

**Permit SW-04/01**

**Permit Type: Industrial Waste Landfill**

Effective Date: February 27, 2004

Last Modified: June 22, 2010

Expiration Date: February 27, 2014

Permittee: Motiva Enterprises, LLC  
2000 Wrangle Hill Road  
Delaware City, Delaware 19706

Pursuant to 7 Del. C., Chapter 60, Section 6003 and the *Delaware Regulations Governing Solid Waste*, Motiva Enterprises, LLC is hereby granted approval to operate the Industrial Waste Landfill located within the boundary of the Delaware City refinery of Motiva. All terms and conditions of this permit are enforceable by the Department of Natural Resources and Environmental Control.

Original Signed

6/22/10

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Robert Hartman  
Environmental Scientist IV  
Solid & Hazardous Waste Management Branch

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Date

Original Signed

6/22/10

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

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Date

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**I. GENERAL CONDITIONS:**

A. Permit Replaced:

1. Pursuant to Sections 4.B and 6 of the *Delaware Regulations Governing Solid Waste* (DRGSW), the Department of Natural Resources and Environmental Control (the Department) hereby issues Permit SW-04/01 to Motiva Enterprises, LLC (Motiva) for the continued operation of the Industrial Waste Landfill (IWL) located at 2000 Wrangle Hill Road, Delaware City, Delaware 19706. This permit incorporates the requirements of and replaces permit SW-95/05.

B. Applicability:

This permit applies to:

1. Operation and maintenance of the IWL, including Cells I, II, and III.
2. Environmental monitoring, recordkeeping, and reporting for the IWL.
3. Disposal requirements for asbestos containing materials.

C. Application Documents:

This permit was issued in accordance with the following documents submitted by Motiva:

1. A letter dated September 21, 2000, submitted for renewal of permit SW-95/05, attaching the September 2000 *“Permit Application, Industrial Waste Landfill”*, Volumes I, II, and III, prepared by URS Corporation, Willow Grove, Pennsylvania;
2. A Cover Letter dated November 2, 2000, attaching the *“Closure and Post Closure Plan, Industrial Waste Landfill, Motiva Enterprises, LLC, Delaware City Refinery, Delaware City, Delaware”*, dated October 9, 2000, prepared by URS Corporation, Willow Grove, Pennsylvania; and
3. The following plans, letters, procedures, and policy specifically referenced in this permit:
  - a. *“Groundwater Sampling Plan, Industrial Waste Landfill, Motiva Enterprises, LLC, Delaware City Refinery”* (Appendix A, Exhibit 3, Volume I of the permit renewal application package).
  - b. Waste Tracking Form (Figure 1, Exhibit 3, Volume 1).
  - c. A Cover Letter dated June 26, 2003, attaching Motiva’s response to DNREC’s comment letter of May 13, 2003.
  - d. A Cover Letter dated July 29, 2003, attaching Motiva’s response to DNREC’s comment letter of July 17, 2003.

- e. A Cover Letter dated October 30, 2003, attaching Motiva's response to DNREC's cover letter with attached draft permit of October 22, 2003.
  - f. A Cover Letter dated January 15, 2004, attaching Motiva's response to DNREC's letter of December 22, 2003. This submittal included two (2) revised documents entitled "*Operations Plan, Industrial Waste Landfill, Motiva Enterprises, LLC, Delaware City, Delaware*", and "*Appendix A, Groundwater Sampling Plan, Industrial Waste Landfill, Motiva Enterprises LLC, Delaware City Refinery*".
4. All previously approved and applicable documents, applications or correspondence.

D. General Conditions:

This permit is issued subject to the following general conditions:

1. Operations at the IWL shall be conducted in compliance with all federal, state, county, and municipal environmental statutes, ordinances, and regulations, including, but not limited to: *Delaware Regulations Governing Solid Waste, Delaware Regulations Governing Hazardous Waste, Delaware Regulations Governing the Control of Water Pollution, the Delaware Surface Water Quality Standards, and Delaware Regulations Governing the Control of Air Pollution.*
2. Access to the IWL site by unauthorized persons shall be prevented by barriers, fences, and gates, or other suitable means. Access for the purpose of disposal of the waste shall be limited to those times when an attendant is on duty. The Department may, at any reasonable time, enter the IWL to verify compliance with the permit and DRGSW.
3. This Permit may be revoked upon violation of any condition of the permit or any requirement of the DRGSW after notice and opportunity for hearing in accordance with 7 Del. C., Chapter 60.
4. Permit SW-04/01 incorporates the requirements of, and replaces Permit SW-95/05.
5. Any transfer of this Permit shall not occur until the requirements of Section 4.A.8 of the DRGSW are satisfied.
6. Motiva shall not operate the landfill without a valid and current financial assurance mechanism completed in accordance with Section 4.A.11.b of the DRGSW and approved in writing by the Department's Solid and Hazardous Waste Management Branch (SHWMB).
7. A copy of the most current version of this permit shall be maintained in the environmental coordinator's and IWL attendant's office.
8. Permit SW-04/01 shall expire on February 27, 2014.

## II. OPERATIONS:

### A. General Operations:

1. Operations at the IWL shall be conducted in accordance with this permit and the “*Operations Plan, Industrial Waste Landfill, Motiva Enterprises LLC, Delaware City, Delaware*” (Operations Plan), dated January 15, 2004, included as Exhibit C in Volume I of the application package. The base hours for operation for the IWL are 7:00 a.m. to 3:00 p.m., Monday through Friday. Certain operating conditions, such as operation of the gasifier unit or turnaround maintenance activities, may require extended hours of operation at the IWL. Hours of operation may be extended to run from 7:00 a.m. to 8:00 p.m., seven (7) days per week. Motiva is authorized to have extended hours of operation solely for the conditions stated in Section 3.1.1 of the Operations Plan. A record of the hours of operations shall be kept in the IWL daily operating log. In addition, a summary of the extended hours of operation must be provided in the IWL Annual Report, as required by Permit Condition IV.B.7.

### B. Protection of Liner System:

1. Motiva shall operate the IWL in a manner that will protect the landfill liner system and leachate collection system.

### C. Staffing:

1. Sufficient numbers and types of personnel, as specified in the Operations Plan, shall be available at the site to ensure capability for operation in accordance with DRGSW and this permit.

### D. Equipment:

1. Motiva shall maintain the equipment necessary to ensure that the IWL is operated in accordance with this permit, the Operations Plan, and the requirements of DRGSW.
2. Motiva shall maintain backup equipment, such as pumps, flow-meters, and controls, necessary to ensure proper operation of the Leachate Collection System and Leak Detection System.

### E. Surface Water Run-Off/Run-On Management:

1. Motiva shall maintain a surface water management system to prevent erosion of the waste and cover, prevent the collection of standing water, minimize surface water run-on into the waste, and minimize run-off from the waste.

F. Stormwater Management:

1. Motiva shall properly operate, manage, and maintain all structures and basins designed to manage storm water and shall take all reasonable steps to minimize or prevent any discharge of pollutants into surface waters.

G. Acceptable Wastes:

1. Motiva is permitted to accept the following waste streams for disposal at the facility in accordance with the DRGSW. Only non-hazardous industrial wastes generated within the boundary of the Delaware City refinery of Motiva shall be disposed of in the IWL. Acceptable wastes are limited to the following:
  - a. Non-hazardous spent catalyst and non-hazardous tank bottoms.
  - b. Delaware City Power Plant (DCPP) Water Treatment Wastes (including Solids from the Cascade Aerator, Flash Mixer, Clarifiers, Gravity Filters, Clearwell & Water Storage Tanks & Vessels, Neutralization Basins, Filter Press (including Sludge Pit), Zeolite & Demineralizer Degasifiers, Treatment Resins and Support Media from the Zeolite, Cation and Anion Treaters, Plastic Raschig and Paul Rings from the Degasifiers, Cleanup Solids from the Filter Press Plant, and Water Treatment Activated Carbon).
  - c. Asbestos and asbestos containing wastes.
  - d. Inert debris (including plastics, rubber, empty containers, asphalt, brick, cement, concrete, ceramics, non-asbestos insulation, used non-hazardous rain gear, cable, rope, & metal parts).
  - e. Oil spill boom and oily dirt.
  - f. Activated carbon.
  - g. Air dryer desiccant and soda ash.
  - h. Non-hazardous filter and treating clays.
  - i. Off specification coke and sulfur.
  - j. Chunk Coke.
  - k. Slag from the High Pressure Solids Gasification Unit.
  - l. Bio-Filter Cake from the Refinery WWTP.

H. Prohibited wastes:

Motiva shall exercise reasonable care to ascertain whether waste accepted at the IWL is prohibited waste, and shall not accept the following prohibited waste:

1. Hazardous waste as defined in Section 3 of the DRGSW.
2. Infectious waste (Regulated Medical Waste) as defined in Section 11 of the DRGSW.
3. Licensed radioactive material (as described in the Delaware Radiation Control Regulations), and any radioactive material considered source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954.

4. Municipal Solid Waste as defined in Section 3 of the DRGSW.
5. Any off-site generated wastes, regardless if the wastes are non-hazardous.
6. Liquid wastes as defined in Section 3 of the DRGSW. This prohibition shall not apply to those wastes permitted by Section II.G.1 of this Permit.
7. Garbage as defined by Section 3 of the DRGHW.
8. Office trash originating from the Refinery administrative offices and control rooms.

I. Asbestos Containing Wastes:

1. Asbestos containing wastes shall be disposed of at the IWL under the following conditions:
  - a. Asbestos containing wastes shall be removed and handled prior to transportation to the IWL by trained asbestos workers/supervisors holding a current Delaware Class A, 40-hour certification.
  - b. All asbestos containing wastes shall be double-bagged in properly labeled six (6) mil puncture resistant polyethylene bags when practical. Asbestos containing wastes not suitable for placement in six (6) mil puncture resistant polyethylene bags shall be properly labeled, double-wrapped, and sealed in six (6) mil puncture resistant polyethylene sheeting.
  - c. All asbestos containing wastes to be disposed of in the IWL shall be kept wet at all times until bagged or wrapped.
  - d. Asbestos containing wastes shall be disposed of at a designated location at the landfill. At the end of the working day, the asbestos containing waste must be covered by a minimum of six-inches (6") of daily cover. The asbestos area must be clearly delineated and marked to prevent disturbance of the waste.
  - e. Motiva shall comply with all OSHA, EPA, NESHAP, and state standards, guidelines, and regulations for asbestos removal, handling, and disposal.
  - f. Motiva will ensure that the asbestos containing wastes do not contain any priority contaminants, such as polychlorinated biphenyls (PCBs) or Hazardous Waste. No asbestos containing wastes that contain any priority contaminants may be disposed of in the IWL.
  - g. The IWL activities involving the disposal of asbestos shall be accompanied by proper record keeping. The record keeping shall include the sources of asbestos, quantity removed and disposed, air surveillance monitoring, health and safety records and asbestos packaging procedures. Motiva shall retain three (3) years worth of these records available for Department review at all times.

J. Scavenging:

1. Scavenging on the landfill is prohibited.

K. Spreading and Compaction:

1. The working face shall be confined to the smallest practical area, as is consistent with the proper operation of trucks and equipment.
2. The waste shall be spread in two-foot (2') layers and compacted immediately.

L. Daily Cover:

1. A six-inch (6") layer of daily cover shall be placed over the waste by the end of each working day, as specified by the Operations Plan.
2. The material used for daily cover shall be as described in the Operations Plan, and be stockpiled near the active Cell. Use of material for daily cover not described in the Operations Plan shall be subject to Departmental approval prior to its use at the IWL.

M. Dust, Odor and Nuisance Control:

1. Dust generation shall be minimized through the use of daily cover, water, or other appropriate dust suppressants.
2. Control of odors from the waste shall be accomplished by a combination of daily cover and Department-approved odor suppressing materials, such as lime.
3. The operation of the IWL shall not result in odors associated with the waste being detected beyond the facility boundary.
4. Nuisance pests, such as rodents, insects, or other vermin shall be controlled through the use of cover and odor control compounds.

N. Litter:

1. The scattering of waste and wind-blown litter shall be controlled by suitable methods. No waste shall be allowed to migrate off-site.

O. Salvaging:

1. Salvage operations are prohibited except after approval in writing by the Department. The approval request will include a description of how the proposed salvage operation will not interfere with proper disposal of any solid waste and will not create dust, odors, nuisances, health hazards, or potential safety hazards.

P. Leachate Collection System:

1. Motiva shall operate and maintain the leachate collection and disposal system in accordance with this Permit and the Operations Plan. Motiva shall clean-up all leachate spills immediately or within a time frame approved by the Department on a case-by-case basis.

Q. Employee Health and Safety:

1. All employees, either directly employed by Motiva or by contractors working for Motiva, at the site shall work under appropriate health and safety guidelines established by the Occupational Safety and Health Administration (OSHA).
2. Use of personal protective equipment shall be in accordance with 29 CFR Part 1910.132 as a minimum.
3. First aid equipment shall be maintained and available in the Environmental Coordinator's and IWL Attendant's office.
4. Suitable shelter, sanitary facilities, and safe drinking water shall be available at the IWL.
5. Instructions to summon help in an emergency by telephone or radio, including emergency telephone number(s), shall be prominently displayed by at least one (1) telephone in each of the following on-site locations: the Environmental Coordinator's and IWL Attendant's administrative office.
6. A reliable radio communication system shall be provided at the IWL.
7. Any confined space entry done by employees or contractors shall be done in accordance with 29 CFR Part 1910.146.

R. Contingency:

1. Fire prevention and control shall be conducted in accordance with the Operations Plan.
2. There shall be one (1) Emergency Coordinator and at least one (1) alternate Emergency Coordinator appointed at the IWL to ensure that at least one (1) Emergency Coordinator will be available at all times. The Emergency Coordinator shall be responsible for directing all emergency response measures necessary to protect human health and the environment in the event of fire, severe weather, explosion, or release of hazardous materials.

S. Training:

All personnel, either directly employed by Motiva or by contractors working for Motiva, assigned duties at the IWL shall receive, at a minimum, the training listed below. Unless otherwise specified by a nationally recognized training provider (for example, the American Red Cross as a training provider for First Aid), training shall be required initially and annually thereafter. Initial training shall be completed within 180-days of hiring:

1. Operational and contingency procedures.
2. Health and safety procedures.
3. Fire prevention and protection.
4. Procedures to summon emergency medical assistance.
5. Security Guards shall be trained to perform the following functions:
  - a. Review the Waste Tracking Form (WTF) to determine that the waste is approved and has been signed by the Project Manager of the manufacturing unit generating the waste.
  - b. Ensure that the WTF is complete in all respects.
  - c. Verify that the waste(s) match the waste identification on the WTF.
  - d. Sign and date WTF.
6. All employees located at the refinery, either directly employed by Motiva or by contractors working for Motiva, shall be notified not to dispose of any waste in the IWL that is generated outside the boundary of the refinery.
7. All non-hazardous industrial waste generating units must be trained not to ship any waste to the IWL without completing a WTF. Personnel from the manufacturing units must ensure that the WTF is signed by the Project Manager in charge of that unit.
8. All training documentation, as specified in Condition V.B.1 of this Permit, will be kept ready on the site and made available to the authorized representatives of the Department as requested.

**III. MONITORING:**

A. Leachate Collection, Treatment, Disposal, and Monitoring:

1. Operational Procedure:

- a. Motiva shall monitor all leachate collection system flow-meters, pumps, controls, recording devices, and leachate storage tanks each operating day for proper operation to ensure proper functioning and to record flows. Motiva shall inspect for leakage from valves, flow-meters, connections at riser locations, and storage tanks each operating day. The results of the monitoring and inspections shall be recorded in the facility log.
  - b. Motiva shall ensure that leachate collection pipes are cleaned at least annually with a self-propelled, high pressure jetting system. Motiva shall be responsible for the identification, assessment, and reporting of all blockages encountered as well as identification of any areas found to be inaccessible during the annual cleanings.
  - c. At least once every two (2) years collection pipes or representative sections of collection pipes in each Cell shall be inspected by camera to assess their condition. This shall include a written assessment of the condition of the leachate collection pipes to include an assessment of clogging of pipe perforations and the location, cause, and effect of blockages encountered. In the event that such an assessment supports a claim that less frequent cleanings are needed, Motiva may initiate a request for a permit modification to reduce the cleaning frequency.
2. Leachate Treatment and Disposal:
- a. Motiva shall maintain all necessary permits and approvals for leachate discharge management.
  - b. The leachate treatment and disposal system shall be operated to prevent leachate odors from migrating beyond the boundary of the facility.
3. Leachate Monitoring:
- a. The leachate monitoring system shall be kept in good working order and capable of measuring flow and sampling the leachate.
  - b. The quantity of leachate generated shall be measured on a weekly basis. The results of the measurements shall be recorded in the facility log.
  - c. Motiva shall measure and record the leachate levels in the cleanouts in the upgradient end of all four (4) leachate collection pipes on a weekly basis.
  - d. Annually, during October, a leachate sample shall be collected and analyzed for pH, specific conductance, total alkalinity, total dissolved solids (TDS), total organic carbon (TOC), total organic halogens (TOH), chlorides, sulfate, total petroleum hydrocarbons (TPH), calcium, sodium, magnesium, potassium, iron, vanadium, chromium, manganese, nickel, barium, and arsenic.

- e. Semi-annually, in April and October, leachate levels shall be measured in the leachate collection sump and in the cleanouts at the upgradient end of all four (4) leachate collection pipes. If more than six-inches (6") of leachate are detected in any cleanout, Motiva shall notify the Department in writing within five (5) business days and begin an investigation of the cause and develop appropriate remedies to eliminate the leachate build-up. Motiva will submit a report summarizing the findings of the investigation, including any follow-up or remedial actions required with an implementation schedule, to the Department within 30-days of the initial notification to the Department.

4. Leachate Monitoring System Repairs:

Motiva will notify the Department within one (1) business day of the discovery any malfunctions of the equipment, including the pumps and totalizers, associated with the Leachate Collection System. Motiva will initiate repairs to the Leachate Collection System, including the pumps and totalizers, within three (3) business days of the initial notification to the Department. Motiva will submit a report summarizing the Leachate Collection System repair activities, including any follow-up or remedial actions required with an implementation schedule, to the Department within 30-days of the initial notification to the Department.

B. Leak Detection System Monitoring:

1. Motiva shall monitor all leak detection system flow-meters, pumps, controls, and recording devices each operating day to ensure proper functioning and to record flows. Motiva shall inspect for leakage from valves and flow-meters each operating day. The results of the inspections shall be recorded in the facility log.
2. Motiva shall monitor the flow from the leak detection system on a weekly basis. If the flow exceeds the action leakage rate (ALR) of 11,200 gallons in a week, Motiva shall:
  - a. Notify the Department in writing within five (5) business days and shall begin an investigation into the cause of the increased flow.
  - b. Sample the liquid from the leak detection system and analyze for the parameters included in Section III.A.3.d of this permit.
  - c. Investigate the source and characteristics of the increased flow.
  - d. Provide the Department with a written report detailing the findings, recommendations, with an implementation schedule. This report shall be submitted to the Department within 60-days from the date when the ALR was initially exceeded. Should the reason for the ALR be a result of an equipment malfunction subject to the reporting requirements of Permit Conditions III.A.4 or III.B.4, then the reporting requirements for the ALR shall be subject to those permit conditions, and not the requirements of Permit Condition III.B.2.
3. The Department may require corrective action in the event that flow rates in the leak detection system exceed the ALR.

4. Leak Detection System Repairs:

Motiva will notify the Department within one (1) business day of the discovery any malfunctions of the equipment, including the pumps and totalizers, associated with the Leak Detection System. Motiva will initiate repairs to the Leak Detection System, including the pumps and totalizers, within three (3) business days of the initial notification to the Department. Motiva will submit a report summarizing the Leak Detection System repair activities, including any follow-up or remedial actions required with an implementation schedule, to the Department within 30-days of the initial notification to the Department.

C. Surface Water Monitoring:

1. Run-off from active landfill areas where waste is exposed shall be directed to the leachate collection system.
2. Run-on to the landfill area shall be controlled by grading the surrounding property to direct flow away from the landfill unit.
3. Motiva shall monitor, sample and manage stormwater accumulated on top of the temporary surface cover (TSC) in accordance with “*Interim Cover Storm Water Discharge Management & Monitoring Plan*” dated May 2010.

D. Ground Water Monitoring:

1. All monitoring wells shall be maintained, and protected in accordance with the *Delaware Regulations Governing the Construction and Use of Wells*.
2. Installation of new wells and abandonment of any monitoring well due to construction activities shall be performed in accordance with the *Delaware Regulations Governing the Construction and Use of Wells*.
3. Semi-annually, during April and October, Motiva shall measure water elevations in the following monitoring wells:

1S	2S	3S
4S	5S	6S
8S	9S	10S
11S	12S	1D

4. Semi-annually, during April and October, samples shall be collected and analyzed for the parameters in this section from the following monitoring wells:

2S	3S	4S
9S	10S	11S

A field data sheet shall be prepared at the time that each well is sampled recording at a minimum: well identification number, well condition, samplers, depth to water, purge rate, sample rate, and whether the well was pumped dry. Periodically, as the well is purged, the field parameters pH, specific conductance, dissolved oxygen and turbidity shall be measured and recorded. Purging shall continue until the field parameters stabilize. After the field parameters have stabilized, a sample shall be collected and analyzed for total alkalinity, TDS, chloride, sulfate, TOC, TPH, calcium, sodium, magnesium, potassium, iron, vanadium, manganese, nickel and arsenic. Metal samples shall be field filtered only if turbidity exceeds 10 nephelometric turbidity units (NTU). All samples shall be collected in a manner that minimizes sample turbidity. All wells to be sampled shall be maintained as necessary so that they will produce low turbidity samples.

5. The Department may observe the water sampling conducted by Motiva and may request split samples for analysis.
6. Representatives of the Department may enter the facility to collect groundwater samples for analysis by an independent laboratory.

E. Analytical Procedures:

All leachate, leak detection system liquid, groundwater and surface water analysis required by this permit shall be done in accordance with the “*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*”, EPA Publication SW 846, [Third Edition (November 1986) as amended by updates I (dated July 1992), II (dated September 1994), IIA (dated August 1993), IIB (dated January 1995), III (dated December 1996), and IIIA (dated April 1998)], or other tests approved in writing by the Department.

F. Landfill Gas Monitoring:

If Motiva seeks approval for disposal of a non-hazardous industrial waste capable of releasing methane and other landfill gases, a permit modification would be required to install a gas control system in accordance with Section 6.E of the DRGSW.

**IV. REPORTING:**

A. Financial Assurance:

No later than March 31<sup>st</sup> of each year, Motiva shall submit their financial assurance statements for the most recently completed fiscal year along with an updated and accurate cost estimate of closure and post-closure care for IWL, adjusted for inflation. Motiva

shall provide a detailed listing of all projected costs used to estimate the closure and post-closure care costs for IWL.

B. Annual Report:

The reporting period for the facility shall be from January 1<sup>st</sup> to December 31<sup>st</sup> of each year. Annually, no later than March 1<sup>st</sup>, Motiva shall submit the annual report and include the following information:

1. The volume or tonnage of solid waste, broken down by waste stream, landfilled at the IWL.
2. The weights and types of landfill daily cover used.
3. The estimated remaining landfill capacity.
4. Any deviations from the Operations Plan.
5. All construction or corrective measures work conducted on the site in accordance with approved plans or to achieve compliance with the DRGSW and this permit.
6. A combined groundwater and leachate collection system monitoring report including the following information:
  - a. Tabulation of all data listed below from the past and all preceding years. All data should be submitted on paper and/or magnetic media or a combination of both in a format that is acceptable to the Department. Data submitted shall include:
    - (1) Leachate collection system flow and quality including field parameters.
    - (2) Leak detection system flow and quality including field parameters.
    - (3) Ground water elevation and quality data including field parameters.
    - (4) Rainfall data from the on-site weather data station, or other third-party sources of local weather data.
  - b. Graphical presentations (quality versus time plots) of leachate, ground water, and leak detection system liquid quality parameters pH, TDS, COD, TOC, chloride, sulfate, and iron.
  - c. Graphical presentations (flow rate or volume versus time plots) of leachate collected and leak detection system flows. Rainfall data shall also be plotted on each graph.
  - d. Potentiometric maps for the upper aquifer for each semi-annual groundwater monitoring event.
  - e. A discussion of any problems encountered during fieldwork, any deviations from the sampling procedures, and of any problems with QA/QC procedures. Copies of field notes, laboratory data sheets, and chain-of-custody forms shall be

maintained by Motiva and made available to the Department within a reasonable time upon request.

- f. A discussion of landfilling activities during the past year relevant to operation of the leachate collection system and:
    - (1) Modifications, if any, to the leachate collection system.
    - (2) Cleanings and inspections (with assessment) of the leachate collection system.
  - g. A discussion of the ground monitoring results, including whether the results indicate a contaminant release from the landfill to ground water.
  - h. A discussion of the leak detection system monitoring results, including whether the results indicate that the liner is performing within design specifications.
  - i. A discussion of the leachate collection system monitoring results, including whether the results indicate that the system is performing within design specifications.
  - j. Recommendations for future monitoring and for maintenance or modifications needed in the ground water monitoring wells and/or the leachate collection system.
7. A summary of the IWL extended hours of operation, including an explanation for the purpose of the extended hours of operation at the IWL, for the reporting year.

C. Additional Reports:

1. The results of ground water and leachate samples analyzed per Section III of this permit shall be submitted to the Department within 60-days of the sampling date. Electronic files on magnetic media containing the results of all required analysis for groundwater, leachate, and surface water shall accompany this submittal. The electronic files will be in a format amendable for use by both Motiva and the Department. This submission shall include a discussion of the data contained in the report.
2. The results of the potentiometric head elevations and the maps prepared for each aquifer per Section III of this permit shall be submitted to the Department within 60-days of the date of sampling. This submission shall include a discussion of the data contained in the report.
3. Year-to-date weekly flow measurements for the leachate collection system and the leak detection system shall be submitted to the Department on a quarterly basis. The flow measurement data shall be submitted to the Department within 30-days from the end of the preceding quarter. This submission shall include a discussion of the data contained in the report.
4. Year-to-date weekly leachate level measurements for the leachate monitoring system, as monitored in the cleanouts of the upgradient end of all four (4) leachate collection pipes, shall be submitted to the Department on a quarterly basis. The leachate level

data shall be submitted to the Department within 30-days from the end of the preceding quarter. This submission shall include a discussion of the data contained in the report.

5. If Motiva is unable to comply with any of the reporting requirements listed within the permit, Motiva must provide written notice and justification to the Department at least two (2) weeks prior to the reporting deadline for Departmental approval of the delay.
6. Motiva shall report to the Department any intentional or accidental deviation from any approved plan within one (1) business day of the discovery of the deviation.

D. Emergency Reporting:

1. Motiva shall notify the Department immediately in the event of:
  - a. Fire, explosion, or any other incident at the IWL that may have an impact on human health or the environment.
  - b. Receipt of prohibited waste at the IWL.
  - c. Leachate spills exceeding 10-gallons.
2. If any event listed in Section IV.D.1 of this Permit occurs during business hours, Motiva shall report the event to the Department's Solid and Hazardous Management Branch (SHWMB) by telephone at 302-739-3689. At all other times, the report shall be made to the Division of Air and Waste Management's toll-free 24-hour line at 1-800-662-8802.
3. Motiva shall submit a written notification to the Department no later than the next business day 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 Motiva and other response personnel.
  - f. Report of injuries/damage.
  - g. Proposal for follow-up or remedial actions required and schedule.

E. Assessment of Corrective Measures:

1. Motiva shall notify the Department within five (5) business 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 any other parameters deemed appropriate by the Department. Motiva shall notify the Department of the results of the confirmation sampling within seven (7) days of receipt of the results.

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 Motiva sending written notification to the Department of their intent to re-sample. The samples shall be analyzed under a priority schedule. Motiva 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, Motiva shall perform an assessment of corrective measures within 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.

## **V. RECORDKEEPING:**

### **A. General Recordkeeping and Maintenance:**

The following information must be recorded and maintained by Motiva until the end of the post-closure period. This information must be available for inspection, with reasonable notice, by representatives of the Department:

1. Monitoring, testing, and analytical data required by this permit and the DRGSW.
2. Copies of field notes, laboratory data sheets, and chain of custody forms for each sample analyzed.
3. The quantity and type of wastes received quarterly.

4. Locations of monofilled wastes.

**B. On-Site Records:**

The following information shall be kept on site or made available to the Department within a reasonable period of time after being requested by the Department.

1. Motiva must maintain the following training records on-site:
  - a. Records which document that required training have been provided to all employees, either directly employed by Motiva or by contractors working for Motiva, including security guards and personnel at the manufacturing units, which generate waste for the disposal at the IWL.
  - b. Documentation proving that all employees, either directly employed by Motiva or by contractors working for Motiva, have been notified not to dispose of any waste in the IWL that is generated outside the boundary of the refinery. Documentation of this notification shall include one of the following methods:
    - (1) Training records.
    - (2) Written communications to employees and contractors.
    - (3) Refinery-wide written policies and procedures.
    - (4) Records of oral or audio/visual presentations to employees and contractors.

Documentation of this notification must be kept on-file by Motiva for a period of three (3) years.
2. Records of Motiva's periodic inspections of the facility during the last three (3) years, including inspections of the leachate system and leachate sumps.
3. Copies of all WTFs used for disposal of the waste at the IWL during the last three (3) years.

**VI. LANDFILL CAPPING SYSTEM:**

**A. Capping Requirements:**

1. Upon closure of the IWL, or part thereof, a capping system shall be installed that will promote vegetative cover, and minimize infiltration and percolation of water into, and prevent erosion of, the waste throughout the post-closure care period.
2. The capping system shall be in place 180-days following final waste disposal activity.
3. The capping system shall be designed in accordance with the DRGSW and must be approved by the Department prior to installation.

4. All components of the cap shall be constructed in accordance with a Construction Quality Assurance (CQA) Plan, Closure Plan, and Closure Schedule approved by the Department. A Certification Final Report shall be completed by a third party CQA Consultant and submitted for Department review within 60-days after the landfill capping has been completed.

**VII. CLOSURE AND POST-CLOSURE CARE:**

A. Closure in Accordance with the DRGSW:

Motiva shall close the completed landfill in accordance with the DRGSW.

B. Notification:

Notification of intent to close the landfill shall be submitted to the Department at least 180-days prior to the projected date when waste will no longer be accepted in the landfill.

C. Post-Closure Care:

Post-closure care shall be in accordance with the DRGSW, the post-closure care permit, and the post-closure care plan approved by the Department.

D. Post-Closure Land Use:

Motiva shall implement the post-closure land use plan approved by the Department.

E. Deed Notice:

Motiva shall record a notation on the deed to the facility property, or on some other instrument that is normally examined during the title search, that will in perpetuity notify any potential purchaser of the property that the land has been used as a solid waste disposal site and the use of the land is restricted under the DRGSW.

## Permit SW-04/01

### Permit Synopsis

February 27, 2004: Permit SW-04/01 was issued to replace Permit SW-95/05. This permit regulates, in accordance with the *Delaware Regulations Governing Solid Waste*, Motiva Enterprises LLC's Industrial Waste Landfill on their property at 2000 Wrangle Hill Road, Delaware City, Delaware.

June 22, 2010: The permit was modified to add section III.C.3, monitoring, sampling and managing stormwater on the temporary surface cover of the landfill. A typographical error was corrected in section III.B.2.b, and the name of *Delaware Regulations Governing the Construction and Use of Wells* was corrected in section III.D. This permit modification is considered minor in accordance with section 4.1.7.4 of the *Delaware Regulations Governing Solid Waste*.