

**DEPARTMENT OF MINES, MINERALS AND ENERGY
DIVISION OF MINED LAND RECLAMATION**

GUIDANCE MEMORANDUM¹ No. 34-11

Issue Date: February 1, 2011

Subject: Groundwater Monitoring of Fill Underdrains

This guidance is being provided to ensure that required data collection of discharges from constructed underdrains of refuse and hollow fills begins at the appropriate time. For refuse and hollow fills that will contain underdrains, Sections 4VAC25-130.780.21(i)(3)(x) and 4VAC25-130-784.14(h)(3)(x) of the Virginia Coal Surface Mining Reclamation Regulations require,

“When a refuse or hollow fill is designed to contain underdrains, then a plan for monitoring the underdrain may be used, provided that the underdrain discharge indicates changes in water quality resulting from the fill and not from other sources or outside influences. If the underdrain is not representative of the effects of the fill material, then piezometers shall be used.”

When the approved plan requires underdrain discharges to be monitored, a qualified registered professional engineer (or qualified professional specialist under his/her direction) is required to examine the proposed fill site once the area has been cleared and grubbed of vegetation. This is one of the critical construction fill certifications that must be submitted to the Division under Sections 4VAC25-130-816.71(h) and 4VAC25-130-817.71(h) of the regulations.

After the foundation preparation, the areas of ground water flow should be noted and documented in the critical construction fill certification, especially if drains are to be constructed from the seeps to the main underdrain

During the installation of the underdrain(s) and its critical construction fill inspection, the registered professional engineer should make a determination as to when the underdrain has in fact been established. This should be documented in the critical construction fill certification and then submitted to the Division.

Once the underdrain and protective filter system are in place per the critical construction fill certification required under Section 4VAC25-130-816.71(h)(1)(ii) or 4VAC25-130-817.71(h)(1)(ii), the ground water monitoring of the underdrain should commence in accordance with the approved ground water monitoring plan. The permittee/engineer must document –

¹ This Memorandum is to be considered guidance issued under the authority of § 45.1-230.A1 of the Code of Virginia which reads:

"In addition to the adoption of regulations under this chapter, the Director may at his discretion issue or distribute to the public interpretative, advisory or procedural bulletins or guidelines pertaining to permit applications or to matters reasonably related thereto without following any of the procedures set forth in the Administrative Process Act (§ 2.2-4000 et seq.). The materials shall be clearly designated as to their nature, shall be solely for purposes of public information and education, and shall not have the force of regulations under this chapter or under any other provision of this Code."

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- If there is no discharge - no groundwater flow observed from the underdrain.
- Groundwater discharge. Samples of the ground water that is flowing from the underdrain must be collected and analyzed and results then reported to the Division.

Should you have any questions regarding this guidance document or the topics of this memorandum, please contact your area Inspector, the Reclamation Services Manager at (276) 523-8197, or the Technical Services Manager at (276) 523-8156.