Vinyl chloride	ND	83	73	12.8	81	75	7.7	

QA/QC Data

SDG I.D.: GBA24594

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD	
% 1,2-dichlorobenzene-d4	101	97	101	4.0	98	98	0.0	
% Bromofluorobenzene	89	97	97	0.0	98	100	2.0	
% Dibromofluoromethane	106	105	107	1.9	100	103	3.0	
% Toluene-d8	100	99	99	0.0	99	97	2.0	
QA/QC Batch 176052, QC Sample No: BA25628 (BA24596, BA24603, BA24604, BA24605, BA24606, BA24607, BA24609)								
Volatiles								
1,1,1,2-Tetrachloroethane	ND	110			113	118	4.3	
1,1,1-Trichloroethane	ND	97			106	114	7.3	
1,1,2,2-Tetrachloroethane	ND	105			112	127	12.6	
1,1,2-Trichloroethane	ND	107			106	112	5.5	
1,1-Dichloroethane	ND	105			105	111	5.6	
1,1-Dichloroethene	ND	101			104	110	5.6	
1,2,3-Trichloropropane	ND	99			105	132	22.8	3
1,2-Dichlorobenzene	ND	107			107	122	13.1	
1,2-Dichloroethane	ND	93			106	112	5.5	
1,2-Dichloropropane	ND	108			105	110	4.7	
1,3-Dichlorobenzene	ND	112			110	121	9.5	
1,4-Dichlorobenzene	ND	109			110	121	9.5	
Bromobenzene	ND	109			109	123	12.1	
Bromodichloromethane	ND	100			107	112	4.6	
Bromoform	ND	99			111	118	6.1	
Bromomethane	ND	139			124	133	7.0	
Carbon tetrachloride	ND	95			107	115	7.2	
Chlorobenzene	ND	110			110	115	4.4	
Chloroethane	ND	106			109	113	3.6	
Chloroform	ND	103			108	114	5.4	
Chloromethane	ND	110			100	105	4.9	
cis-1,2-Dichloroethene	ND	119			107	113	5.5	
cis-1,3-Dichloropropene	ND	102			108	112	3.6	
Dibromochloromethane	ND	102			110	117	6.2	
Dibromomethane	ND	101			103	115	11.0	
Dichlorodifluoromethane	ND	64			87	89	2.3	
Methylene chloride	ND	107			105	110	4.7	
Tetrachloroethene	ND	107			110	113	2.7	
trans-1,2-Dichloroethene	ND	91			104	109	4.7	
trans-1,3-Dichloropropene	ND	103			110	114	3.6	
Trichloroethene	ND	106			107	111	3.7	
Trichlorofluoromethane	ND	109			108	114	5.4	
Vinyl chloride	ND	98			99	103	4.0	
% 1,2-dichlorobenzene-d4	104	100			101	103	2.0	
% Bromofluorobenzene	91	96			98	98	0.0	
% Dibromofluoromethane	101	95			97	109	11.7	
% Toluene-d8	98	100			98	98	0.0	

Comment:

The LCSD is not reported for this batch.

2 = This parameter is outside laboratory lcs/lcsd specified limits.
3 = This parameter is outside laboratory ms/msd specified limits.

QA/QC Data

SDG I.D.: GBA24594

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria

Phyllis Shiller, Laboratory Director
May 02, 2011

Requested Criteria:

Sample Criteria Exceedences Report

GBA24594

SampNo	LocCode	Acode	Phoenix Analyte	Criteria Units	ST	State Category	Criteria Name	Result	RL	Factored Criteria	Factored RL Criteria	Analysis Units
BA24598	JADEENV	$TCL8010	Tetrachloroethene	mg/l	EPA	40 Cfr 261.24	Toxicity Characteristics	92000	5000	700	700	ug/L
BA24599	JADEENV	$TCL8010	Tetrachloroethene	mg/l	EPA	40 Cfr 261.24	Toxicity Characteristics	220000	25000	700	700	ug/L
BA24600	JADEENV	$TCL8010	Tetrachloroethene	mg/l	EPA	40 Cfr 261.24	Toxicity Characteristics	18000	27500	700	700	ug/L
BA24601	JADEENV	$TCL8010	Tetrachloroethene	mg/l	EPA	40 Cfr 261.24	Toxicity Characteristics	780	250	700	700	ug/L
BA24606	JADEENV	$TCL8010	Tetrachloroethene	mg/l	EPA	40 Cfr 261.24	Toxicity Characteristics	2100	250	700	700	ug/L
BA24607	JADEENV	$TCL8010	Tetrachloroethene	mg/l	EPA	40 Cfr 261.24	Toxicity Characteristics	1900	250	700	700	ug/L

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

NY Temperature Narration

May 02, 2011

SDG I.D.: GBA24594

The samples in this delivery group were received at 4C.
(Note acceptance criteria is above freezing up to 6C)

PHOENIX Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 4 °C Pg 1 of 2

Data Delivery:
☐ Fax #:
☑ Email:

Customer: Jade Environmental, Inc.
Address: 59 Cardo Dr.
Hopewell Jct. NY 12533

Project: Croton Avenue
Report to: Dave Holland
Invoice to:

Project P.O:
Phone #:
Fax #:

Client Sample - Information - Identification

Sampler's Signature: [signature] Date 4/25/11

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	CVOC 8010 (Total)	CVOC 8010 (TCLP)	Total Iron	Total Dissolved Manganese	Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H20	GL Soil container (4) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
24594	ISB-1 (0-4)	S	4/25		✓	✓				1								
24595	ISB-1 (4-8)	↓	↓		↓	↓				↓								
24596	ISB-1 (8-12)	↓	↓		↓	↓				↓								
24597	ISB-1 (12-16)	↓	↓		↓	↓	✓	✓		3								
24598	ISB-2 (0-4)	↓	↓		↓	↓				1								
24599	ISB-2 (4-8)	↓	↓		↓	↓				↓								
24600	ISB-2 (8-12)	↓	↓		↓	↓				↓								
24601	ISB-3 (0-4)	↓	↓		↓	↓				↓								
24602	ISB-3 (4-8)	↓	↓		↓	↓				↓								
24603	ISB-3 (8-12)	↓	↓		↓	↓				↓								

Relinquished by:	Accepted by:	Date:	Time:
[signature]	B. Dorl	4/26/11	12:35
B. Dorl	Ron Bryda	4-26-11	18:35

Comments, Special Requirements or Regulations:

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other
* SURCHARGE APPLIES

CT/RI
☐ RCP Cert.
☐ GW Protect.
☐ GA Mobility
☐ GB Mobility
☐ SW Protect.
☐ Res. Vol.
☐ Ind. Vol.
☐ Res. Criteria
☐ Other

MA
☐ MCP Cert.
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

Data Format
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ ASP-A
☐ NJ Reduced Deliv. *
☐ NJ Hazsite EDD
☐ Phoenix Std Report
☐ Other

State where samples were collected: NY

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 4.0°C Pg 2 of 2

Data Delivery:
☐ Fax #: _____
☐ Email: _____

Customer: LADE
Address: _____

Project: Cooper Ave
Report to: _____
Invoice to: _____

Project P.O: _____
Phone #: _____
Fax #: _____

Client Sample - Information - Identification

Sampler's Signature: _____ Date: 4/29/11

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled
24604	ISB-4 (0-4)	S	4/25	
24605	ISB-4 (4-8)			
24606	ISB-4 (8-12)			
24607	ISB-5 (0-4)			
24608	ISB-5 (4-8)			
24609	ISB-5 (8-12)	↓	↓	

Analysis Request

CVOC + 8010	CVOC + 8010 (TCL?)	Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H20	GL Soil container (4) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
✓	✓		✓								
↓	↓		↓								

Relinquished by:	Accepted by:	Date:	Time:
		4-26-11	12:35
		4-26-11	18:38

Comments, Special Requirements or Regulations:

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☐ Standard
☐ Other

* SURCHARGE APPLIES

CT/RI
☐ RCP Cert.
☐ GW Protect.
☐ GA Mobility
☐ GB Mobility
☐ SW Protect.
☐ Res. Vol.
☐ Ind. Vol.
☐ Res. Criteria
☐ Other

MA
☐ MCP Cert.
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: NY

Data Format
☐ Excel
☑ PDF
☐ GIS/Key
☐ EQuIS
☐ Other _____

Data Package
☐ ASP-A
☐ NJ Reduced Deliv. *
☐ NJ Hazsite EDD
☐ Phoenix Std Report
☐ Other

Appendix M

MSDS PCE as dry cleaning fluid

Material Safety Data Sheet

Version 5.0
Revision Date 04/05/2011
Print Date 11/05/2011

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	1,1,1,2-Tetrachloroethane
Product Number	:	46254
Brand	:	Fluka
Supplier	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone	:	+1 800-325-5832
Fax	:	+1 800-325-5052
Emergency Phone # (For both supplier and manufacturer)	:	(314) 776-6555
Preparation Information	:	Sigma-Aldrich Corporation Product Safety - Americas Region 1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Harmful by ingestion., Irritant, Carcinogen

Target Organs

Liver, Kidney, Nerves.

GHS Classification
Acute toxicity, Inhalation (Category 4)
Acute toxicity, Oral (Category 4)
Serious eye damage (Category 1)
Carcinogenicity (Category 2)
Acute aquatic toxicity (Category 3)

GHS Label elements, including precautionary statements

Pictogram

Signal word: Danger

Hazard statement(s)

H302 + H332	Harmful if swallowed or if inhaled.
H318	Causes serious eye damage.
H351	Suspected of causing cancer.
H402	Harmful to aquatic life.

Precautionary statement(s)

P280	Wear protective gloves/ eye protection/ face protection.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

HMIS Classification

Health hazard:	2
Flammability:	0

Physical hazards: 0

NFPA Rating

Health hazard: 2
Fire: 0
Reactivity Hazard: 0

Potential Health Effects

Inhalation May be harmful if inhaled. Causes respiratory tract irritation.
Skin Harmful if absorbed through skin. Causes skin irritation.
Eyes Causes eye irritation.
Ingestion Harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : $C_2H_2Cl_4$
Molecular Weight : 167.85 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
1,1,1,2-Tetrachloroethane			
630-20-6	211-135-1	-	-

4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Normal measures for preventive fire protection.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection
Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	liquid, clear
Colour	colourless

Safety data

pH	no data available
Melting point/freezing point	-70.2 °C (-94.4 °F)
Boiling point	138 °C (280 °F) - lit.
Flash point	no data available
Ignition temperature	no data available
Autoignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	18.7 hPa (14.0 mmHg) at 25.0 °C (77.0 °F)
Density	1.598 g/cm3 at 25 °C (77 °F)
Water solubility	slightly soluble
Partition coefficient:	log Pow: 2.66

n-octanol/water	
Relative vapour density	no data available
Odour	no data available
Odour Threshold	no data available
Evaporation rate	no data available

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
no data available

Conditions to avoid
no data available

Materials to avoid
Strong oxidizing agents, Strong bases

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50
LD50 Oral - rat - 670.0 mg/kg

Inhalation LC50
LC50 Inhalation - rat - 4 h - 2100 ppm
Remarks: Diarrhoea

Dermal LD50
LD50 Dermal - rabbit - 20,000 mg/kg

Other information on acute toxicity
no data available

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
Eyes - rabbit - Severe eye irritation - 24 h - Draize Test

Respiratory or skin sensitization
no data available

Germ cell mutagenicity

no data available

Carcinogenicity

This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

Limited evidence of carcinogenicity in animal studies

IARC:	3 - Group 3: Not classifiable as to its carcinogenicity to humans (1,1,1,2-Tetrachloroethane)
ACGIH:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP:	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

Teratogenicity

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)
no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
no data available

Aspiration hazard
no data available

Potential health effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion	Harmful if swallowed.
Skin	Harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects
no data available

Additional Information
RTECS: KI8450000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish	LC50 - Lepomis macrochirus (Bluegill) - 16.00 - 24.00 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates.	EC50 - Daphnia magna (Water flea) - 17.00 - 30.00 mg/l - 48 h

Persistence and degradability
no data available

Bioaccumulative potential
no data available

Mobility in soil
no data available

PBT and vPvB assessment
no data available

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life.

no data available

13. DISPOSAL CONSIDERATIONS

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN number: 2810 Class: 6.1 Packing group: III
Proper shipping name: Toxic, liquids, organic, n.o.s. (1,1,1,2-Tetrachloroethane)
Reportable Quantity (RQ): 100 lbs
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG
UN number: 2810 Class: 6.1 Packing group: III EMS-No: F-A, S-A
Proper shipping name: TOXIC LIQUID, ORGANIC, N.O.S. (1,1,1,2-Tetrachloroethane)
Marine pollutant: No

IATA
UN number: 2810 Class: 6.1 Packing group: III
Proper shipping name: Toxic liquid, organic n.o.s. (1,1,1,2-Tetrachloroethane)

15. REGULATORY INFORMATION

OSHA Hazards
Harmful by ingestion., Irritant, Carcinogen

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

	CAS-No.	Revision Date
1,1,1,2-Tetrachloroethane	630-20-6	2007-03-01

SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
1,1,1,2-Tetrachloroethane	630-20-6	2007-03-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
1,1,1,2-Tetrachloroethane	630-20-6	2007-03-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
1,1,1,2-Tetrachloroethane	630-20-6	2007-03-01

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

Material Safety Data Sheet

Version 4.0
Revision Date 08/19/2010
Print Date 01/06/2011

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	1,1,1-Trichloroethane
Product Number	:	02669
Brand	:	Fluka
Company	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone	:	+18003255832
Fax	:	+18003255052
Emergency Phone #	:	(314) 776-6555

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Irritant, Teratogen

Target Organs

Central nervous system, Cardiovascular system., Liver, Kidney

GHS Label elements, including precautionary statements

Pictogram

Signal word Warning

Hazard statement(s)

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H402	Harmful to aquatic life.

Precautionary statement(s)

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

HMIS Classification

Health hazard:	2
Chronic Health Hazard:	*
Flammability:	0
Physical hazards:	0

NFPA Rating

Health hazard:	3
Fire:	0
Reactivity Hazard:	0

Potential Health Effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.
Ingestion	May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : 'Chlorothene'
Methylchloroform

Formula : $C_2H_3Cl_3$

CAS-No.	EC-No.	Index-No.	Concentration
1,1,1-Trichloroethane			
71-55-6	200-756-3	602-013-00-2	>= 99.8 %
Low alkyl epoxide			
-	-	-	<= 0.05 %

4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Normal measures for preventive fire protection.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
1,1,1-Trichloroethane	71-55-6	TWA	350 ppm	2007-01-01	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Central Nervous System impairment Liver damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Not classifiable as a human carcinogen: Agents which cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of a lack of data. In vitro or animal studies do not provide indications of carcinogenicity which are sufficient to classify the agent into one of the other categories.				
		STEL	450 ppm	2007-01-01	USA. ACGIH Threshold Limit Values (TLV)
	Central Nervous System impairment Liver damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Not classifiable as a human carcinogen: Agents which cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of a lack of data. In vitro or animal studies do not provide indications of carcinogenicity which are sufficient to classify the agent into one of the other categories.				
		TWA	350 ppm 1,900 mg/m3	1989-01-19	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		STEL	450 ppm 2,450 mg/m3	1989-01-19	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	350 ppm 1,900 mg/m3	1997-08-04	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	The value in mg/m3 is approximate.				
		C	350 ppm 1,900 mg/m3	2005-09-01	USA. NIOSH Recommended Exposure Limits
	See Appendix C 15 minute ceiling value				

Personal protective equipment

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection
Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	liquid, clear
Colour	colourless

Safety data

pH	no data available
Melting point	-35 °C (-31 °F)
Boiling point	72.0 - 75.0 °C (161.6 - 167.0 °F)
Flash point	no data available
Ignition temperature	537 °C (999 °F) -
Lower explosion limit	7.5 %(V)
Upper explosion limit	15 %(V)
Vapour pressure	133.3 hPa (100.0 mmHg) at 20.0 °C (68.0 °F)
Density	1.336 g/mL at 20 °C (68 °F)
Water solubility	no data available

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Conditions to avoid
no data available

Materials to avoid
Strong oxidizing agents, Potassium, Magnesium, Sodium/sodium oxides, Zinc, Strong bases

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas

Contains the following stabiliser(s):
Low alkyl epoxide (<=0.05 %)

11. TOXICOLOGICAL INFORMATION

Acute toxicity
LD50 Oral - rat - 9,600 mg/kg
Remarks: Cardiac:Pulse rate. Nutritional and Gross Metabolic:Weight loss or decreased weight gain.

Skin corrosion/irritation
Skin - rabbit - Skin irritation - 24 h

Serious eye damage/eye irritation
Eyes - rabbit - Severe eye irritation - 24 h

Respiratory or skin sensitization
no data available

Germ cell mutagenicity
Laboratory experiments have shown mutagenic effects.

Carcinogenicity

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC:	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
IARC:	3 - Group 3: Not classifiable as to its carcinogenicity to humans (1,1,1-Trichloroethane)
ACGIH:	No component of this product present at levels greater than or equal to 0.1% is identified as a

carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
Laboratory experiments have shown teratogenic effects.

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Specific target organ toxicity - single exposure (Globally Harmonized System)
no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
no data available

Aspiration hazard
no data available

Potential health effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion	May be harmful if swallowed.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.

Signs and Symptoms of Exposure
burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Exposure to and/or consumption of alcohol may increase toxic effects., prolonged or repeated exposure can cause:, narcosis, Liver injury may occur., Kidney injury may occur.

Additional Information

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 53.00 mg/l - 96 h
	Growth inhibition NOEC - Cyprinus carpio (Carp) - 7.7 mg/l - 14 d
	LC50 - Pimephales promelas (fathead minnow) - 42.3 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates.	Immobilization EC50 - Daphnia magna (Water flea) - 11.2 mg/l - 48 h

Persistence and degradability

Bioaccumulative potential

Bioaccumulation	Lepomis macrochirus (Bluegill) - 28 d Bioconcentration factor (BCF): 9

Mobility in soil
no data available

PBT and vPvB assessment
no data available

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life. Dangerous for the ozone layer.

13. DISPOSAL CONSIDERATIONS

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN-Number: 2831 Class: 6.1 Packing group: III
Proper shipping name: 1,1,1-Trichloroethane
Reportable Quantity (RQ): 1000 lbs
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG
UN-Number: 2831 Class: 6.1 Packing group: III EMS-No: F-A, S-A
Proper shipping name: 1,1,1-TRICHLOROETHANE
Marine pollutant: No

IATA
UN-Number: 2831 Class: 6.1 Packing group: III
Proper shipping name: 1,1,1-Trichloroethane

15. REGULATORY INFORMATION

OSHA Hazards
Irritant, Teratogen

DSL Status
This product contains the following components that are not on the Canadian DSL nor NDSL lists.

	CAS-No.
Low alkyl epoxide	-

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
1,1,1-Trichloroethane	71-55-6	2007-07-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
1,1,1-Trichloroethane	71-55-6	2007-07-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
1,1,1-Trichloroethane	71-55-6	2007-07-01

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

Material Safety Data Sheet

Version 3.2
Revision Date 04/27/2011
Print Date 11/05/2011

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	1,1,1-Trichloroethane solution
Product Number	:	48614
Brand	:	Supelco
Supplier	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone	:	+1 800-325-5832
Fax	:	+1 800-325-5052
Emergency Phone # (For both supplier and manufacturer)	:	(314) 776-6555
Preparation Information	:	Sigma-Aldrich Corporation Product Safety - Americas Region 1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Flammable liquid, Target Organ Effect, Toxic by inhalation., Toxic by ingestion, Toxic by skin absorption, Irritant

Target Organs

Eyes, Kidney, Liver, Heart, Central nervous system

GHS Classification
Flammable liquids (Category 2)
Acute toxicity, Oral (Category 3)
Acute toxicity, Inhalation (Category 3)
Acute toxicity, Dermal (Category 3)
Skin irritation (Category 2)
Eye irritation (Category 2A)
Specific target organ toxicity - single exposure (Category 1)

GHS Label elements, including precautionary statements

Pictogram

Signal word Danger

Hazard statement(s)

H225	Highly flammable liquid and vapour.
H301 + H311	Toxic if swallowed or in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H370	Causes damage to organs.

Precautionary statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280	Wear protective gloves/ protective clothing.

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/ physician.

HMIS Classification

Health hazard:	2
Chronic Health Hazard:	*
Flammability:	3
Physical hazards:	0

NFPA Rating

Health hazard:	2
Fire:	3
Reactivity Hazard:	0

Potential Health Effects

Inhalation	Toxic if inhaled. Causes respiratory tract irritation.
Skin	Toxic if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.
Ingestion	Toxic if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Methyl chloroform

CAS-No.	EC-No.	Index-No.	Concentration
Methanol			
67-56-1	200-659-6	603-001-00-X	>= 99.98 - <= 100 %
1,1,1-Trichloroethane			
71-55-6	200-756-3	602-013-00-2	0.02 %

4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Conditions of flammability
Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products
Hazardous decomposition products formed under fire conditions. - Carbon oxides

Further information
Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Headache Eye damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Danger of cutaneous absorption			
		STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Headache Eye damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Danger of cutaneous absorption			
		TWA	200 ppm 260 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
	Skin notation			
		STEL	250 ppm 325 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
	Skin notation			
		TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	The value in mg/m3 is approximate.			
		TWA	200 ppm 260 mg/m3	USA. NIOSH Recommended Exposure Limits
	Potential for dermal absorption			

		ST	250 ppm 325 mg/m3	USA. NIOSH Recommended Exposure Limits
	Potential for dermal absorption			

Personal protective equipment

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	liquid
Colour	no data available

Safety data

pH	no data available
Melting point/freezing point	Melting point/range: -98 °C (-144 °F)
Boiling point	64.6 - 64.7 °C (148.3 - 148.5 °F) at 1,013 hPa (760 mmHg)
Flash point	11 °C (52 °F) - closed cup
Ignition temperature	no data available
Autoignition temperature	385 °C (725 °F)
Lower explosion limit	6 %(V)
Upper explosion limit	36 %(V)
Vapour pressure	130.23 hPa (97.68 mmHg) at 20 °C (68 °F) 547 hPa (410 mmHg) at 50 °C (122 °F)
Density	0.791 g/cm3
Water solubility	no data available
Partition coefficient: n-octanol/water	no data available
Relative vapour density	no data available
Odour	no data available

Odour Threshold	no data available
Evaporation rate	no data available

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions

Vapours may form explosive mixture with air.

Conditions to avoid
Heat, flames and sparks. Extremes of temperature and direct sunlight.

Materials to avoid
Acids, Oxidizing agents, Alkali metals, Acid chlorides, Acid anhydrides, Reducing agents

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50
LD50 Oral - rat - 5,628 mg/kg

Inhalation LC50
LC50 Inhalation - rat - 4 h - 64000 ppm

Dermal LD50
LD50 Dermal - rabbit - 15,800 mg/kg

Other information on acute toxicity
no data available

no data available

Skin corrosion/irritation
no data available

Skin - rabbit - Irritating to skin. - 24 h

Serious eye damage/eye irritation
Eyes: no data available

Eyes - rabbit - Eye irritation - 24 h

Respiratory or skin sensitization
no data available

Germ cell mutagenicity

no data available
no data available

Carcinogenicity

IARC:	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP:	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

no data available

Teratogenicity

no data available

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)
no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
no data available

Aspiration hazard
no data available

Potential health effects

Inhalation	Toxic if inhaled. Causes respiratory tract irritation.
Ingestion	Toxic if swallowed.
Skin	Toxic if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.

Signs and Symptoms of Exposure
Methyl alcohol may be fatal or cause blindness if swallowed., Cannot be made non-poisonous., Effects due to ingestion may include:, Nausea, Dizziness, Gastrointestinal disturbance, Weakness, Confusion., Drowsiness, Unconsciousness, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects
no data available

Additional Information
RTECS: Not available

12. ECOLOGICAL INFORMATION

Toxicity

no data available

Toxicity to fish	LC50 - Oncorhynchus mykiss (rainbow trout) - 19,000.00 mg/l - 96 h
	LC50 - Cyprinus carpio (Carp) - 36,000.00 mg/l - 48 h
Toxicity to daphnia and other aquatic invertebrates.	EC50 - Daphnia magna (Water flea) - 24,500.00 mg/l - 48 h
	EC100 - Daphnia magna (Water flea) - 10,000.00 mg/l - 24 h

Persistence and degradability
no data available

Bioaccumulative potential

no data available

Mobility in soil
no data available

PBT and vPvB assessment
no data available

Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

Product
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN number: 1230 Class: 3 Packing group: II
Proper shipping name: Methanol
Reportable Quantity (RQ): 5000 lbs
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG
UN number: 1230 Class: 3 (6.1) Packing group: II EMS-No: F-E, S-D
Proper shipping name: METHANOL
Marine pollutant: No

IATA
UN number: 1230 Class: 3 Packing group: II
Proper shipping name: Methanol

15. REGULATORY INFORMATION

OSHA Hazards
Flammable liquid, Target Organ Effect, Toxic by inhalation., Toxic by ingestion, Toxic by skin absorption, Irritant

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
The following components are subject to reporting levels established by SARA Title III, Section 313:

	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01

SARA 311/312 Hazards
Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
1,1,1-Trichloroethane	71-55-6	2007-07-01
Methanol	67-56-1	2007-07-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

Material Safety Data Sheet

Version 4.2
Revision Date 05/25/2011
Print Date 11/05/2011

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	1,1,2,2-Tetrachloroethane
Product Number	:	46259
Brand	:	Fluka
Supplier	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone	:	+1 800-325-5832
Fax	:	+1 800-325-5052
Emergency Phone # (For both supplier and manufacturer)	:	(314) 776-6555
Preparation Information	:	Sigma-Aldrich Corporation Product Safety - Americas Region 1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Highly toxic by inhalation, Toxic by ingestion, Highly toxic by skin absorption, Carcinogen

Target Organs

Nerves., Liver, Blood

Other hazards which do not result in classification
Rapidly absorbed through skin.

GHS Classification
Acute toxicity, Inhalation (Category 2)
Acute toxicity, Dermal (Category 1)
Acute toxicity, Oral (Category 3)
Acute aquatic toxicity (Category 2)
Chronic aquatic toxicity (Category 4)

GHS Label elements, including precautionary statements

Pictogram

Signal word Danger

Hazard statement(s)

H301	Toxic if swallowed.
H310 + H330	Fatal in contact with skin or if inhaled.
H401	Toxic to aquatic life.
H413	May cause long lasting harmful effects to aquatic life.

Precautionary statement(s)

P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280	Wear protective gloves/ protective clothing.
P284	Wear respiratory protection.
P302 + P350	IF ON SKIN: Gently wash with plenty of soap and water.

P310 Immediately call a POISON CENTER or doctor/ physician.

HMIS Classification

Health hazard:	4
Chronic Health Hazard:	*
Flammability:	0
Physical hazards:	0

NFPA Rating

Health hazard:	4
Fire:	0
Reactivity Hazard:	0

Potential Health Effects

Inhalation	May be fatal if inhaled. May cause respiratory tract irritation.
Skin	May be fatal if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.
Ingestion	Toxic if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Acetylene tetrachloride

Formula : $C_2H_2Cl_4$

Molecular Weight : 167.85 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
1,1,2,2-Tetrachloroethane			
79-34-5	201-197-8	602-015-00-3	-

4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Normal measures for preventive fire protection.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
1,1,2,2-Tetrachloroethane	79-34-5	TWA	1 ppm	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Liver damage Confirmed animal carcinogen with unknown relevance to humans: The agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) that may not be relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence does not suggest that the agent is likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure. Danger of cutaneous absorption			
		TWA	1 ppm 7 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
	Skin notation			
		TWA	5 ppm 35 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	Skin designation The value in mg/m3 is approximate.			
		TWA	1 ppm 7 mg/m3	USA. NIOSH Recommended Exposure Limits
	Potential Occupational Carcinogen See Appendix C See Appendix A Potential for dermal absorption			

Personal protective equipment

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	liquid, clear
Colour	colourless

Safety data

pH	no data available
Melting point/freezing point	Melting point/range: -43 °C (-45 °F) - lit.
Boiling point	147 °C (297 °F) - lit.
Flash point	no data available
Ignition temperature	no data available
Autoignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	10.7 hPa (8.0 mmHg) at 20.0 °C (68.0 °F)
Density	1.586 g/cm3 at 25 °C (77 °F)
Water solubility	no data available
Partition coefficient: n-octanol/water	log Pow: 5
Relative vapour density	no data available
Odour	no data available
Odour Threshold	no data available
Evaporation rate	no data available

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
no data available

Conditions to avoid
no data available

Materials to avoid
Strong oxidizing agents, Sodium/sodium oxides, Strong bases, Potassium, Nitrates, 2,4-dinitrophenyl disulfide

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50
LD50 Oral - rat - 200.0 mg/kg

Inhalation LC50
LC50 Inhalation - mouse - 2 h - 4,500 mg/m3

Dermal LD50
Other information on acute toxicity
no data available

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitization
no data available

Germ cell mutagenicity

no data available

Carcinogenicity

This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

IARC:	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
IARC:	3 - Group 3: Not classifiable as to its carcinogenicity to humans (1,1,2,2-Tetrachloroethane)
NTP:	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

Teratogenicity

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)
no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
no data available

Aspiration hazard
no data available

Potential health effects

Inhalation	May be fatal if inhaled. May cause respiratory tract irritation.
Ingestion	Toxic if swallowed.
Skin	May be fatal if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.

Signs and Symptoms of Exposure
Headache, Nausea, Vomiting, Tremors, Incoordination., fatigue, Dizziness, Anorexia.

Synergistic effects
no data available

Additional Information
RTECS: KI8575000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 20 mg/l - 96.0 h
Toxicity to daphnia and other aquatic invertebrates.	Immobilization EC50 - Daphnia magna (Water flea) - 23 mg/l - 48 h

Persistence and degradability

Bioaccumulative potential

Bioaccumulation	Lepomis macrochirus (Bluegill) - 14 d Bioconcentration factor (BCF): 8

Mobility in soil
no data available

PBT and vPvB assessment
no data available

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN number: 1702 Class: 6.1 Packing group: II
Proper shipping name: 1,1,2,2-Tetrachloroethane
Reportable Quantity (RQ): 100 lbs
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG
UN number: 1702 Class: 6.1 Packing group: II EMS-No: F-A, S-A
Proper shipping name: 1,1,2,2-TETRACHLOROETHANE

Marine pollutant: No

IATA
UN number: 1702 Class: 6.1 Packing group: II
Proper shipping name: 1,1,2,2-Tetrachloroethane

15. REGULATORY INFORMATION

OSHA Hazards
Highly toxic by inhalation, Toxic by ingestion, Highly toxic by skin absorption, Carcinogen

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

	CAS-No.	Revision Date
1,1,2,2-Tetrachloroethane	79-34-5	2007-07-01

SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
1,1,2,2-Tetrachloroethane	79-34-5	2007-07-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
1,1,2,2-Tetrachloroethane	79-34-5	2007-07-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
1,1,2,2-Tetrachloroethane	79-34-5	2007-07-01

California Prop. 65 Components

	CAS-No.	Revision Date
WARNING! This product contains a chemical known to the State of California to cause cancer. 1,1,2,2-Tetrachloroethane	79-34-5	2007-09-28

16. OTHER INFORMATION

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

Material Safety Data Sheet

Version 4.3
Revision Date 02/13/2011
Print Date 11/05/2011

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	1,1,2-Trichloroethane
Product Number	:	46262
Brand	:	Fluka
Product Use	:	For laboratory research purposes.

Supplier	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA	Manufacturer	: Sigma-Aldrich Corporation 3050 Spruce St. St. Louis, Missouri 63103 USA
Telephone	:	+1 800-325-5832		
Fax	:	+1 800-325-5052		
Emergency Phone # (For both supplier and manufacturer)	:	(314) 776-6555		
Preparation Information	:	Sigma-Aldrich Corporation Product Safety - Americas Region 1-800-521-8956		

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Harmful by ingestion., Harmful by skin absorption., Irritant, Carcinogen

Target Organs

Central nervous system, Cardiovascular system., Liver, Kidney

GHS Classification
Acute toxicity, Inhalation (Category 4)
Acute toxicity, Dermal (Category 4)
Acute toxicity, Oral (Category 4)
Skin irritation (Category 2)
Eye irritation (Category 2B)
Carcinogenicity (Category 2)
Acute aquatic toxicity (Category 3)

GHS Label elements, including precautionary statements

Pictogram

Signal word: Warning

Hazard statement(s)

H302 + H312	Harmful if swallowed or in contact with skin.
H315 + H320	Causes skin and eye irritation.
H332	Harmful if inhaled.
H351	Suspected of causing cancer.
H402	Harmful to aquatic life.

Precautionary statement(s)

P280	Wear protective gloves/ protective clothing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

HMIS Classification

Health hazard:	2
Chronic Health Hazard:	*
Flammability:	0
Physical hazards:	0

NFPA Rating

Health hazard:	2
Fire:	0
Reactivity Hazard:	0

Potential Health Effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Skin	Harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.
Ingestion	Harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : $C_2H_3Cl_3$ $C_2H_3Cl_3$
Molecular Weight : 133.40 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
1,1,2-Trichloroethane			
79-00-5	201-166-9	602-014-00-8	-

4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Conditions of flammability
Not flammable or combustible.

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
1,1,2-Trichloroethane	79-00-5	TWA	10 ppm	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Central Nervous System impairment Liver damage Confirmed animal carcinogen with unknown relevance to humans: The agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) that may not be relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence does not suggest that the agent is likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure. Danger of cutaneous absorption			
		TWA	10 ppm 45 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	Skin designation The value in mg/m3 is approximate.			
		TWA	10 ppm 45 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	10 ppm 45 mg/m3	USA. NIOSH Recommended Exposure Limits
	Potential Occupational Carcinogen See Appendix C See Appendix A Potential for dermal absorption			

Personal protective equipment

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
Complete suit protecting against chemicals, The type of protective equipment must be selected according to the

concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	liquid
Colour	colourless

Safety data

pH	no data available
Melting point/freezing point	-37.0 °C (-34.6 °F)
Boiling point	110 - 115 °C (230 - 239 °F) - lit.
Flash point	no data available
Ignition temperature	no data available
Autoignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	no data available
Density	1.435 g/mL at 25 °C (77 °F)
Water solubility	no data available
Partition coefficient: n-octanol/water	no data available
Relative vapour density	no data available
Odour	no data available
Odour Threshold	no data available
Evaporation rate	no data available

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
no data available

Conditions to avoid
no data available

Materials to avoid
Strong bases, Strong oxidizing agents, Reacts violently with:, Sodium/sodium oxides, Potassium, Magnesium, Aluminum

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50
LD50 Oral - rat - 836.0 mg/kg

Inhalation LC50
Dermal LD50
Other information on acute toxicity
no data available

Skin corrosion/irritation
Skin - rabbit - Open irritation test

Skin - rabbit - Severe skin irritation - 24 h

Serious eye damage/eye irritation
Eyes - rabbit - Mild eye irritation - 24 h

Respiratory or skin sensitization
no data available

Germ cell mutagenicity

no data available

Carcinogenicity

This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification. The National Cancer Institute (NCI) has found clear evidence for carcinogenicity.

Limited evidence of carcinogenicity in animal studies

IARC:	3 - Group 3: Not classifiable as to its carcinogenicity to humans (1,1,2-Trichloroethane)
NTP:	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

Teratogenicity

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)
no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
no data available

Aspiration hazard
no data available

Potential health effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion	Harmful if swallowed.
Skin	Harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.

Signs and Symptoms of Exposure
Central nervous system depression, prolonged or repeated exposure can cause:, narcosis, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects
no data available

Additional Information
RTECS: KJ3150000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish	LC50 - Lepomis macrochirus (Bluegill) - 40.00 mg/l - 96 h
	LC50 - Pimephales promelas (fathead minnow) - 81.60 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates.	EC50 - Daphnia magna (Water flea) - 43.00 mg/l - 48 h

Persistence and degradability
no data available

Bioaccumulative potential
no data available

Mobility in soil
no data available

PBT and vPvB assessment
no data available

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life.

13. DISPOSAL CONSIDERATIONS

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN number: 3082 Class: 9 Packing group: III
Proper shipping name: Environmentally hazardous substances, liquid, n.o.s. (1,1,2-Trichloroethane)
Reportable Quantity (RQ): 100 lbs
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

Not dangerous goods

IATA
Not dangerous goods

15. REGULATORY INFORMATION

OSHA Hazards
Harmful by ingestion., Harmful by skin absorption., Irritant, Carcinogen

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

	CAS-No.	Revision Date
1,1,2-Trichloroethane	79-00-5	2007-07-01

SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
1,1,2-Trichloroethane	79-00-5	2007-07-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
1,1,2-Trichloroethane	79-00-5	2007-07-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
1,1,2-Trichloroethane	79-00-5	2007-07-01

California Prop. 65 Components

	CAS-No.	Revision Date
WARNING! This product contains a chemical known to the State of California to cause cancer. 1,1,2-Trichloroethane	79-00-5	2007-09-28

16. OTHER INFORMATION

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

Material Safety Data Sheet

Version 4.1
Revision Date 12/30/2010
Print Date 11/05/2011

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	1,1-Dichloroethane
Product Number	:	48512
Brand	:	Supelco
Product Use	:	For laboratory research purposes.

Supplier	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA	Manufacturer	: Sigma-Aldrich Corporation 3050 Spruce St. St. Louis, Missouri 63103 USA
Telephone	:	+1 800-325-5832		
Fax	:	+1 800-325-5052		
Emergency Phone # (For both supplier and manufacturer)	:	(314) 776-6555		
Preparation Information	:	Sigma-Aldrich Corporation Product Safety - Americas Region 1-800-521-8956		

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Flammable liquid, Harmful by ingestion.

Target Organs

Liver, Kidney, Central nervous system

GHS Classification
Flammable liquids (Category 2)
Acute toxicity, Oral (Category 4)
Eye irritation (Category 2A)
Specific target organ toxicity - single exposure (Category 3)
Acute aquatic toxicity (Category 3)

GHS Label elements, including precautionary statements

Pictogram

Signal word Danger

Hazard statement(s)

H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H402	Harmful to aquatic life.

Precautionary statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

HMIS Classification

Health hazard:	1
Chronic Health Hazard:	*
Flammability:	3
Physical hazards:	0

NFPA Rating

Health hazard:	2
Fire:	3
Reactivity Hazard:	0

Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	Harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.
Ingestion	Harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Ethylidene chloride

Formula : $C_2H_4Cl_2$ $C_2H_4Cl_2$

Molecular Weight : 98.96 g/mol98.96 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
1,1-Dichloroethane			
75-34-3	200-863-5	602-011-00-1	-

4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas
Hazardous decomposition products formed under fire conditions. - Nature of decomposition products not known.

Further information
Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Conditions for safe storage
Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
1,1-Dichloroethane	75-34-3	TWA	100 ppm	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Eye & Upper Respiratory Tract irritation Liver & kidney damage Not classifiable as a human carcinogen: Agents which cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of a lack of data. In vitro or animal studies do not provide indications of carcinogenicity which are sufficient to classify the agent into one of the other categories.			
		TWA	100 ppm 400 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	100 ppm 400 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	The value in mg/m3 is approximate.			
		TWA	100 ppm 400 mg/m3	USA. NIOSH Recommended Exposure Limits
	See Appendix C			

Personal protective equipment

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	liquid
Colour	no data available

Safety data

pH	no data available
Melting/freezing point	-98.0 °C (-144.4 °F)
Boiling point	55.0 - 58.0 °C (131.0 - 136.4 °F)
Flash point	-10.0 °C (14.0 °F) - closed cup
Ignition temperature	no data available
Autoignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	no data available
Density	1.17 g/cm3
Water solubility	no data available
Partition coefficient: n-octanol/water	no data available
Relative vapour density	no data available
Odour	no data available
Odour Threshold	no data available
Evaporation rate	no data available

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions

Vapours may form explosive mixture with air.

Conditions to avoid
Heat, flames and sparks. Extremes of temperature and direct sunlight.

Materials to avoid
Oxidizing agents

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas
Hazardous decomposition products formed under fire conditions. - Nature of decomposition products not known.
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50
LD50 Oral - rat - 725.0 mg/kg

Inhalation LC50
LC50 Inhalation - rat - 4 h - 13000 ppm

Dermal LD50
no data available

Other information on acute toxicity
no data available

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitization
Chronic exposure may cause dermatitis.

Germ cell mutagenicity

no data available

Carcinogenicity

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC:	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP:	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

Teratogenicity

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)
May cause respiratory irritation.

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
no data available

Aspiration hazard
no data available

Potential health effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion	Harmful if swallowed.
Skin	Harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.

Signs and Symptoms of Exposure
Liver injury may occur., Kidney injury may occur., narcosis, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects
no data available

Additional Information
RTECS: KI0175000

12. ECOLOGICAL INFORMATION

Toxicity

no data available

Persistence and degradability
no data available

Bioaccumulative potential
no data available

Mobility in soil
no data available

PBT and vPvB assessment
no data available

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life.

13. DISPOSAL CONSIDERATIONS

Product
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN-Number: 2362 Class: 3 Packing group: II
Proper shipping name: 1,1-Dichloroethane
Reportable Quantity (RQ): 1000 lbs
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG
UN-Number: 2362 Class: 3 Packing group: II EMS-No: F-E, S-D
Proper shipping name: 1,1-DICHLOROETHANE
Marine pollutant: No

IATA
UN-Number: 2362 Class: 3 Packing group: II
Proper shipping name: 1,1-Dichloroethane

15. REGULATORY INFORMATION

OSHA Hazards
Flammable liquid, Harmful by ingestion.

DSL Status
This product contains the following components listed on the Canadian NDSL list. All other components are on the Canadian DSL list.

	CAS-No.
1,1-Dichloroethane	75-34-3

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

	CAS-No.	Revision Date
1,1-Dichloroethane	75-34-3	2007-07-01

SARA 311/312 Hazards
Fire Hazard, Acute Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
1,1-Dichloroethane	75-34-3	2007-07-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
1,1-Dichloroethane	75-34-3	2007-07-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
1,1-Dichloroethane	75-34-3	2007-07-01

California Prop. 65 Components

	CAS-No.	Revision Date
WARNING! This product contains a chemical known to the State of California to cause cancer. 1,1-Dichloroethane	75-34-3	2007-09-28

16. OTHER INFORMATION

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.