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3745-512-751

Gas collection and conveyance system gas collection layer.

(A) For a gas collection and conveyance system gas collection layer immediately beneath a liner or gas barrier consisting of recompacted soil, a separation layer shall be placed by the owner or operator between the recompacted soil and the gas collection layer. The separation layer shall meet either of the following:

(1) For a separation layer consisting of granular material, the uniformity coefficient of the granular material shall be less than 5.0.

(2) For a separation layer consisting of geotextile overlying a granular gas collection layer, meet the following criteria:

(a) The geotextile shall be composed of polyethylene, unless an alternative material is approved in accordance with rule 3745-512-17 of the Administrative Code.

(b) The geotextile shall have an apparent opening size and either a porosity or percentage of open area available to resist clogging by the recompacted soil liner or gas barrier.

(c) The geotextile layer shall be overlapped and sewn by the owner or operator to keep the geotextile layer in place during placement of overlying materials and be placed and secured in accordance with the manufacturer's specifications.

(B) For a gas collection and conveyance system gas collection layer immediately beneath a flexible membrane liner and where the granular material does not conform to a sand classification as described in ASTM D2487 (USCS) as described in rule 3745-500-03 of the Administrative Code, the owner or operator shall do the following:

(1) Place a cushion layer between the flexible membrane liner and the gas collection layer.

(2) Use a cushion layer consisting of one of the following:

(a) A geotextile with a minimum average roll value for weight of sixteen ounces per square yard and puncture resistance of at least three hundred ten pounds as determined by ASTM D4833 (index puncture resistance).

(b) For a granular gas collection layer comprised of rounded or sub-rounded gravel with no dimension greater than one inch in length, a geotextile with a minimum average roll value for weight of eight ounces per square yard.

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(c) An alternative material that is approved in accordance with rule 3745-512-17 of the Administrative Code.

(3) Overlap and sew the cushion layer to prevent exposure of the granular gas collection layer during construction activities and place and secure in accordance with the manufacturer's specifications.

(C) For a gas collection layer comprised of a geocomposite, the geocomposite shall meet the following criteria:

(1) Have a minimum gas transmissivity at the appropriate suction pressure to provide sufficient flow capacity. The minimum gas transmissivity is calculated by dividing the pre-construction test results for gas transmissivity, conducted in accordance with rule 3745-512-15 of the Administrative Code, by a factor of safety of 2.0 and appropriate reduction factors for elastic deformation, intrusion, creep deformation, biological clogging, and chemical clogging.

(2) Be placed by the owner or operator without folds or wrinkles and be overlapped and secured in a manner that will keep the geocomposite in place during placement of overlying materials and be placed and secured in accordance with the manufacturer's specifications.

(3) Each panel of geocomposite shall be secured by the owner or operator to adjoining panels. The geonet shall be overlapped and secured with cable ties in accordance with the manufacturer's specifications. The top geotextile shall also be overlapped and sewn in accordance with the manufacturer's specifications.

(D) For a gas collection and conveyance system gas collection layer comprised of a geocomposite and where the gas collection layer is below a recompacted soil liner or gas barrier, the filter fabric component of the gas collection layer shall meet the following criteria:

(1) Have an appropriate apparent opening size necessary to retain the recompacted soil liner material overlying the geocomposite.

(2) Have an apparent opening size and either a porosity or percentage of open area available to resist clogging by the recompacted soil liner material.

(E) Testing of the material used for the gas collection and conveyance system gas collection layer, including the separation layer, if applicable, shall be performed by the owner or operator in conformance with the following:

(1) For materials used for the gas collection and conveyance system gas collection layer and for the separation layer, pre-construction testing on representative samples in accordance with rule 3745-512-15 of the Administrative Code.

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(2) For material used for the gas collection and conveyance system gas collection layer, pre-construction testing on representative samples to determine shear strength in accordance with rule 3745-512-10 of the Administrative Code.

(3) For material used for a separation layer located immediately beneath the cap system recompacted soil layer, pre-construction testing on representative samples to determine shear strength in accordance with rule 3745-512-10 of the Administrative Code.

(F) Certification of the gas collection and conveyance system gas collection layer by the owner or operator shall include the following:

(1) Record drawings showing the location, including the run-out if applicable, and plan views with topographic representation of the basal and final elevations of the gas collection layer, as constructed.

(2) Results of all testing and verification that the gas collection and conveyance system gas collection layer, including the separation layer and cushion layer, as applicable, meets the standards in paragraphs (A) to (D) of this rule. If an alternative material is used, the evaluation conducted pursuant to rule 3745-512-17 of the Administrative Code was submitted prior to use of the alternative material and therefore verification is not required to be submitted with the construction certification report under this rule. However, results of all testing to verify that the alternative material meets material specifications are required in the construction certification report.

(3) Demonstration that approvals and authorizations issued pursuant to Chapter 3704. of the Revised Code for the construction and operation of gas control devices at the facility have been obtained.