

Iowa Department of Natural Resources
Solid Waste Section of Land Quality Bureau

Related to
567 IAC 113.10(2)"c", 114.23(3)"a", and 115.23(3)"a"
Groundwater Monitoring Systems – Well Construction
Use of Pre-Packed Wells

December 23, 2016

Use of Pre-Packed Wells

The following is applicable to the installation of pre-packed monitoring wells at solid waste landfills.

Background

567 IAC 113.10(2)"c" requires (Chapters 114 and 115 do not have corresponding language):

"Monitoring wells must be constructed and cased by a well contractor certified pursuant to 567—Chapter 82 in a manner that maintains the integrity of the monitoring well borehole."

And, **567 IAC 113.10(2)"c"(6)1, 114.23(3)"a", and 115.23(3)"a" all require:**

1. Slot size shall be based on sieve analysis of the sand and gravel stratum or filter pack. The slot size must keep out at least 90 percent of the filter pack.

And, **567 IAC 113.10(2)"c"(7) requires:**

"(7) Monitoring well filter packs shall comply with the following requirements:

1. The filter pack shall extend at least 18 inches above and 12 inches below the well screen.
2. The size of the filter pack material shall be based on sieve analysis when sand and gravel are screened. The filter pack material must be 2.5 to 3 times larger than the 50 percent grain size of the zone being monitored.
3. In stratum that is neither sand nor gravel, the size of the filter pack material shall be selected based on the particle size of the zone being monitored."

(similar language to 113.10(2)"c"(7) is in 114.23(4)"a"&"b" and in 115.23(4)"a"&"b" but 113.10(2)"c"(7)3 is unique to Chapter 113)

Significant changes have occurred in the environmental monitoring industry since the rules listed above were promulgated. The DNR recognizes that in the usage of pre-packed monitoring wells allows more control over the filter pack grain size and eliminate bridging of the filter media. Use of pre-packed screens may make it possible to use finer grained filter pack sand than is used for conventional well filter pack, providing less turbid samples.

Decision

The DNR will approve the use of pre-pack monitoring wells. If a direct push method for monitoring well installation is used it shall be performed in accordance with ASTM D6725 "Standard Practice for Direct Push Installation of Prepacked Screen Monitoring Wells in Unconsolidated Aquifers."

Justification

The DNR believes that this decision provides equivalent or superior performance to existing well completion methods.

The DNR intends to revise solid waste rules in the future with language to expand the methods acceptable for monitoring well construction.

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Date