

Ground Water Quality Standards
and
Ground Water Remediation Standards
Frequently Asked Questions

1. Question: How do I know if the Ground Water Quality Standards apply to my project/activity?

Answer: Ground Water Quality Standards apply to any project or activity involving:

- A direct discharge to ground water regulated under the NJPDES Rules, N.J.A.C.7:14A;
- A remediation site where there is known or suspected contamination of ground water (as explained in question 2 below); or
- Any other discharges that cause or may cause pollutants to enter the ground waters of the State, including non-point and diffuse sources of pollution regulated by the Department.

2. Question: What is the relationship between the Ground Water Remediation Standards at N.J.A.C. 7:26E-1.13(b) and the Ground Water Quality Standards at N.J.A.C. 7:9C?

Answer: The following components of the Ground Water Quality Standards are adopted by reference as Ground Water Remediation Standards:

Specific ground water quality criteria, N.J.A.C. 7:9C Appendix Table 1;
Interim generic ground water quality criteria, N.J.A.C. 7:9C Appendix Table 2;
Interim specific ground water quality criteria, developed pursuant to N.J.A.C. 7:9C-1.7 and posted at http://www.nj.gov/dep/wms/bwqsa/gwqs_interim_criteria_table.htm.
General ground water quality policies, N.J.A.C. 7:9C-1.2;
Ground water quality criteria, N.J.A.C. 7:9C-1.7;
Antidegradation policy, N.J.A.C. 7:9C-1.8.

Although not specifically incorporated by reference, other components of the Ground Water Quality Standards, including but not limited to, the ground water classification system (N.J.A.C. 7:9C-1.5) and exceptions to the classification system (N.J.A.C. 7:9C-1.6), apply at remediation sites.

For more information, see the Technical Requirements for Site Remediation (Tech Rules), N.J.A.C. 7:26E-1:13(b) (<http://www.nj.gov/dep/srp/reg/techrule/>) and the Ground Water Quality Standards, N.J.A.C. 7:9C (<http://www.state.nj.us/dep/wmm/sgwqt/njac79C.pdf>)

3. Question: What Ground Water Remediation Standards are applied at remediation sites?

Answer: The Ground Water Remediation Standards that are applied at remediation sites depend upon the ground water classification in which the site is located.

The ground waters of the State are divided into three major classes:

Class I – Ground Water of Special Ecological Significance

Class II – Ground Water for Potable Water Supply

Class III – Ground Water with Uses Other than Potable Water Supply

For remediation projects located in Class I areas, the Ground Water Remediation Standards are natural quality or “background.” For those constituents that are not naturally occurring (e.g., volatile organic chemicals, pesticides), the Ground Water Remediation Standards are set at the practical quantitation level (PQL).

For remediation projects located in Class II areas, the Ground Water Remediation Standards are the higher of the PQL and the health-based ground water quality criterion for a given constituent listed in Appendix Table 1, and the interim generic ground water quality criteria listed in Appendix Table 2 of the Ground Water Quality Standards, N.J.A.C. 7:9C.

For remediation projects located in Class III areas, the Ground Water Remediation Standards are determined on a case by case basis and are set to ensure that there is no impairment of existing uses of the ground water, violation of Surface Water Quality Standards, impacts to air, or violations of down gradient ground water classification areas.

4. Question: Whom should I call if I have a question about remediation standards or a contaminated site?

Answer: You should always call your assigned case manager because he or she has the most information about your particular site and what standards and requirements are appropriate. If there is no case manager assigned, you can call the Site Remediation Waste Management Program’s Office of Community Relations at (609) 984-3081 to ask any “general questions” you may have.

5. Question: What are practical quantitation levels and how do they relate to the Ground Water Quality Standards?

Answer: Practical quantitation levels are defined at N.J.A.C. 7:9C-1.4 as the lowest concentration of a constituent that can be reliably achieved among laboratories within specified limits of precision and accuracy during routine laboratory operating conditions.

There are instances where the health-based criterion for a particular constituent cannot be quantified by certified methods. In these cases, the Ground Water Quality Standard is set at the practical quantitation level.

6. Question: How were the practical quantitation levels in the Ground Water Quality Standards established?

Answer: As part of the recent readoption of the Ground Water Quality Standards in 2005, the Department updated the practical quantitation levels. The Department evaluated the PQLs associated with selected certified methods for each constituent in order to determine the most appropriate PQL. If, for a given constituent, an analytical method was not available to quantify the constituent at the health-based level, the practical quantitation level listed in Appendix Table 1, was the one closest to the health-based criteria. See Table D of the Basis and Background document that accompanied the Ground Water Quality Standards rule for information on constituent practical quantitation levels and the analytical method on which they are based. The Basis and Background document can be found at: <http://www.state.nj.us/dep/wmm/sgwqt/gwqsbb.pdf>

7. Question: When conducting a remediation, how do I know which constituents to sample for in ground water?

Answer: Analytical parameters may be limited to the contaminants of concern that are likely to be present. Site history and other information gathered during the Preliminary Assessment (See N.J.A.C. 7:26E-3) should be used to determine what constituents may be present.

If the contaminants are unknown or not well documented, you are required to analyze samples for either the Target Compound List plus 30/Target Analyte List (TCL + 30/TAL) or Priority Pollutant plus 40 (PP + 40) scans. In addition, the Department requires that petroleum hydrocarbons, and pH be analyzed at all sites where contaminants are unknown or not well documented. For analytical requirements for petroleum storage and discharge areas please refer to Table 2-1 of the Tech Rules.

8. Question: What analytical methods should I use to determine compliance with the Ground Water Remediation Standards?

Answer: The analytical methods used to determine compliance with the Ground Water Remediation Standards must be NJDEP certified analytical methods that are capable of quantifying constituent concentrations in water at or below the standard that is appropriate for the ground water classification (See N.J.A.C. 7:18).

It may be necessary to use more than one analytical method to analyze a given class of contaminants (e.g., volatile organic contaminants) to determine compliance with the

Ground Water Remediation Standards. In addition, because the Department adopted lower standards for some constituents in November 2005, it may be necessary to modify analytical methods or use different analytical methods than were used in the past to determine compliance.

For example, previously, USEPA method 625 or EPA method SW-846 was commonly used to determine compliance with the Ground Water Remediation Standards for polycyclic aromatic hydrocarbons (PAHs). Because of the lowering of some of these standards, it may now be necessary to use either EPA method 525.2 or EPA-SW846 method 8270C with Select Ion Monitoring (SIM) to determine compliance with the adopted Ground Water Remediation Standards for PAHs.

9. Question: Are there circumstances when a less sensitive analytical method can be used at a known contaminated site?

Answer: A less sensitive analytical method may be used when, based on site information or previous sampling, a contaminant is expected to be present in ground water at levels greater than the Ground Water Remediation Standards. Under these circumstances a less sensitive analytical method can be used to verify contamination in the Site Investigation phase, to conduct “rough” delineation in the Remedial Investigation phase, or to conduct long term monitoring of ground water with high levels of contamination. However, before the Department approves a site for no further action, compliance with the Ground Water Remediation Standards must be demonstrated as explained in question 8 above.

10. Question: What Ground Water Remediation Standards should be applied to sites after the Ground Water Quality Standards were readopted on November 7, 2005?

Answer: Any site or Area of Concern (AOC) that did not have a No Further Action letter or Remedial Action Workplan approval from the Department before November 7, 2005 must apply the new Ground Water Remediation Standards that went into effect on November 7, 2005.

Any site or Area of Concern (AOC) that had a No Further Action letter or Remedial Action Workplan approval from the Department before November 7, 2005 may apply the Ground Water Remediation Standards that were in effect prior to that date, with one exception. For Department standards that were lowered by an order of magnitude or more than the standard that was in effect prior to November 7, 2005, the new, lower standard must be applied.

There are 14 constituents whose groundwater quality standard was lowered by an order of magnitude or more. These constituents are:

Constituent	CASRN
Acrylonitrile	107-13-1
Adipates (Di(2-ethylhexyl)adipate) (DEHA)	103-23-1
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2
Beryllium	7440-41-7
Bis(2-ethylhexyl) phthalate (DEHP)	117-81-7
Dibromochloromethane (Chlorodibromomethane)	124-48-1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8
Hexachlorobenzene	118-74-1
Indeno (1,2,3-cd)pyrene	193-39-5
Methanol	67-56-1
N-Nitrosodimethylamine	62-75-9
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	1746-01-6
1,1,1,2-Tetrachloroethane	630-20-6
1,2,3-Trichloropropane	96-18-4

For sites that have any of these 14 constituents at concentrations that exceed the new Ground Water Remediation Standards, the Department will require an evaluation to determine whether the remedy selected at the site is protective of human health and the environment. For example, the Department may require further delineation of a contaminant plume, additional or extended active remediation, or the modification of an institutional control (i.e., Classification Exception Area (CEA)).