

STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
& ENVIRONMENTAL CONTROL
DIVISION OF AIR & WASTE MANAGEMENT
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DOVER, DELAWARE 19901



SOLID & HAZARDOUS WASTE
MANAGEMENT BRANCH

TELEPHONE: (302) 739-9403
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November 19, 2008

Mr. Richard P. Watson, P.E., DEE
Chief Operating Officer
Delaware Solid Waste Authority
1128 S. Bradford Street
P.O. Box 455
Dover, Delaware 19903-0455

Mr. Kash Srinivasan
Commissioner
Department of Public Works
Louis L. Redding City/County Bldg.
800 French Street
Wilmington, Delaware 19801-3537

Subject: Post-Closure Permit for the Pigeon Point Landfill
Reference: Solid Waste Facility Permit SW-08/01

Dear Messrs. Watson and Srinivasan:

I have attached Permit SW-08/01 for the post-closure care of the Pigeon Point Landfill issued in accordance with Secretary's Order No. 2008-A-0036. Please ensure that DSWA and City of Wilmington staff responsible for post-closure care and monitoring of the site are familiar with the permit and are aware that the conditions are enforceable under *7 Del. C. 6005*. We understand that you may have questions concerning this permit, particularly since it's the first of its kind for the DSWA and the City. We assure you that the Department intends to work closely with both Permittees to address your concerns and to achieve our mutual goals of protecting public health and the environment. We will be contacting your office in the next week to schedule a meeting to discuss the permit requirements and to address any questions or concerns you may have.

Thank you very much for your help during the permitting process. If you have any questions concerning this letter or the permit, please contact Bob Hartman or me at 739-9403.

Sincerely,

A handwritten signature in black ink that reads "Bryan A. Ashby".

Bryan A. Ashby
Environmental Program Manager I
Solid & Hazardous Waste Management Branch

BAA: RH.dtd
Waste facilities\Pigeon Point Landfill\General CorrespondenceRH08032

Enclosure

cc: James Werner, Director, Division of Air and Waste Management
Nancy Marker, Environmental Program Manager II, SHWMB
Anne Germain, Chief of Engineering, DSWA
Robin Roddy, Facility Manager, NSWMC

Delaware's good nature depends on you!



**Post Closure Permit SW-08/01
Pigeon Point Landfill**

Effective Date: November 19, 2008

Permittees: Delaware Solid Waste Authority
1128 South Bradford Street
P.O. Box 455
Dover, Delaware 19903-0455

City of Wilmington – Department of Public Works
Louis L. Redding City/County Building
800 French Street
Wilmington, Delaware 19801-3537

Pursuant to 7 Del. C., Chapter 60, Section 6003 and the *Delaware Regulations Governing Solid Waste*, the Delaware Department of Natural Resources and Environmental Control (the Department) hereby issues permit SW-08/01 to the City of Wilmington and to the Delaware Solid Waste Authority specifying post closure care and monitoring for the closed landfill known as the Pigeon Point Landfill. All terms and conditions of this permit are enforceable by the Department.

Handwritten signature of Robert Hartman in cursive.

Robert Hartman
Environmental Scientist
Solid & Hazardous Waste Management Branch

Handwritten date "11/19/2008" in cursive.

Date

Handwritten signature of Nancy C. Marker in cursive.

Nancy C. Marker
Environmental Program Manager II
Solid & Hazardous Waste Management Branch

Handwritten date "11/19/08" in cursive.

Date

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I. General Conditions

- A. Pursuant to 7 Del. C., 6003(c) and Sections 4 and 5 of the *Delaware Regulations Governing Solid Waste* (DRGSW), the Department of Natural Resources and Environmental Control (Department) hereby issues Permit SW-08/01 to the City of Wilmington (the City) and the Delaware Solid Waste Authority (DSWA) collectively (Permittees) for the post-closure care of the Pigeon Point Landfill also known as the Northern Solid Waste Facility 1 (the Landfill). The Landfill is located southeast of the eastern terminus of Lambsons Lane in New Castle Delaware as shown on *Deed Composite and Topographic Overlay, Pigeon Point Landfill, Lambson's Lane Extended* as submitted in Permit Application Supplement 2 (reference condition I.C.5. of this permit). The Landfill closed on October 21, 1985 in accordance with the requirements of the now defunct *Delaware Solid Waste Disposal Regulation* (August 1974).
- B. This permit applies to Post-closure care and monitoring of the closed Pigeon Point Landfill, including all landfill control systems (which include monitoring wells or instruments, gas collection systems, leachate collection systems, stormwater controls, and access controls). Lands used for solid waste disposal or which contain landfill control systems include the following Tax Parcels (reference *Deed Composite and Topographic Overlay, Pigeon Point Landfill, Lambson's Lane Extended*, included in Permit Application Supplement 2) :
1. 10-011.00-014
 2. 10-011.00-033
 3. 10-011.00-039
 4. 10-011.00-040
 5. 10-011.00-041
 6. 10-016.00-004
 7. 10-016.00-009
- C. This permit was issued in accordance with the following documents:
1. Secretary's Order No. 2008-A-0036, issued by the Department on August 27, 2008.
 2. *The Pigeon Point Landfill Interim Agreement, December 21, 2005*, referred to herein as the Interim Agreement.
 3. *The Pigeon Point Landfill Post Closure Permit Application* (including Appendix 10, the *Post Closure Care Plan*) dated April 26, 2006 and submitted by the DSWA and the City. This document is referred to herein as the Permit Application.
 4. Supplemental information package 1 titled, *Pigeon Point Landfill Post Closure Permit Application*, submitted January 8, 2007 by the DSWA and the City. This document is referred to herein as the Permit Application, Supplement 1.
 5. Supplemental information package 2 titled, *Pigeon Point Landfill Post Closure Permit Application*, submitted April 25, 2007 by the DSWA and the City. This document is referred to herein as the Permit Application, Supplement 2.
 6. Other plans, letters, procedures, and policy specifically referenced in this permit.

D. This permit is issued subject to the following general conditions:

1. The City and the DSWA (the Permittees) shall conduct activities at the Landfill in compliance with this permit, and all applicable federal, state, county, and municipal environmental statutes, ordinances, and regulations., including, but not limited to: *Delaware Regulations Governing Solid Waste (DRGSW)*, *Delaware Regulations Governing Hazardous Waste*, *Delaware's Regulations Governing the Control of Water Pollution*, *the Delaware Surface Water Quality Standards*, and *the Delaware Regulations Governing the Control of Air Pollution*. This general condition shall apply to all persons or entities conducting any activity at the Landfill on behalf of the City or the DSWA, including contractors and subcontractors.
2. The Permittees shall maintain a readable copy of the most current version of this permit. At a minimum, the DSWA shall maintain a copy of this permit at their administrative office located at the Cherry Island Landfill, and the City shall maintain a copy of this permit at the Department of Public Works, Commissioner's Office.
3. Any transfer of this permit shall be done in compliance with the requirements of Section 4.1.8 of the *Delaware Regulations Governing Solid Waste (DRGSW)*, including post-closure care financial assurance. Permittees shall not transfer this permit until they have established a valid Environmental Covenant in accordance with the requirements of Delaware Code Title 7, Chapter 79, Subchapter II. Until transfer of the permit has been completed, the Permittees shall continue to maintain control of, and responsibility for the Landfill in compliance with this permit and the DRGSW, including, but not limited to the requirements for financial assurance, post-closure care, recordkeeping, reporting, monitoring and corrective actions. Section 4.1.8.3.1 of the DRGSW (closing a facility prior to permit transfer) shall not apply to the closed Pigeon Point Landfill.
4. Upon issuance, Permit SW-08/01 shall remain valid and enforceable throughout the post-closure care period of the Landfill. The Delaware Solid Waste Authority began post-closure care of the Landfill on January 1, 1986; however, the Department's regulation of post-closure care in accordance with the DRGSW commenced with the issuance of Permit SW-08/01.

II. Post-Closure Care

- A. General Post-Closure Care. The Permittees shall provide post-closure care of the Landfill in accordance with Section 5.11 of the *Delaware Regulations Governing Solid Waste (DRGSW)* and the conditions of this permit.
- B. If at any time during the post-closure care period there is evidence of a contaminant release from the Landfill that presents a significant threat to human health or the environment, the Permittees shall take action to mitigate the threat.

- C. The Permittees shall not allow the disposal of solid wastes at the Landfill during the post-closure care period. Disposal of solid waste at the Landfill is strictly prohibited.
- D. Access Control. The Permittees shall ensure that access to the Landfill is effectively controlled at all times by the use of gates, security fence, or other means necessary to limit access to the Landfill to authorized persons engaging in activities compatible with this permit. Specific access-control requirements include:
 - 1. In accordance with the requirements of 7 Del. C. Section 6024, neither Permittee shall impede the Department's right of entry to the Landfill.
 - 2. The Permittees shall inspect access controls, including the fences and gates, at least once each month. During each inspection, the Permittees shall document observations and problems using a form acceptable to the Department and shall correct all deficiencies as required. Reporting and Recordkeeping and shall be done in accordance with Sections IV.C.2, IV.C.7, and V. A.6 of this permit.
 - 3. During the cap enhancement project, DSWA staff shall control access in accordance with condition II.O.3. of this permit.
- E. Activities. Unless approved in advance by the Department, or required by this permit, no activity shall be conducted on the Landfill.
- F. The Permittees shall prevent the accumulation of standing water on the Landfill.
- G. Stormwater Management, Erosion and Sediment Control. The Permittees shall manage stormwater and maintain stormwater controls to ensure the effectiveness of the capping system and prevent run-off of sediments. Specific requirements include:
 - 1. The Permittees shall take all necessary steps to identify and prevent the discharge of pollutants from the Landfill into surface water, particularly the Delaware River.
 - 2. The Permittees shall manage stormwater to minimize the erosion of the final cover.
 - 3. The Permittees shall provide for, and maintain a permanent, long-lived vegetative cover on the final cover soils of the Landfill.
 - 4. The Permittees shall repair disturbed areas of final cover to prevent erosion as soon as possible. During the growing season, repair shall include replacement of eroded final cover with clean soil capable of supporting the vegetative cover and reseeded of the disturbed areas. If final cover soil is disturbed during the non-growing season, the Permittees shall use temporary measures such as matting or anchored mulch to stabilize the area until vegetation has been established.
 - 5. The Permittees shall properly operate, manage and maintain the DRC Fire Pond and the two stormwater management basins and all stormwater management structures and conveyances. The Permittees shall remove debris or blockages from basins, pipes and channels as soon as practical. The Permittees shall remove

sediment from the basins as needed to maintain capacity but shall limit removal operations to 1/3 of the basin area in any 6 month period in order to preserve vegetation.

6. The Permittees shall inspect the Surface Water Management System at least once each month. During each inspection, the Permittees shall document observations and problems using a form acceptable to the Department and shall correct all deficiencies as required. Reporting and Recordkeeping shall be done in accordance with Sections IV.C.2, IV.C.7, and V.A.6 of this permit.
7. Additional stormwater management practices and controls are required during the Cap Enhancement Project and are addressed in Section II.O. of this permit.

H. Maintaining Integrity and Effectiveness of the Capping System

1. The Permittees shall maintain the integrity and effectiveness of the capping system, including making repairs as necessary to repair seeps, to prevent damage from run-on/run-off and to correct the effects of settling, subsidence and erosion.
2. Except for the following repairs, the Permittees shall not remove or alter any portion of the cap without the written approval of the Department's Solid & Hazardous Waste Management Branch. The Permittees may make the following repairs to the cap as long as they do not damage landfill control systems or reduce the effectiveness of the cap.
 - a. Permittees may, without written approval, disturb the top six inches of the cap (the topsoil) for maintenance, regrading or seeding as long as sediment and erosion controls are properly employed, only clean topsoil is used, and the thickness of the cap and vegetative layer are not diminished upon completion of the work. For the purpose of this permit, clean topsoil means the natural, unconsolidated mineral and organic material on the immediate surface of the earth that serves as a natural medium for the growth of land plants, and which can perform as the vegetative layer on the landfill cap. Clean topsoil contains no trash, debris, or solid waste and cannot be from a state or federal cleanup site. Analytical testing of clean topsoil is not typically required unless its origins are unknown or there is reason to suspect contaminants may be present which may pose an increased risk to human health or the environment.
 - b. Permittees may repair leachate seeps by trenching into the cap if needed, as long as such repairs can be completed over the course of one business day (i.e. between 7:30 a.m and 3:30 p.m.). In order to complete such repairs, the permittees must cap the repair with at least 18 inches of clean, compacted soil, covered by 6 inches of clean topsoil and seed to establish vegetation. For the purpose of this permit, clean soil means the natural, unconsolidated mineral and organic material on the immediate surface of the earth that serves as a natural medium for the growth of land plants, and which can perform as the rooting layer on the landfill cap. Clean soil contains no trash, debris, or solid waste and cannot be from a state or federal cleanup site. Analytical testing of

clean soil is not typically required unless its origins are unknown or there is reason to suspect contaminants may be present which may pose an increased risk to human health or the environment

- c. Permittees may also fill in erosion rills and gullies of any depth with clean soil and seed to establish vegetation.
3. The Permittees shall inspect the capping system at least once each week. During each inspection, the Permittees shall document observations and deficiencies using a form acceptable to the Department and shall correct all deficiencies as needed. Reporting and Recordkeeping shall be done in accordance with Sections IV.C.2, IV.C.7, and V.A.6 of this permit.
 4. Additional requirements for maintaining cap integrity during the Cap Enhancement Project are addressed in Section II.O. of this permit.
- I. Litter control.
1. The Permittees shall provide for litter removal and general cleanliness of the entire Landfill site and shall not allow any litter to migrate from the Landfill site. The Permittees shall collect and properly dispose of any off-site litter attributable to activities at the Landfill.
 2. The Permittees shall inspect the Landfill, the haul roads and the Landfill's perimeter road and fence line for litter at least once each week. During each inspection, the Permittees shall document observations and deficiencies using a form acceptable to the Department. The Permittees shall report and maintain records of these inspections in accordance with Sections IV.C.7 and V.A.6 of this permit.
- J. Dust Control.
1. The Permittees shall conduct all activities at the Landfill in a manner to prevent dust emissions from causing a condition of air pollution (injurious to human, plant, or animal life or unreasonably interfering with the enjoyment of life and property). The Permittees shall inspect for visible dust leaving the Landfill site at least once each day during activities that may cause dust emissions of concern.
 2. The Permittees shall implement controls to minimize tracking of soils or other materials onto roads leading from the Landfill. During activities that may result in drag-out of material from the Landfill, the Permittees shall inspect Landfill egress points at least once each day to identify if materials are being tracked off the Landfill and to gauge the extent of the problem (e.g. how far is material being tracked). In the event material is being tracked onto paved roads leading from the Landfill, Permittees shall provide for street cleaning of that area on the day the problem is identified.

3. The Permittees shall document the observations and deficiencies found during these inspections using a form acceptable to the Department. The Permittees shall report and maintain records of these inspections in accordance with Sections IV.C.7 and V.A.6 of this permit.

K. Maintenance and Preservation of Monitoring and Observation Wells.

1. The Permittees shall preserve and maintain all groundwater monitoring wells and leachate observation wells shown in Appendix 10 of the Permit Application, *Post Closure Care Plan*, Exhibit 12, Attachment 4. The Permittees shall implement controls to protect these monitoring wells from damage from site activities.
2. Permittees shall inspect each monitoring well at least once per quarter. The Permittees shall document the observations and deficiencies found during these inspections. The Permittees shall report and maintain records of these inspections in accordance with Sections IV.C.2, IV.C.7, and V.A.6 of this permit.
3. Permittees shall replace any well that can no longer be used to provide monitoring data required by this permit. Replacement and abandonment of groundwater monitoring wells shall be done in accordance with the *Delaware Regulations Governing the Construction and Use of Wells*.

L. Maintenance and Preservation of Geotechnical Monitoring Systems.

1. The Permittees shall preserve and maintain the geotechnical monitoring system consisting of IC-05-01, IC-05-02 and LOW-05-001 as shown in Appendix 10 of the Permit Application, *Post Closure Care Plan*, Exhibit 12, Attachment 3. The Permittees shall implement controls to protect the monitoring systems from damage from site activities.
2. Permittees shall inspect IC-05-01, IC-05-02, and LOW-05-001 at least semi-annually. The Permittees shall document the observations and deficiencies found during these inspections using a form acceptable to the Department. The Permittees shall report and maintain records of these inspections in accordance with Sections IV.C.2, IV.C.7, and V.A.6 of this permit.
3. The Permittees shall replace any instrument or well that can no longer be used to provide monitoring data required by this permit.

M. Maintenance and Preservation of Leachate Control Systems.

1. The Permittees shall maintain all necessary permits and approvals for leachate management and disposal.
2. The Permittees shall preserve and maintain leachate collection and transport systems (reference, *Pigeon Point Leachate Collection System and Sewer Connections*, Appendix 10, Exhibit 12, Attachment 1 of the Permit Application). The Permittees shall preserve and maintain the capability to sample leachate from the DRP Pump Station, the Northwest Lift Station and the West Leachate

Collection Manhole Pump Station. The Permittees shall maintain the capability to measure leachate flow and quantity at the DRP Pump Station.

3. The Permittees shall maintain working alarm systems at the DRP Pump Station, the West Leachate Collection Manhole Pump Station, the East Leachate Collection Manhole Pump Station, the Northwest Lift station and the Southwest Lift Station.
4. The Permittees shall inspect the Leachate Control System at least once each week and shall document the observations and deficiencies found during these inspections using a form acceptable to the Department. In the event that the alarm system is not operating, Permittees shall inspect the affected pump or lift stations daily. Permittees shall report and maintain records of these inspections in accordance with Sections IV.C.2, IV.C.7, and V.A.6 of this permit.

N. Maintenance and Preservation of Landfill Gas Collection and Solar Flare System.

1. The Permittees shall maintain the Landfill Gas Collection and Solar Flare System shown in Appendix 10 of the Permit Application, *Post Closure Care Plan*, Exhibit 12, Attachment 2 and shall operate the system in accordance with a permit from the Department's Air Quality Management Section. The Permittees shall implement controls to protect the gas wells, gas transport lines and gas flares from damage from site activities.
2. Permittees shall inspect the gas wells and flares at least once each month. The Permittees shall document the observations and deficiencies found during these inspections using a form acceptable to the Department. Permittees shall report and maintain records of these inspections in accordance with Sections IV.C.2, IV.C.7, and V.A.6 of this permit.

O. Cap Enhancement Project

1. The Permittees shall construct the cap enhancement in accordance with the drawings and specifications in Appendix 10 of the Permit Application, *Post Closure Care Plan*, Exhibit 12, Attachment 6 (*Contouring Plan*, by Camp Dresser & McKee, December 1999) and Attachment 5 (*Contouring Plan Addendum and Final Erosion and Sediment Control Plans*, by Schnabel Engineering, March 2001). This includes:
 - a. The Permittees may remove the topsoil (e.g. the top six inches of soil on the existing cap) in each phase area prior to the addition of fill for cap enhancement; however, Permittees must replace that removed layer with clean fill or stabilized sludge within 48 hours of its removal. The Permittees shall ensure that in-place waste remains covered with a minimum of 12 inches of fill at all times.
 - b. The Permittees shall ensure that all monitoring wells, observation wells, geotechnical monitoring devices and gas system components are clearly marked and protected during the project.

- c. The Permittees shall extend the components of the gas extraction system prior to placement of fill.
 - d. The Permittees shall install a final cover (the cap) over each phase area after fill placement. The cap shall consist of a 6-inch vegetative layer underlain by a 18-inch rooting layer consisting of common fill. The Department may consider approval of alternative cap materials if the Permittees formally request and submit an alternative design. Any such request shall include an engineering report which evaluates the properties, stability and anticipated performance of the alternate cap materials. The report shall be completed and signed by a professional engineer, registered in Delaware.
 - e. The Permittees shall ensure that cap enhancement work, filling, capping and final contours are constructed in accordance with the Camp Dresser & McKee December 1999 *Contouring Plan* (Appendix 10, Exhibit 12, Attachment 6 of the Permit Application).
 - f. The Permittees shall ensure that the final surface drainage plan, sediment basins, swales, and all sediment and erosion controls are constructed in accordance with the *Contouring Plan Addendum and Final Erosion and Sediment Control Plans*, by Schnabel Engineering, March 2001 (Appendix 10 Exhibit 12, Attachment 5 of the Permit Application).
2. Each day that the cap enhancement work is underway, the DSWA shall conduct an inspection to ensure that work meets the requirements of the Camp Dresser & McKee December 1999 *Contouring Plan*. Weekly, the DSWA shall inspect and document the effectiveness of sediment and erosion controls, particularly silt fences, sediment traps, and stabilization measures; and this inspection shall include an inspection for sediments carried off the Landfill. The DSWA shall document the observations and deficiencies found during these inspections using a form acceptable to the Department and shall correct all deficiencies as needed. The DSWA shall report and maintain records of these inspections in accordance with Sections IV.C.2, IV.C.7, and V.A.6 of this permit.
 3. During the Cap Enhancement Project, the Delaware Solid Waste Authority shall control access to the Landfill and shall record all deliveries of materials on a form acceptable to the Department. The DSWA shall not allow the entry of trucks whose loads have not been adequately covered to prevent visible particulate emissions. The DSWA shall report and maintain a record of these deliveries in accordance with Sections IV.C.8, IV.C.9, and V.A.6 of this permit.
 4. As originally required by the Interim Agreement, the Permittees shall review, track and maintain the following information concerning VFL's placement of stabilized sludge at the Landfill. The Permittees shall report and maintain these records in accordance with Sections IV.C.9 and V.A.8. of this permit. This information includes:
 - a. The number of trucks delivering stabilized sludge to the Landfill.
 - b. The tonnage of stabilized sludge delivered to the Landfill.

- c. The type and percentage of the approved materials used to create stabilized sludge compiled on a daily basis.
 - d. The location and dimensions (height, width and depth measurements) of where stabilized sludge is placed at PPL.
 - e. Type and amount of construction materials utilized.
5. Permittees may use stabilized sludge material as part of the Cap Enhancement Project under the following conditions:
- a. Stabilized sludge material must have been produced in accordance with a Beneficial Use Determination issued by the Department's Solid & Hazardous Waste Management Branch.
 - b. The stabilized sludge material must be distributed and used in accordance with a valid permit for the Authorization to Conduct a Distribution and Marketing Program for the Utilization of Sludge or Sludge Products issued by the Department (Permit Number DM 0009/95C as of the issuance of this post-closure care permit).
 - c. The stabilized sludge material shall be stored, applied, and stabilized in a manner that ensures that the material remains on the Landfill.
 - d. Under no circumstances shall the quantity of stabilized sludge delivered to the Landfill exceed 250,000 tons per year.
 - e. The stabilized sludge material shall not contribute to off-site odors.
 - f. Stabilized sludge material shall not be used as part of the final cover section (reference Camp Dresser & McKee December 1999 *Contouring Plan*, drawing C-12).
 - g. VFL continues to meet all of their commitments as agreed in the Interim Agreement, Section I.B.
 - h. Stabilized biosolids distributed by VFL and used at the Landfill shall be produced, formulated, tested, transported, and records kept and reported in accordance with the Notice of Conciliation and Order No. 2008-W-033. The Department agrees to notify the Permittees in writing when it has made a determination that VFL has failed to produce, formulate, test, transport, and keep/report records in accordance with the Notice of Conciliation.
6. The Delaware Solid Waste Authority shall oversee the Cap Enhancement Project per the Camp Dresser & McKee December 1999 *Contouring Plan*. Within 60 days after the completion of all construction work for the project, DSWA shall certify whether or not the construction was completed in accordance with that plan and any approved changes or additions. The Cap Enhancement Project will be considered completed only after the Department's Solid & Hazardous Waste Management Branch has accepted the DSWA's certification as complete. The certification shall include:
- a. A current topographical map to include property boundaries, limits of waste, stormwater control structures and stormwater flow directions.
 - b. A site drawing showing property boundaries, limits of waste, and the location of all wells, monitoring points, pump stations, sediment basins, and flares.
 - c. A summary of the types and amounts of construction materials used.

- d. An engineer's assessment of the final cover and whether or not it meets the design and intent of the Camp Dresser & McKee December 1999 *Contouring Plan* including any changes approved by the Department. The assessment shall include recommendations for additional work if needed.

III. Environmental Monitoring

A. Surface Water Monitoring:

1. The Permittees shall monitor surface water at the DRC Pond, the Southeastern Stormwater Basin and the Southwestern Stormwater Basin quarterly during March, June, September and December. The Permittees shall sample in accordance with the *Surfacewater Monitoring* section of the *Pigeon Point Landfill Monitoring Program 2006*, dated March 27, 2006 and include the analytes listed in PPL Table 1 below.
2. Additionally, semiannually during the Cap Enhancement Project and for one year following the completion of that project, the Permittee shall collect stormwater discharging from the Southwestern and Southeastern Basins for PPL Table 1 analysis. The Permittees shall collect the samples during the first 30 minutes of the discharge and only after 72 hours of dry weather has occurred. The Permittees shall estimate the flow at the discharge point at the time the sample is taken and shall record odor and color. The Permittees shall record the extent of land disturbance on the Landfill at the time of the sampling event. and report that along with the sampling results in accordance with the reporting requirements specified in conditions IV.D and IV.E of this permit.

PPL Table 1 Minimum Surface Water Monitoring Requirements for PPL

Parameters	Parameters	Parameters	Parameters
Temperature (field)	Carbonate	Arsenic	Potassium
pH (field)	Dissolved Silica	Cadmium	Selenium
Specific Conductance (field)	Hardness (mg/L as CaCO ³)	Calcium	Sodium
REDOX (field)	COD	Chromium	Sulfate
D.O. (field)	BOD	Iron	Zinc
Turbidity (field)	Total Dissolved Solids	Lead	Chloride
pH (lab)	Total Organic Carbon	Magnesium	
Specific Conductance (lab)	Nitrate - N	Manganese	
Alkalinity (total)	Ammonia - N	Mercury	
Alkalinity (Phenolphthalein)	Total Phosphorus	Nickel	
Bicarbonate	Orthophosphate		

B. Ground Water Monitoring:

1. The Permittees shall monitor the groundwater monitoring wells shown in PPL Table 2 in accordance with the conditions of this permit.

PPL Table 2 Groundwater Monitoring Wells

Well Number	Well Number	Well Number	Well Number
1A	26R	32	1R
28A	28	42A	25R
29A	29	52A	27R
31A	31		
32A	41A		
39	45		
41			
42			
52			

2. Quarterly Groundwater Monitoring. The Permittees shall monitor groundwater at the Pigeon Point Landfill quarterly during March, June, September and December. During these monitoring events, the Permittees shall collect samples from the groundwater monitoring wells shown in PPL Table 2. The Permittees shall sample in accordance with the *Groundwater Monitoring* section of the *Pigeon Point Landfill Monitoring Program 2006*, dated March 27, 2006 and include the following analytes and measurements as shown in PPL Table 3. The Permittees shall prepare Equipotential maps for each water-bearing zone showing the location of each well, the contoured potentiometric surface and the directions of ground water flow in each zone. These maps shall include an outline of the site boundaries and area of waste placement.

PPL Table 3 Quarterly Groundwater Monitoring

Parameters	Parameters
Groundwater Elevation	Turbidity
Temperature (field)	pH (lab)
Specific Conductance (field),	Specific Conductance (lab)
pH (field)	
REDOX (field)	
Dissolved Oxygen (field)	

3. Annual Groundwater Monitoring: The Permittees shall monitor groundwater at the Pigeon Point Landfill annually during March, and shall collect samples from the groundwater monitoring wells shown in PPL Table 2. The Permittees shall sample in accordance with the *Groundwater Monitoring* section of the *Pigeon Point Landfill Monitoring Program 2006*, dated March 27, 2006 and include the analytes and measurements as shown in PPL Table 4. The Permittees shall also complete the quarterly groundwater monitoring required for March (condition III.B.2 of the permit) during this sampling event.

PPL Table 4 Annual Groundwater Monitoring

Parameters	Parameters	Parameters
Alkalinity (total)	COD	Iron
Alkalinity (Phenolphthalein)	Dissolved Silica	Magnesium
Ammonia - N	Total Dissolved Solids	Manganese
Nitrate - N	Sulfate	Potassium
Bicarbonate	Total Organic Carbon	Selenium
Carbonate	Arsenic	Sodium
Chlorides	Calcium	Zinc

4. The Permittees shall collect all groundwater samples in a manner that minimizes sample turbidity and shall collect samples at low flow rates (<1 l/min). All wells to be sampled shall be maintained as necessary so that they will produce low turbidity samples.

C. Leachate Monitoring:

1. The Permittees shall measure and record the quantity of leachate pumped to the City of Wilmington’s wastewater treatment plant (WWTP) on a weekly basis. The Permittees shall also record the amount of precipitation at the Landfill for comparison with leachate quantities pumped to the WWTP. Weather station data from the DSWA’s Cherry Island Landfill may be used for this purpose. The Permittees shall report leachate quantities and precipitation in accordance with the reporting requirements specified in conditions IV.D and IV.E of this permit.
2. The Permittees shall monitor leachate in accordance with the *Leachate Monitoring* section of the *Pigeon Point Landfill Monitoring Program 2006*, dated March 27, 2006 and the conditions of this permit. Permittees shall sample leachate at the DRP Pump Station (DRPPS) the North West Lift Station (NWLS) and the West Leachate Collection Manhole (WLCMH) in accordance with PPL Tables 5, and 6:
 - a. Monthly, Permittees shall sample the DRPPS, NWLS and WLCMH and analyze for the parameters specified in Table 5.

PPL Table 5 Monthly Leachate Monitoring

Parameters	Parameters
Temperature (field)	pH (lab)
pH (field)	Specific Conductance (lab)
Specific Conductance (field)	Total Suspended Solids
REDOX (field)	Ammonia - N
BOD5	

- b. Semiannually during March and September, Permittees shall sample the DRPPS, NWLS and WLCMH and analyze for the parameters specified in Table 6:

PPL Table 6 Leachate Supplemental Parameters

1) Antimony	59) Methyl chloride (Chloromethane)	117) 3/4 Methylphenol (m/p-Cresol)
2) Arsenic	60) Methylene chloride (Dichloromethane)	118) 4-Chloro-3-methylphenol
3) Barium	61) Methyl iodide (Iodomethane)	119) 2-Naphthylamine
4) Beryllium	62) 4-methyl-2-pentanone	120) N-Nitrosodi-n-propylamine
5) Cadmium	63) Styrene	121) N-Nitrosodimethylamine
6) Chromium (Total)	64) 1,1,2,2-Tetrachloroethane	122) N-Nitrosodiphenylamine
7) Cobalt	65) 1,1,1,2-Tetrachloroethane	123) Naphthalene
8) Copper	66) Tetrachloroethene	124) Nitrobenzene
9) Lead, Total	67) Tetrahydrofuran	125) Benzo (b) fluoranthene
10) Magnesium	68) Toluene	126) 2-Nitrophenol
11) Mercury	69) 1,1,1-Trichloroethane	127) 4-Nitrophenol
12) Molybdenum	70) 1,1,2-Trichloroethane	128) Pentachlorophenol
13) Nickel	71) Trichloroethene	129) Phenanthrene
14) Silver	72) Trichlorofluoromethane	130) Phenol
15) Selenium	73) 1,2,3-Trichloropropane	131) Pyrene
16) Thallium	74) Vinyl Acetate	132) Pyridine
17) Tin	75) Vinyl chloride	133) 1,2,4-Trichlorobenzene
18) Vanadium	76) Tot. Xylenes	134) 2,4,6-Trichlorophenol (2,4,6 T)
19) Zinc	77) 3,3'-Dichlorobenzidene	135) Acrolein
20) Cyanide (Total)	78) 1,2-Diphenylhydrazine	136) o,p'-DDD
21) Sulfides	79) Acenaphthene	137) p,p'-DDD
22) Phenols (Total)	80) Anthracene	138) 4,4'-DDE
23) Acetone	81) Benzidine	139) 4,4'-DDT
24) Acetophenone	82) Benzo (a) anthracene	140) 2,4,5-T
25) Acrylonitrile	83) Benzo (a) pyrene	141) 2,4,5-TP (Silvex)
26) Benzene	84) Benzo (g,h,i) perylene	142) 2,4-D
27) Benzyl Alcohol	85) Benzo (k) fluoranthene	143) Aldrin
28) Bromochloromethane	86) 4-Bromophenyl phenyl ether	144) alpha-BHC
29) Bromoform	87) Butylbenzyl Phthalate	145) delta BHC
30) Bromomethane	88) Ideno (1,2,3-cd) pyrene	146) beta-BHC
31) Dibromochloromethane	89) Bis (2-chloroethoxy) methane	147) gamma BHC (Lindane)
32) Dichlorobromomethane	90) Bis (2-chloroethyl) ether	148) alpha Endosulfan
33) 2-Butanone	91) Bis (2-chloroisopropyl) ether	149) beta Endosulfan
34) Carbon disulfide	92) 2-Chloronaphthalene	150) Endosulfan Sulfate
35) Carbon tetrachloride	93) 2-Chlorophenol	151) 2,4,5 Trichlorophenol
36) Chlorobenzene	94) 4-Chlorophenyl Phenyl Ether	152) Chlordane
37) Chloroethane	95) Chrysene	153) Dieldrin
38) Chloroform	96) Di-n-Butylphthalate	154) Dimethoate
39) 1,2-Dibromo-3-chloropropane	97) Di-n-octyl Phthalate	155) Heptachlor
40) 1,2-Dibromoethane	98) Dibenz (a,h) anthracene	156) Heptachlor epoxide
41) 1,2-Dichlorobenzene (ortho)	99) 2,4-Dichlorophenol	157) Endrin
42) 1,3-Dichlorobenzene (meta)	100) Diethylphthalate	158) Endrin Aldehyde
43) 1,4-Dichlorobenzene (para)	101) 2,4-Dimethylphenol	159) Methoxychlor
44) trans-1,4-Dichloro-2-butene	102) Dimethylphthalate	160) PCB-1016
45) 1,1-Dichloroethane	103) 2-Methyl-4,6-Dinitrophenol	161) PCB-1221
46) 1,2-Dichloroethane	104) 2,4-Dinitrophenol	162) PCB-1232
47) 1,1-Dichloroethene	105) 2,4-Dinitrotoluene	163) PCB-1242
48) 1,2-Dichloroethene	106) 2,6-Dinitrotoluene	164) PCB-1248
49) cis-1,2-Dichloroethene	107) Bis(2-ethylhexyl)phthalate	165) PCB-1254
50) trans-1,2-Dichloroethene	108) Fluoranthene	166) PCB-1260
51) 1,2-Dichloropropane	109) Fluorene	167) Toxaphene
52) 1,3-Dichloropropane	110) Hexachlorobenzene	168) 2-Chloroethyl vinyl ether
53) cis-1,3-Dichloropropene	111) Hexachlorobutadiene	169) 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)
54) trans-1,3-Dichloropropene	112) Hexachlorocyclopentadiene	170) COD
55) Diethyl Ether	113) Hexachloroethane	180) TOC
56) Ethylbenzene	114) Isophorone	181) Nitrate-N
57) 2-Hexanone (Methyl butyl ketone)	115) 2-Methylnaphthalene	
58) Methylene bromide (Dibromomethane)	116) 2-Methylphenol (o-Cresol)	

- c. Annually, Permittees shall sample the DRPPS, NWLS and WLCMH and analyze for the parameters specified in Table 7.

PPL Table 7 Annual Leachate Monitoring

Parameters e	Parameters	Parameters
Bicarbonate	Potassium	Alkalinity (total)
Carbonate	Sodium	Alkalinity (Phenolphthalein)
Chloride	Sulfate	Total Dissolved Solids
Iron	Dissolved silica	
Manganese	Calcium	

D. Analytical Procedures: The Permittees shall analyze all leachate, ground water and surface water samples required by this permit in accordance with the most current legal edition of EPA Publication Number SW 846. If SW 846 does not contain a test method for a required parameter, that parameter shall be tested according to methods described in the most recent edition of the EPA Publication *Methods of Chemical Analysis for Water and Wastes* or of *Standard Methods for Examination of Water and Wastewater*.

E. Landfill Gas Migration Monitoring:

1. At least once per quarter, Permittees shall monitor for landfill gas in all buildings on the site. At the time of each quarterly monitoring, the Permittees shall complete a monitoring form showing weather conditions, equipment calibration, monitoring locations and monitoring results including Lower Explosive Limit (LEL), percentage of methane, oxygen, and balance gas. For each sampling event, the Permittees shall complete a gas migration monitoring form approved by the Department and shall report the monitoring results in accordance with conditions IV.D and IV.E of this permit.
2. If any buildings are placed onto the Landfill site, the Permittees shall ensure that permanent landfill gas monitors are installed and operated continuously and effectively in each new building. Permittees shall place and maintain these alarms in areas most susceptible to methane gas intrusion and collection and shall report alarms in accordance with conditions IV.F of this permit.

F. Geotechnical Monitoring: The Permittees shall conduct a geotechnical monitoring program under the direction of a Professional Engineer registered in the State of Delaware who specializes in geotechnical engineering. The Permittees shall monitor the structural integrity and stability of the Landfill and shall take all necessary measures to identify and preclude unintended slope movement. Semiannually during March and September, the Permittees shall monitor inclinometers IC-05-01 and IC-05-02 and leachate observation well LOW-05-001 and shall report the results of the monitoring in accordance with the requirements of conditions IV.D and IV.E of this permit.

IV. Reporting

- A. Unless otherwise specified by this permit, Permittees shall submit all reports required in this section to the Department's Solid & Hazardous Waste Management Branch.
- B. Financial Assurance: No later than January 31st of each year, the Permittees shall update the cost estimates for post closure care of the closed Landfill and shall provide financial assurance for those remaining costs in accordance with Section 4.1.11 of the DRGSW. The Permittees shall provide a detailed listing of all projected costs used to estimate the post-closure care costs for the closed Pigeon Point Landfill. The Permittees shall adjust all cost estimates carried over from previous years for inflation.
- C. Annual Post-Closure Care Report: No later than April 30th of each year, the Permittees shall submit an Annual Post-Closure Care Report. The permittees shall provide the document in one paper copy plus one copy on electronic storage media acceptable to the Department. The Annual Post-Closure Care report shall include the following information for the reporting period:
1. A post-closure care narrative addressing status of the site. The narrative shall include pending ownership changes described in Permit Application Supplement 2 as well as the status of the Use Agreement cited in Permit Application Supplement 1. Permittees shall also provide an update as to their progress establishing the Environmental Covenant required by the Secretary's Order 2008-A-0036.
 2. A summary of all maintenance and repair activities involving landfill control systems, landfill cap, monitoring systems and access controls, as well as a description of any other construction activities on the site.
 3. Quantities, sources, and types of fill or other material placed on the Landfill, including materials placed as part of the cap enhancement project.
 4. A listing of complaints received from the public concerning activities at the Landfill and any actions taken by the Permittees to address each complaint. The Permittees shall include all complaints received from the public concerning nuisances, odors, vermin, dust, traffic, litter, noise, or general housekeeping problems at the Landfill.
 5. A listing of notices, warnings, citations, fines, penalties or other enforcement actions involving the Landfill.
 6. Deviations from the inspection, monitoring, or reporting requirements specified by this permit.
 7. Copies of all daily, weekly and monthly inspection forms completed in accordance with the conditions of this permit (to be provided on electronic storage media only).
 8. Copies of the *Cap Enhancement Project, Daily Activity Report* completed in accordance with Section II.O.3 of this permit (to be provided on electronic storage media only).
 9. A narrative summary of the status of the Cap Enhancement Project to include:
 - a. Estimated time (months) and tonnage required to complete the project.
 - b. The number of trucks, by calendar year, that have delivered stabilized sludge to the Landfill.

- c. The tonnage of stabilized sludge, by calendar year, delivered to the Landfill.
 - d. The location and dimensions (height, width and depth measurements) of where stabilized sludge is placed at PPL.
 - e. Type and amount of construction materials utilized (by calendar year).
- D. Annual Environmental Monitoring Report: No Later than April 30th of each year, the Permittees shall submit an Annual Environmental Monitoring Report on electronic storage media such as compact disc. The Permittees shall provide two copies of the full report (narrative and supporting data) via electronic storage media and two copies of the signed and sealed narrative, on paper.
1. Narrative: The Permittees shall provide the narrative portion of the Annual Environmental Monitoring Report in a format acceptable to the Department and include a discussion of findings, conclusions and recommendations based upon the environmental monitoring results. The narrative portion of the report shall address:
 - a. Groundwater monitoring results, including whether the results indicate a contaminant release from the Landfill to groundwater or surface water, and any corrective measures taken or anticipated
 - b. Surface water monitoring results, including whether the results indicate a contaminant release from the Landfill to surface water, and any corrective measures taken or anticipated.
 - c. Leachate monitoring results to include a discussion of the effectiveness of the collection system.
 - d. A discussion of the monitoring results for effluent pumped to the New Castle County wastewater treatment plant from the Landfill during the reporting period. Permittees shall include a discussion of any corrective measures taken or anticipated as a result of noncompliance with the effluent limits imposed by the Wastewater Discharge Permit issued by New Castle County (Wastewater Discharge Permit 85-060 or its replacement).
 - e. A discussion of the geotechnical monitoring results for the reported year, including an assessment of Landfill stability concerns and any corrective measures taken or anticipated.
 - f. A discussion of the gas migration monitoring done at the Landfill including any corrective measures taken or anticipated.
 - g. Recommendations for future monitoring, maintenance and modifications needs for the groundwater monitoring wells, geotechnical instrumentation, gas collection system, the surface water/stormwater monitoring system, and the leachate collection system.
 2. Supporting Data: The Permittees shall provide supporting data on electronic storage media, in a format acceptable to the Department. Supporting data shall include monitoring results in tabular, searchable format (such as excel spreadsheets), graphs; weather data; potentiometric maps; photographs and drawings. Field notes, lab data sheets and chain of custody sheets need not be provided as part of the submittal; however, the Permittees shall maintain copies of these documents and shall make them available to the Department within a reasonable time upon request. Supporting data shall include all data from the past year and all proceeding years, and shall include:

- a. Tabulation of ground water elevations and quality data including field parameters.
- b. Graphical presentations (quality versus time plots) of groundwater quality parameters.
- c. Potentiometric maps for each water bearing zone for each quarter for the past year.
- d. Tabulation of surface water flow rate, stormwater observations (odor, color), and quality data including field parameters.
- e. Graphical presentations (quality versus time plots) of surface water quality parameters
- f. Tabulation of leachate flow and quality including field parameters.
- g. Graphical presentations (flow rate or volume versus time plots) of leachate collected. Rainfall data shall also be plotted on each graph.
- h. Graphical presentations (quality versus time plots) of leachate quality parameters.
- i. Tabulation of gas migration monitoring results.
- j. Tabulation of geotechnical monitoring results.
- k. Rainfall data from the site weather station or from the weather station at the DSWA's Cherry Island Landfill.
- l. Drawings showing monitoring locations.
- m. The most recent aerial photograph of the Landfill.

E. Additional Reports:

1. Periodic Environmental Monitoring Reports: Within 60 days after the quarterly sampling events, Permittees shall submit the results of periodic monitoring, including groundwater, surface water, leachate, geotechnical, and gas migration. Permittees shall provide these reports on electronic storage media acceptable to the Department (i.e. compact disc) and in accordance with the following conditions:
 - a. Each electronic media submittal shall be submitted with a cover letter (paper), signed by at least one of the Permittees. The cover letter shall state the monitoring reported in the submittal, report any concerns the Permittees have about the monitoring results, and provide a table of contents for the information provided via electronic storage media.
 - b. The Permittees shall submit 2 copies of the periodic environmental monitoring report for the Department's review and file (an original plus one copy).
 - c. The Permittees shall provide the periodic environmental monitoring data in a format acceptable to the Department and consistent with the requirements for Supporting Data specified in condition IV.D.2 of this permit.
2. Upon discovery, Permittees shall notify the Department concerning damage to geotechnical monitoring instruments, leachate collection systems, groundwater monitoring wells, or stormwater control systems.
3. Upon discovery, Permittees shall report to the Department any intentional or accidental deviation from any approved plan.

F. Emergency Reporting:

1. The Permittees shall notify the Department immediately in the event of:
 - a. Fire or explosion involving the Landfill or its control systems.
 - b. Damage to the cap that exposes waste.
 - c. Leachate spills exceeding ten gallons.
 - d. Gas levels of 25% LEL or greater detected within any structures at the Landfill.
2. If any event listed in Section IV.F.1 of this permit occurs during business hours, Permittees shall report it to the Department's Solid and Hazardous Management Branch at 302-739-9403. At all other times, the Permittees shall report the event to the Division of Air and Waste Management's TOLL-FREE 24-HOUR LINE 1-800-662-8802. When reporting an event to the toll-free line, the Permittees shall disclose that the reporting is required in accordance with Permit 08-SW/01 issued by the Department's Solid & Hazardous Waste Management Branch.
3. The Permittees shall submit a written notification to the Department no later than five business days following any event requiring "Emergency Reporting". The notification shall include the following:
 - a. Date and time of occurrence/discovery.
 - b. Date and time of reporting.
 - c. Agencies notified.
 - d. Materials and quantities involved.
 - e. Narrative describing how the incident occurred and the actions taken by the DSWA and other response personnel.
 - f. Report of injuries/damage.
 - g. Proposal for follow-up, repair, or remedial actions required and a schedule.

V. **Recordkeeping**

- A. The following information must be recorded and maintained by the Permittees. This information must be available for inspection, with reasonable notice, by representatives of the Department:
 1. All documents cited in condition I.C. of this permit.
 2. Environmental monitoring records including sampling procedures, monitoring and analytical data, field notes, laboratory data sheets and chain of custody forms.
 3. Reports, drawings, maps, photographs and surveys required by this permit.
 4. Deeds, leases, covenants, and any landuse agreements in effect anytime during the post-closure care period.
 5. Records of all complaints received by the Permittee concerning the Landfill.
 6. Records of all periodic inspections of the Landfill required by this permit to include inspections of the leachate and gas systems, leachate seeps, landfill gas migration.
 7. All environmental permits and approvals in effect for the Landfill property, including the Post-Closure Care Permit, and the Wastewater Discharge Permit.

8. Reports required by Item I.B.1 of the Interim Agreement.

VI. Assessment of Corrective Measures:

1. The Permittees shall notify the Department within seven (7) days after verified analytical data has confirmed that a release has taken place. Confirmation samples shall be collected from the appropriate monitoring points within 14 days of receipt of written approval by the Department. These samples shall be analyzed under a priority schedule for the indicator parameters and DRGSW Table 1 analytes and any other parameters deemed appropriate by the Permittees and the Department. The Permittees shall notify the Department of the results of the confirmation sampling within seven (7) days of receipt of the results.

DRGSW Table 1 Ground Water Supplemental Parameters

1) Antimony	32) trans-1,4-Dichloro-2-butene
2) Arsenic	33) 1,1-Dichloroethane; Ethylidene chloride
3) Barium	34) 1,2-Dichloroethane; Ethylene dichloride
4) Beryllium	35) 1,1-Dichloroethylene; 1,1-Dichloroethene
5) Cadmium	36) cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene
6) Chromium	37) trans-1,2-Dichloroethylene
7) Cobalt	38) 1,2-Dichloropropane
8) Copper	39) cis-1,3-Dichloropropene
9) Lead	40) trans-1,3-Dichloropropene
10) Nickel	41) Ethylbenzene
11) Selenium	42) 2-Hexanone; Methyl butyl ketone
12) Silver	43) Methyl bromide; Bromomethane
13) Thallium	44) Methyl chloride; Chloromethane
14) Vanadium	45) Methylene bromide; Dibromomethane
15) Zinc	46) Methylene chloride; Dichloromethane
16) Acetone	47) Methyl ethyl ketone; MEK
17) Acrylonitrile	48) Methyl iodide; Iodomethane
18) Benzene	49) 4-Methyl-2-pentanone; Methyl isobutyl ketone
19) Bromochloromethane	50) Styrene
20) Bromodichloromethane	51) 1,1,1,2-Tetrachloroethane
21) Bromoform; Tribromomethane	52) 1,1,2,2-Tetrachloroethane
22) Carbon disulfide	53) Tetrachloroethylene; Tetrachloroethene
23) Carbon tetrachloride	54) Toluene
24) Chlorobenzene	55) 1,1,1-Trichloroethane; Methylchloroform
25) Chloroethane; Ethyl chloride	56) 1,1,2-Trichloroethane
26) Chloroform; Trichloromethane	57) Trichloroethylene
27) Dibromochloromethane; Chlorodibromomethane	58) Trichlorofluoromethane; CFC-11
28) 1,2-Dibromo-3-chloropropane; DBCP	59) 1,2,3-Trichloropropane
29) 1,2-Dibromoethane; Ethylene dibromide; EDB	60) Vinyl acetate
30) o-Dichlorobenzene; 1,2-Dichlorobenzene	61) Vinyl chloride
31) p-Dichlorobenzene; 1,4-Dichlorobenzene	62) Xylenes

DRGSW Table 1 is found in Section 5.7 of the Delaware Regulations Governing Solid Waste

2. If confirmation sampling does not indicate that a release has taken place, another round of sampling shall take place to determine whether the results of analysis from the first or second sampling events were anomalous. This re-sampling event shall take place within two (2) weeks of the Permittees sending

written notification to the Department of their intent to re-sample. The samples shall be analyzed under a priority schedule. The Permittees shall notify the Department of the results of the re-sampling within seven (7) days of receipt of the results.

3. If the re-sampling indicates that no release has taken place, no further action shall be taken by the Department, and monitoring of the sampling location(s) shall be returned to its/their normal monitoring schedule. If the confirmation or re-sampling round of sampling does indicate that a release has taken place, the Permittees shall perform an assessment of corrective measures within ninety (90) days of confirmation of the release. This assessment shall include:
 - a. Identification of the nature and extent of the release (which may require construction and sampling of additional wells, geophysical surveys or other measures).
 - b. Re-assessment of contaminant fate and potential contaminant receptors (wells and/or receiving streams).
 - c. Evaluation of feasible corrective measures to:
 - (1) Prevent exposure to potentially harmful levels of contaminants (exceeding performance standards).
 - (2) Reduce, minimize or prevent further contaminant releases.
 - (3) Reduce, minimize or prevent the off-site migration of contaminants.

VII. Evaluating, Optimizing, or Ending Post-Closure Care

- A. Duration of Permit: Once issued, this permit shall remain valid and enforceable throughout the post-closure care period.
- B. At any time during the post-closure care period, the Department may reduce or eliminate any post-closure care permit requirements if it can be demonstrated that the requirement is no longer necessary for the protection of human health and the environment. The Permittees may request the reduction or elimination of specific permit requirements after completing a performance-based evaluation. Performance-based evaluations shall include data review, a discussion of the proposed change and the anticipated impacts, as well as a plan to evaluate the impacts resulting from the proposed change or termination.
- C. Ending Post-Closure Care: In order to end the post-closure care period, the Permittees shall:
 1. Establish a valid Environmental Covenant pursuant to 7 Del. C. Chapter 79, Subchapter II, Uniform Environmental Covenants Act. The Environmental Covenant must include all property at the Pigeon Point Landfill which has been used for solid waste disposal or which contains landfill monitoring or control systems. This property shall include the parcels cited in condition I.B of this permit.

2. Provide performance-based evaluations of each landfill control system prior to termination of the 30-year post-closure care permit. Performance-based evaluations shall include data review, a discussion of the proposed change and the anticipated impacts, as well as a plan to evaluate the impacts resulting from the proposed change or termination. Landfill control systems include those systems that manage leachate and landfill gas; that protect and monitor groundwater, stormwater, and landfill stability; and that provide for cap protection and maintenance.

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Permit SW-08/01

Permit Synopsis:

November 19, 2008: The Department issued this permit in accordance with Secretary's Order No. 2008-A-0036.