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3745-506-200

Ground water sampling and analysis plan.

(A) An owner or operator shall develop a written ground water sampling and analysis plan that documents the sampling and analysis procedures to be used to comply with this chapter. The owner or operator shall follow the sampling and analysis procedures documented in the plan.

[Comment: The owner or operator is not required to include references to specific laboratory analysis methods, specific method detection limits, or specific practical quantitation limits in the ground water sampling and analysis plan. However, rule 3745-506-140 of the Administrative Code requires the information to be submitted with the ground water data report.]

(B) Ground water sampling and analysis plan contents.

(1) Sampling procedures. The ground water sampling and analysis plan shall include copies of blank forms and a detailed description of the equipment, procedures, and techniques to be used to do the following:

(a) Measure the elevation of the ground water and the depth of ground water monitoring wells as required by rule 3745-506-110 of the Administrative Code.

(b) Determine and document the presence of immiscible layers in ground water monitoring wells when immiscible layers are known to exist or where laboratory or other physical evidence indicate immiscible layers may be present.

(c) Purge the ground water monitoring wells prior to sample withdrawal.

(i) The owner or operator shall select a well purging technique for each ground water monitoring well within the applicable ground water monitoring program from the techniques listed in rule 3745-506-210 of the Administrative Code.

(ii) When selecting a technique, the owner or operator shall consider site-specific hydrogeologic information.

(iii) If different techniques will be utilized for ground water monitoring wells within the ground water monitoring system and for ground water monitoring wells within the same uppermost aquifer system or significant zone of saturation, then each technique shall be included.

(iv) All contingent purging techniques shall be described in the ground water sampling and analysis plan, including the circumstances and

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conditions under which a contingent purging technique will be used. Contingent purging techniques shall be selected from the techniques listed in rule 3745-506-210 of the Administrative Code.

(d) Withdraw, handle, and preserve ground water samples.

(i) The owner or operator shall include a description of the ground water sample withdrawal technique for each ground water monitoring well and sample handling and preservation for each ground water sample in accordance with rule 3745-506-220 of the Administrative Code. If different ground water sample withdrawal techniques will be selected and implemented for ground water monitoring wells within the ground water monitoring well system and for ground water monitoring wells within the same uppermost aquifer system or significant zone of saturation, then each ground water sample withdrawal technique shall be included.

(ii) When selecting a ground water sample withdrawal technique, the owner or operator shall consider site-specific hydrogeologic information including but not limited to ground water well construction, yield data, and hydrogeologic testing results.

(iii) Contingent ground water sample withdrawal techniques, if justified by variable hydrogeologic conditions, may be selected to sample a ground water monitoring well. The circumstances and conditions under which a contingent ground water sample withdrawal technique is to be used shall be defined in the plan.

(e) Perform field analysis for temperature, pH, specific conductance, and turbidity each time the ground water monitoring well is sampled, including the following:

(i) Procedures and blank forms for recording field measurements that include the specific location, time, and site-specific conditions associated with the field data acquisition.

(ii) Procedures used for the calibration of field devices and blank forms for the documentation of calibration procedures.

(f) Decontaminate non-dedicated and non-disposable monitoring, purging, and sampling equipment prior to use at each ground water monitoring well.

(g) Establish the chain of custody of the ground water samples. Copies of the blank chain of custody form and sample label that include the information required by rule 3745-506-230 of the Administrative Code shall also be included.

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- (h) Obtain field quality control samples. This description shall document how the requirements of rule 3745-506-240 of the Administrative Code will be satisfied.
- (i) Obtain the information required to be recorded on the ground water sampling form described in rule 3745-506-250 of the Administrative Code not otherwise required by this rule. A copy of the blank ground water sampling form shall also be included.
- (2) Ground water sample analysis performance standards. The ground water sampling and analysis plan shall include provisions for performance standards for laboratory analysis of ground water samples as follows:

 - (a) If a parameter is reported below a practical quantitation limit (PQL), the PQL utilized by the owner or operator for that parameter shall be the lowest PQL that can be reliably achieved during routine laboratory operating conditions that are reasonably available to the owner or operator.
 - (b) If a parameter is detected at or above the method detection limit (MDL) but below the PQL established by the laboratory, the owner or operator shall obtain a laboratory estimate of the concentration as a value with a qualifier to indicate that the value is an estimate.