ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 264 and 270

[FRL 3199-3]

List (Phase 1) of Hazardous Constituents for Ground-Water Monitoring

AGENCY: U.S. Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency is today amending its regulations concerning gound-water monitoring with regard to screening suspected contamination at land based hazardous waste treatment, storage, and disposal facilities. The amendments replace current requirements to analyze for all Appendix VIII constituents with new requirements to analyze for a specified core list of chemicals plus those chemicals specified by the Regional Administrator on a site-specific basis. The Agency proposed today's amendments on July 24, 1986.

DATES: These final regulations become effective on September 28, 1987 which is six months from the date of promulgation, as RCRA Section 3010(b) requires.

ADDRESSES: The official record for this rulemaking (Docket No. F-87-AX9F-FFFFF) is located in the Room MLG100, U.S. Environmental Protection Agency, 401 M Street SW., Washington, DC 20460, and is available for viewing from 9:00 a.m. to 4:00 p.m., Monday through Friday, excluding legal holidays. Call (202) 475-9327 for appointments. The public may copy a maximum of 50 pages of material from any one regulatory docket at no cost. Additional copies cost $.20/page.

FOR FURTHER INFORMATION CONTACT: For general information about this rulemaking contact the RCRA Hotline, Office of Solid Waste (WH-562), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460 (800) 424-9346 (toll free) or (202) 382-3000 in the Washington, D.C. metropolitan area.

For information on specific aspects of this rule contact: Jerry R. Garman, Office of Solid Waste (WH-565E), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460 (202) 382-4658.

SUPPLEMENTARY INFORMATION:

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I. Authority

These regulations are being promulgated under the authority of Sections 2002(a), 3001, 3004, and 3005 of the Solid Waste Disposal Act, as amended, 42 U.S.C. 6912, 6921, 6924, and 6925 (commonly referred to as RCRA).

II. Summary of Today's Final Rule

Today's rule creates a new list of analytes for RCRA: Appendix IX to 40 CFR Part 264. This list is required only for ground-water monitoring at RCRA land based hazardous waste disposal units. This final rule, in concert with the regulations already in place, will require that an analysis of all the constituents in Appendix IX to Part 264 be performed on the ground water taken from wells surrounding those units. This analysis takes place when ground-water contamination is first detected, and then again once per year (see 40 CFR Part 264, Subpart F).

III. Background

A. Regulatory Framework

Subtitle C of the Resource Conservation and Recovery Act of 1976 (RCRA) creates a comprehensive program for the safe management of hazardous waste. Section 3004 of RCRA requires owners and operators of facilities that treat, store, or dispose of hazardous waste to comply with standards established by EPA that are "necessary to protect human health and the environment." Section 3005 provides that owners and operators of certain facilities that apply for a permit and comply with applicable notice requirements may operate until a permit determination is made. Facilities in this category are said to be operating under "interim status". Owners and operators of interim status facilities also must comply with standards set under Section 3004.

EPA promulgated standards for protecting ground water from releases of hazardous wastes from treatment, storage, and disposal units at interim status facilities in 1980 (45 FR 33154 (May 19, 1980)), codified in 40 CFR Part 265, Subpart F, and permitted facilities in 1982 (47 FR 32274 (July 26, 1982)), codified in 40 CFR Part 264, Subpart F. Both programs require owners and operators to sample ground water at specified intervals to determine whether or not hazardous wastes or constituents from the facility are contaminating ground water. As explained in more detail below, these sampling procedures have generated criticism.

The regulations promulgated on May 19, 1980 set forth criteria for identifying "hazardous" waste. To assist in this identification process, EPA developed a list of chemicals ". . . . that have been shown in reputable scientific studies to have toxic, carcinogenic, mutagenic, or teratogenic effects on humans or other life forms . . . ." (45 FR 33107, May 19, 1980). This list was published as Appendix VIII to Part 261 of the regulations.

The Appendix VIII list is actually a composite of several other lists. It includes chemicals identified as priority pollutants under the Clean Water Act, chemicals identified by the Department of Transportation as hazardous to transport, chemicals for which EPA's Carcinogen Assessment Group (CAG) has laboratory evidence of carcinogenicity, and chemicals which the NIOSH Registry of Toxic Effects of Chemical Substances lists as having high acute toxicity (numerically low LD_{50}).

The principal purpose of the list is to define a universe of chemicals of concern. Wastes would be matched against the list to see if they contained any chemicals from this universe. If so, they would be considered for listing as "hazardous".

Appendix VIII deliberately included many listings that are large categories of chemicals. Chemicals were listed on Appendix VIII as they would exist in a pure state, as opposed to the forms they would be expected to take after being dispersed in the environment. For waste identification purposes these characteristics of Appendix VIII may not present a problem. In looking for hazardous waste, EPA emphasized breadth of coverage. No attempt was made to examine factors such as amount of production or environmental fate in compiling Appendix VIII, although the hazardous waste listing regulations require EPA to consider such factors before listing a waste because it

contains an Appendix VIII chemical (see 40 CFR 261.11(a)(3)). As a result, Appendix VIII contains both prevalent, mobile, and toxic chemicals that present major risks in ground water at hazardous waste sites (e.g., trichloroethylene), as well as chemicals which do not present such risks (e.g., aflatoxins) because of factors such as low prevalence or instability in water.

On July 26, 1982, EPA promulgated RCRA regulations that implemented a strategy for ground-water protection for land-based hazardous waste management units operating under RCRA permits. Once ground-water contamination is suspected, the strategy requires an analysis to determine the nature of the contamination. This information is used to assess the problem, determine the appropriate remedy, determine when the remedy is effective, and insure that no new problems arise during the time the remedy is being applied. In an attempt to be comprehensive, the regulations required that contaminated ground water be analyzed for all constituents contained in Appendix VIII to Part 261.

While appropriate for hazardous waste listing purposes, the Appendix VIII list has presented a number of problems when used for purposes of ground-water monitoring. These include practical analytical problems such as listings which are large categories of chemicals, the dissociation or actual decomposition of many Appendix VIII constituents when placed in water, and the lack of analytical standards or analytical screening methods for many constituents.

EPA has been aware of potential analytical problems with "Appendix VIII analysis" for some time. At the time of promulgation of the 1982 regulations, EPA acknowledged that it lacked analytical methods for nine of the Appendix VIII constituents (see 47 FR 32296, July 26, 1982). When owners and operators of hazardous waste facilities began to attempt Appendix VIII analyses, however, EPA learned that analysis would be extremely difficult or impossible for a larger number of constituents.

EPA took several actions intended to mitigate the problems. For example, EPA recommended the use of enforcement discretion for some of the most intractable problems it had identified at the time. Also, in 1984, EPA proposed to eliminate 22 Appendix VIII constituents from the ground-water analysis requirements (see 49 FR 38786, October 1, 1984).

Comments on the October 1984 proposal raised questions about a number of additional analytical problems. Also, EPA gathered further information from interactions between RCRA permitting authorities, RCRA facility owners and operators, and analytical laboratories. EPA's own experience with ground-water analyses for its ground-water monitoring task force and its analytical methods development work confirmed many of these problems. These experiences demonstrated to EPA that analytical problems with Appendix VIII were far more serious than previously believed. It became clear that a major change was required.

B. Origin of Today's Final Rule

In response to this need, EPA convened a meeting on December 10–13, 1985, of some 30 technical experts representing EPA and State offices and laboratories. Many of these experts had advanced degrees in chemistry and/or substantial laboratory experience. Over four days, they evaluated all of Appendix VIII with regard to the feasibility of analysis of the various constituents. They identified a list of specific chemicals, derived from Appendix VIII, which they considered generally suitable for ground-water analyses at all facilities. They recommended that 25 chemicals, routinely analyzed in ground water by the Superfund office, be added to the list for analysis.

The results of this meeting, and subsequent work by the Agency, were summarized in a Notice of Proposed Rulemaking on July 24, 1986 (see 40 CFR 26632). Today, EPA is finalizing that proposal. The reasoning behind the final rule is the same as that discussed in the proposal. Appendix IX to Part 264 is made up of those compounds on Appendix VIII to Part 261 for which it is feasible to analyze in ground-water samples, plus 17 chemicals routinely monitored in the Superfund program.

Fifteen of the 17 chemical entities included from the Superfund program are organic chemicals, the other 2 (tin and cobalt) are metals. These 17 exhibit varying, but significant, degrees of toxicity. All of them have the potential to adversely effect human health or the environment, and are therefore of value for monitoring at RCRA facilities. The docket for this rulemaking contains information, or references to publicly available information, that demonstrates the toxic or hazardous potential of these Superfund additions.

One of the Superfund compounds (benzoic acid) which was on the proposed Appendix IX is not on the final Appendix IX because there is currently no acceptable screening method for it. Benzoic acid requires a derivatization before it will yield itself to gas chromotographic analysis. The rest of the Superfund additions to Appendix IX are readily amenable to analysis.

The other 7 Superfund items that were a part of the proposed Appendix IX and are not a part of the final Appendix, are relatively non-toxic inorganics. These are addressed below under "Ground-Water Chemistry".

The majority of the data evaluated for this rule are contained in background documents for the July 24, 1986, Proposed Rulemaking. However, during the public comment period of this proposed rulemaking, EPA received more data concerning the feasibility of analyzing certain Appendix VIII constituents in ground water. This data was evaluated on December 11, 1986, at a meeting of analytical experts. A list of the attendees of this meeting, the new data received by EPA since the proposal, and the group's decision concerning the feasibility of analysis, are contained in background documentation for this rule.

IV. Issues Discussed in Proposed Rule

In addition to solicitating comment on EPA's overall approach, the July 24, 1986 Notice of Proposed Rulemaking, raised six specific issues for comment. The following is a brief description of these issues, the comments received on each, and the Agency's response to those comments.

A. Borderline Chemicals

In the July 24, 1986 proposal EPA listed 48 chemicals for which the Agency had conflicting data pertaining to their analytical feasibility. A few commentors supplied new data or an opinion about these compounds. The new data was evaluated at the aforementioned December 11, 1986 meeting of analytical experts. A decision was made as to whether or not each chemical belonged on the final Appendix IX based on the criteria discussed in the proposal (see 51 FR 26635–36). In sum, five of the compounds not on the proposed Appendix IX, but listed as borderline, have been added to the final Appendix IX because it was determined that they were amendable to the analytical screening methodologies. Likewise, thirteen of the borderline chemicals that were on the proposed Appendix IX have been removed from the final list because new data had demonstrated that they were not suitable for screening analysis. The background documentation for this final rule elaborates upon those decisions.

B. Dioxin

Although, the proposed Appendix IX contained polychlorinated dibenzo-p-dioxins, the proposed rulemaking questioned whether requiring the analysis of these dioxins presents a human health or environmental risk in itself. Several of the comments EPA received during the public comment period agreed that requiring these analyses did pose a threat to human health or the environment. However, none of the commentors supplied any new data concerning this issue. Therefore, given that dioxin analyses are currently performed in a number of laboratories with seemingly little adverse effects, and that numerous other highly toxic chemicals are commonly worked within laboratories, the Agency has concluded that requiring dioxin analysis probably does not constitute a significant envronmental hazard in itself. Therefore, since it is feasible to analyze for these dioxins in ground water, they remain on Appendix IX. It should also be noted that many commentors thought that dioxins should not be on Appendix IX because they are rarely, if ever, found in ground water.

C. Ground-Water Chemistry

In the July 24, 1986 proposal, EPA discussed the presence of some constituents on the proposed Appendix IX that were generally non-toxic. These chemical species were either derived from Appendix VIII (e.g., sodium from sodium cyanide) or were part of the Superfund additions. The Agency proposed to include these species on Appendix IX because their analyses provides information on ground-water chemistry and movement. Many commentors argued that such constituents should not be included on Appendix IX if they do not pose a significant hazard. The Agency agrees with these commentors on this issue and has deleted these constituents from Appendix IX. The following table contains those constituents that, while not part of Appendix IX, are valuable for the characterization of subsurface environmental chemistry. It is important to note that while these constituents are unlikely to pose a significant hazard in themselves, the Regional Administrator does have the authority to require monitoring for them on a case-by-case basis if such analyses are necessary to protect human health and the environment (see "Discretionary Additions", below).

TABLE I

Aluminum	Fluoride	Potassium
Bicarbonate/ Carbonate.	Hydrogen Ion (pH).	Silica
Boron	Iron	Sodium
Calcium	Magnesium	Strontium
Chloride	Manganese	Sulfate
	Nitrate	

The constituents in Table I are provided to aid in the evaluation of ground-water quality beneath a hazardous waste facility. Two important reasons for evaluating ground-water quality are: (1) to detect changes in the geochemistry at the facility and (2) to understand the local ground-water chemical environment.

Significant changes from the natural concentration of Table I constituents may indicate the escape of contaminants from the facility. Ground water is frequently classified by the relative abundance of dominant ions (Na^+, Mg^{2+}, Ca^{2+}, Cl^-, HCO_3^-, CO_3^{2-}, SO_4^{2-}, and K^+). Concentrations that differ significantly from normal concentrations in the aquifer can signal chemical equilibrium shifts brought about by the interaction of contaminants and natural constituents. Such interaction may also generate new compounds. In some instances, the detection of concentration changes of the more mobile ions (e.g., Cl^-) may suggest that less mobile contaminants have entered the aquifer closer to the regulated unit. Concentration changes in other Table 1 constituents, such as nitrate, may be controlled by biochemical processes acting on subsurface contaminants.

The local ground-water chemistry may affect contaminant transport by modifying both the solubility of the Appendix IX constituents and the relevant concentration gradients. The solubility of a particular constituent is influenced by several parameters: temperature, pressure, pH, oxidation-reduction potential (Eh), and the concentration of other constituents. Iron and magnesium, which naturally occur in ground-waters, may cause otherwise low mobility organic substances to move more freely. The bicarbonate/carbonate system frequently regulates the pH of ground-water, and thus the solubility of contaminants.

Chemical concentration gradients, which may be determined partly by natural chemistry, become more important when ground-water velocities are low. The dispersion of contaminants in directions transverse to the ground-water flow path may be governed by prevailing concentration gradients.

D. Discretionary Additions

EPA currently has the authority under 40 CFR 270.32(b)(2) and Section 3005(c)(3) of RCRA as amended in 1984, to require the analysis of chemicals outside Appendix IX where necessary to protect human health and the environment. In the July 24, 1986 proposal, an option to make the authority explicit in the Part 264 regulations was noted for public comment. A number of commentors expressed the opinion that site-specific additions to Appendix IX were acceptable if a suitable analytical method existed. The few commentors that directly addressed the issue of explicit authority were almost equally divided in their opinion on whether or not the authority should be made more explicit. EPA has decided that the above authorities for site-specific analyses are sufficient at this time to require additional analyses of chemicals outside of Appendix IX.

E. Ordering of Appendix IX

The proposed Appendix IX was alphabetically ordered by systematic name. The Agency solicited comment on how the final list should be ordered. Of those organizations that commented on this issue, half desired ordering by systematic name, and half by common name. EPA has decided to order the list by alphabetic common name, in keeping with the form often used in other Agency lists. Appendix IX also contains the Chemical Abstract Service registry number and the Chemical Abstract Service index name.

F. Representatives of Categories

In making the transition from Appendix VIII of Part 261 to Appendix IX of Part 264, EPA selected specific chemicals for inclusion on Appendix IX to replace the listings of categories of Appendix VIII. While few commentors addressed the listing of the specific chemical for this reason, in general, the comments EPA received were quite supportive of the Agency's decision on this issue. EPA stands by this earlier decision. The final Appendix IX contains a number of chemicals that, while not specifically included on Appendix VIII, are members of categories that are contained on that list.

V. Analytical Methods

The fundamental concern of EPA in the formulation of Appendix IX was that all the constituents on the list be readily amenable to EPA's standard analytical methods for screening, i.e., methods that determine whether hazardous

constituents are present in ground-water samples containing unknown amounts of unidentified chemicals. With this rule, EPA believes this goal has been met. In order to facilitate the analysis of these compounds, the Agency has included two additional columns in the regulatory list besides those columns that identify the constituent of concern. The fourth column contains some suggested methods from "Testing Methods for Evaluating Solid Waste" (SW–846). SW–846 is the general RCRA analytical methods manual that is currently in its third edition. It is important to note that some of the methods described in SW–846 are less appropriate for screening and are better suited to routine monitoring where the analyst is fairly sure which chemicals are present. Copies of the manual (order #:955–001–00000–1) are available from the U.S. Government Printing Office, Superintendent of Documents, Washington, DC 20402, (202) 783–3238. The list of suggested SW–846 methods is not part of the regulation; EPA does not require the use of these methods for Appendix IX analyses. The Agency believes that these methods will provide acceptable analytical results.

The fifth column in Appendix IX contains estimates of a practical quantitation limit for the particular constituent by a method. The "practical quantification limit" (pql) is defined in SW–846. These pql's are EPA's current best estimate of the practical sensitivity of the applicable method for RCRA ground-water monitoring purposes. It should be noted that some listed pql values may be unattainable in some situations since they were based on general estimates for the method and not on data for the specific substance. Again, this column is included for guidance purposes and is not a regulatory requirement. In some cases, due to site and sample specific factors, these limits may not be reached. However, if a laboratory finds that it has large deviations from these limits, attempts should be made to identify the causes for these discrepancies.

It should be noted that the Suggested Methods column does not contain all applicable SW–846 methods. In some circumstances, other SW–846 methods may be preferred. Where more than one method is listed, the method with the lowest pql is usually to be preferred. Alternatively, in some cases it is possible to modify a method to achieve the lowest pql for the analyte.

Because of the ongoing nature of analytical methods development, not all of the chemicals on Appendix IX are specifically addressed in SW–846. However, the Agency plans to rectify this situation in future updates to SW–846. Until that time, the fourth and fifth columns of Appendix IX should assist laboratories in performing the necessary analyses.

A background document for this rulemaking may also be of help to laboratories. The document, "Summary of Appropriate Methods for Appendix IX" lists those method(s) which are appropriate for each Appendix IX constituent, and references the applicable sections SW–846 or one of several methods development documents, as well as supplying some basic analytical data (e.g., retention time). This document is available in the docket for this rulemaking.

VI. Nature of List

EPA wishes to make it clear that Appendix IX, like other analyte lists, is a "living" list. That is, Appendix IX is likely to change over time. With the development and standardization of new technologies and methods, Appendix IX will likely require revision. Moreover, the basis for Appendix IX to Part 264 is Appendix VIII to Part 261. Changes to Appendix VIII may require modifications to Appendix IX. EPA is open, at anytime, to new data and information that may affect these decisions.

With this rule EPA completes the first phase of a two phase effort. While Appendix IX essentially solves the problem of requiring monitoring for only those constituents for which it is possible to analyze, it does not address the question of what are the most appropriate analytes for this purpose. This question will be dealt with in future rulemakings.

VII. State Authority

A. Applicability of Rules in Authorized States

Under Section 3006 of RCRA, EPA may authorize qualified States to administer and enforce the RCRA program within the State. (See 40 CFR Part 271 for the standards and requirements for authorization.) Following authorization, the Agency retains enforcement authority under Sections 3008, 7003 and 3013 of RCRA, although authorized States have primary enforcement responsibility.

Prior to the Hazardous and Solid Waste Amendments of 1984 (HSWA), a State with final authorization administered its hazardous waste program entirely in lieu of the Federal program. The Federal requirements no longer applied in the authorized State, and the Agency could not issue permits for any facilities in a State where the State was authorized to permit. When new, more stringent Federal requirements were promulgated or enacted, the State was obligated to enact equivalent authority within specified time frames. New federal requirements did not take effect in an authorized State until the State adopted the requirements as State law.

In contrast, under Section 3006(g) of RCRA, 42 U.S.C. 6926(g), new requirements and prohibitions imposed by HSWA take effect in authorized States at the same time that they take effect in nonauthorized States. The Agency is directed to carry out those requirements and prohibitions in authorized States, including the issuance of permits, until the State is granted authorization to do so. While States must still adopt HSWA-related provisions as State law to retain final authorization, the HSWA applies in authorized States in the interim.

B. Effect on State Authorization

Today's rule promulgates standards that are not effective in authorized States since the requirements are not being imposed pursuant to Hazardous and Solid Waste Amendments of 1984. Thus, the requirements will be applicable only in those States that do not have final authorization. In authorized States, the requirements will not be applicable until the State revises its program to adopt equivalent requirements under State law. Since states may always impose requirements which are more stringent or have greater coverage then EPA's programs, States will not be required to revise their regulations to reflect the deletions of constituents from the current monitoring requirements, although they may choose to do so. Regulations which are broader in scope, however, may not be enforced as part of the Federally-authorized RCRA program.

40 CFR 271.21(e)(2) requires States that have final authorization to modify their programs to reflect Federal program changes, and to subsequently submit the modification to EPA for approval. The deadline by which the State must modify its program to adopt today's rule is July 1988. These deadlines can be extended in exceptional cases (40 CFR 271.21(e)(3)). Once EPA approves the revision, the State requirements become Subtitle C RCRA requirements.

States with authorized RCRA programs may already have requirements similar to those in today's rule. These State requirements have not been assessed against the Federal

regulations being promulgated today to determine whether they meet the tests for authorization. Thus, a State is not authorized to carry out these requirements in lieu of the Agency until the State requirements are approved. Of course, States with existing standards may continue to administer and enforce their standards as a matter of State law.

States that submit official applications for final authorization less than 12 months after the effective date of these standards are not required to include standards equivalent to these standards in their application. However, the State must modify its program by the deadlines set forth in §271.21(e). States that submit official applications for final authorization 12 months after the effective date of those standards must include standards equivalent to these standards in their application. 40 CFR 271.3 sets forth the requirements a State must meet when submitting its final authorization application.

VIII. Effective Date

Pursuant to Section 3010(b) of RCRA, today's amendments will be effective six months after promulgation.

IX. Executive Order No. 12291 and Regulatory Impact Analysis

Under Executive Order 12291, the Agency must judge whether a regulation is "major" and, therefore, subject to the requirement of a Regulatory Impact Analysis. As stated in the proposed rule on July 24, 1986, the Agency does not believe these conforming changes will result in an annual effect on the economy of $100 million or more; a major increase in costs of prices of consumers, individual industries, Federal, State, or local government agencies, or geographic regions; or significant adverse effects on competition, employment, investment, productivity, innovation, or in domestic or export markets. The Agency believes that today's rule is not a major rule under Executive Order 12291 and therefore, has not prepared a Regulatory Impact Analysis (RIA). This regulation was submitted to the Office of Management and Budget for review as required by Executive Order 12291.

X. Regulatory Flexibility Act

Under the Regulatory Flexibility Act, (5 U.S.C. 601 et seq.), the Agency must prepare a regulatory flexibility analysis for all regulations that may have a significant impact on a substantial number of small entities. The Agency conducted such an analysis on the land disposal regulations and published a summary of the results in the **Federal Register**, Vol. 48, No. 15 on January 21, 1983. Today's conforming regulation does not impose significant additional burdens. In addition, they do not impose any requirements beyond those required for permitting facilities under Part 264. Therefore, pursuant to 5 U.S.C. 601(b), I certify that this regulation will not have a significant economic impact on a substantial number of small entities.

XI. Supporting Documents

The docket (see "Addresses") for this rulemaking contains the new data EPA received concerning the analytical feasibility of these compounds since the time the proposed rule was published in the **Federal Register.** The docket also contains a chemical-by-chemical summary of any compounds that were re-examined since the time of the proposal, as well as a report of the aforementioned December 11, 1986 meeting of analytical experts. The background document "Summary of Appropriate Methods for Appendix IX" (see "Analytical Methods") is also available in the docket.

XII. Lists of Subjects in 40 CFR Parts 264 and 270

Hazardous materials, Reporting and Recordkeeping Requirements, Waste Treatment and Disposal, and Water Supply, Administrative Practice and Procedure, Ground Water, Environmental Monitoring.

Dated: June 19, 1987.

Lee M. Thomas,

Administrator.

For the reasons set out in the preamble, Title 40 of the Code of Federal Regulations is amended as follows:

PART 264—AMENDED

1. The authority citation for Part 264 is revised to read as follows:

Authority: Secs. 1006, 2002(a), 3001, 3004, and 3005 of the Solid Waste Disposal Act, as amended, 42 U.S.C. 6905, 6912(a), 6924 and 6925.

2. Section 264.98 is amended by revising paragraphs (h)(2), (h)(3) introductory text and (h)(4)(i) introductory text to read as follows:

§ 264.98 Detection monitoring program.

* * * * *

(h) * * *

(2) Immediately sample the ground water in all monitoring wells and determine whether constituents identified in the list in Appendix IX of Part 264 are present and, if so, at what concentration.

* * * * *

(3) Establish a background value for each constituent that has been found at the compliance point under paragraph (h)(2) of this section, as follows:

* * * * *

(4) * * *

(i) An identification of the concentration of each constituent found in the ground water at each monitoring well at the compliance point:

* * * * *

3. Section 264.99 is amended by revising paragraph (f) to read as follows:

§ 264.99 Compliance monitoring program.

* * * * *

(f) The owner or operator must analyze samples from all monitoring wells at the compliance point to determine whether constituents identified in the list in Appendix IX to Part 264 of this chapter are present and, if so, at what concentration. The analysis must be conducted at least annually to determine whether additional Appendix IX constituents are present in the uppermost aquifer. If the owner or operator finds constituents from Appendix IX in the ground water that are not already identified in the permit as monitoring constituents, the owner or operator must report the concentration of these additional constituents to the Regional Administrator within seven days after completion of the analysis.

* * * * *

Appendix VII and VIII [Reserved]

4. A new Appendix VII and Appendix VIII are added to Part 264 and reserved as follows:

Appendix VII (reserved)
Appendix VIII (reserved)

5. A new Appendix IX is added to Part 264 as follows:

APPENDIX IX—GROUND-WATER MONITORING LIST [1]

Common name [2]	CAS RN [3]	Chemical abstracts service index name [4]	Suggested methods [5]	PQL (μg/L) [6]
Acenaphthene	83-32-9	Acenaphthylene, 1,2-dihydro-	8100	200
			8270	10
Acenaphthylene	208-96-8	Acenaphthylene	8100	200
			8270	10
Acetone	67-64-1	2-Propanone	8240	100
Acetophenone	98-86-2	Ethanone, 1-phenyl-	8270	10
Acetonitrile; Methyl cyanide	75-05-8	Acetonitrile	8015	100
2-Acetylaminofluorene; 2-AAF	53-96-3	Acetamide, N-9H-fluoren-2-yl-	8270	10
Acrolein	107-02-8	2-Propenal	8030	5
			8240	5
Acrylonitrile	107-13-1	2-Propenenitrile	8030	5
			8240	5
Aldrin	309-00-2	1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro- (1α,4α,4aβ,5α,8α,8aβ)-	8080	0.05
			8270	10
Allyl chloride	107-05-1	1-Propene, 3-chloro-	8010	5
			8240	100
4-Aminobiphenyl	92-67-1	[1,1'-Biphenyl]-4-amine	8270	10
Aniline	62-53-3	Benzenamine	8270	10
Anthracene	120-12-7	Anthracene	8100	200
			8270	10
Antimony	(Total)	Antimony	6010	300
			7040	2,000
			7041	30
Aramite	140-57-8	Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester	8270	10
Arsenic	(Total)	Arsenic	6010	500
			7060	10
			7061	20
Barium	(Total)	Barium	6010	20
			7080	1,000
Benzene	71-43-2	Benzene	8020	2
			8240	5
Benzo[a]anthracene; Benzanthracene	56-55-3	Benz[a]anthracene	8100	200
			8270	10
Benzo[b]fluoranthene	205-99-2	Benz[e]acephenanthrylene	8100	200
			8270	10
Benzo[k]fluoranthene	207-08-9	Benzo[k]fluoranthene	8100	200
			8270	10
Benzo[ghi]perylene	191-24-2	Benzo[ghi]perylene	8100	200
			8270	10
Benzo[a]pyrene	50-32-8	Benzo[a]pyrene	8100	200
			8270	10
Benzyl alcohol	100-51-6	Benzenemethanol	8270	20
Beryllium	(Total)	Beryllium	6010	3
			7090	50
			7091	2
alpha-BHC	319-84-6	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1α,2α,3β,4α,5β,6β)-	8080	0.05
			8250	10
beta-BHC	319-85-7	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1α,2β,3α,4β,5α,6β)-	8080	0.05
			8250	40
delta-BHC	319-86-8	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1α,2α 3α,4β,5α,6β)-	8080	0.1
			8250	30
gamma-BHC; Lindane	58-89-9	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1α,2α,3β,4α,5α,6β)-	8080	0.05
			8250	10
Bis(2-chloroethoxy)methane	111-91-1	Ethane, 1,1'-[methylenebis (oxy)]bis[2-chloro-	8270	10
Bis(2-chloroethyl)ether	111-44-4	Ethane, 1,1'-oxybis[2-chloro-	8270	10
Bis(2-chloro-1-methylethyl) ether; 2,2'-Dichlorodiisopropyl ether	108-60-1	Propane, 2,2'-oxybis[1-chloro-	8010	100
			8270	10
Bis(2-ethylhexyl) phthalate	117-81-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl)ester	8060	20
			8270	10
Bromodichloromethane	75-27-4	Methane, bromodichloro-	8010	1
			8240	5
Bromoform; Tribromomethane	75-25-2	Methane, tribromo-	8010	2
			8240	5

APPENDIX IX—GROUND-WATER MONITORING LIST [1]—Continued

Common name [2]	CAS RN [3]	Chemical abstracts service index name [4]	Suggested methods [5]	PQL (µg/L) [6]
4-Bromophenyl phenyl ether	101-55-3	Benzene, 1-bromo-4-phenoxy-	8270	10
Butyl benzyl phthalate; Benzyl butyl phthalate	85-68-7	1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester	8060	5
			8270	10
Cadmium	(Total)	Cadmium	6010	40
			7130	50
			7131	1
Carbon disulfide	75-15-0	Carbon disulfide	8240	5
Carbon tetrachloride	56-23-5	Methane, tetrachloro-	8010	1
			8240	5
Chlordane	57-74-9	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-	8080	0.1
			8250	10
p-Chloroaniline	106-47-8	Benzenamine, 4-chloro-	8270	20
Chlorobenzene	108-90-7	Benzene, chloro-	8010	2
			8020	2
			8240	5
Chlorobenzilate	510-15-6	Benzeneacetic acid, 4-chloro-α-(4-chlorophenyl)-α-hydroxy-, ethyl ester	8270	10
p-Chloro-m-cresol	59-50-7	Phenol, 4-chloro-3-methyl-	8040	5
			8270	20
Chloroethane; Ethyl chloride	75-00-3	Ethane, chloro-	8010	5
			8240	10
Chloroform	67-66-3	Methane, trichloro-	8010	0.5
			8240	5
2-Chloronaphthalene	91-58-7	Naphthalene, 2-chloro-	8120	10
			8270	10
2-Chlorophenol	95-57-8	Phenol, 2-chloro-	8040	5
			8270	10
4-Chlorophenyl phenyl ether	7005-72-3	Benzene, 1-chloro-4-phenoxy-	8270	10
Chloroprene	126-99-8	1,3-Butadiene, 2-chloro-	8010	50
			8240	5
Chromium	(Total)	Chromium	6010	70
			7190	500
			7191	10
Chrysene	218-01-9	Chrysene	8100	200
			8270	10
Cobalt	(Total)	Cobalt	6010	70
			7200	500
			7201	10
Copper	(Total)	Copper	6010	60
			7210	200
m-Cresol	108-39-4	Phenol, 3-methyl-	8270	10
o-Cresol	95-48-7	Phenol, 2-methyl-	8270	10
p-Cresol	106-44-5	Phenol, 4-methyl-	8270	10
Cyanide	57-12-5	Cyanide	9010	40
2,4-D; 2,4-Dichlorophenoxyacetic acid	94-75-7	Acetic acid, (2,4-dichlorophenoxy)-	8150	10
4,4'-DDD	72-54-8	Benzene 1,1'-(2,2-dichloroethylidene)bis[4-chloro-	8080	0.1
			8270	10
4,4'-DDE	72-55-9	Benzene 1,1'-(dichloroethylidene)bis[4-chloro-	8080	0.05
			8270	10
4,4'-DDT	50-29-3	Benzene 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro-	8080	0.1
			8270	10
Diallate	2303-16-4	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester	8270	10
Dibenz[a,h]anthracene	53-70-3	Dibenz[a,h]anthracene	8100	200
			8270	10
Dibenzofuran	132-64-9	Dibenzofuran	8270	10
Dibromochloromethane; Chlorodibromomethane	124-48-1	Methane, dibromochloro-	8010	1
			8240	5
1,2-Dibromo-3-chloropropane; DBCP	96-12-8	Propane, 1,2-dibromo-3-chloro-	8010	100
			8240	5
			8270	10
1,2-Dibromoethane; Ethylene dibromide	106-93-4	Ethane, 1,2-dibromo-	8010	10
			8240	5
Di-n-butyl phthalate	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester	8060	5
			8270	10
o-Dichlorobenzene	95-50-1	Benzene, 1,2-dichloro-	8010	2
			8020	5
			8120	10
			8270	10

APPENDIX IX—GROUND-WATER MONITORING LIST [1]—Continued

Common name [2]	CAS RN [3]	Chemical abstracts service index name [4]	Suggested methods [5]	PQL (μg/L) [6]
m-Dichlorobenzene	541-73-1	Benzene, 1,3-dichloro-	8010	5
			8020	5
			8120	10
			8270	10
p-Dichlorobenzene	106-46-7	Benzene, 1,4-dichloro-	8010	2
			8020	5
			8120	15
			8270	10
3,3'-Dichlorobenzidine	91-94-1	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-	8270	20
trans-1,4-Dichloro-2-butene	110-57-6	2-Butene, 1,4-dichloro-, (E)-	8240	5
Dichlorodifluoromethane	75-71-8	Methane, dichlorodifluoro-	8010	10
			8240	5
1,1-Dichloroethane	75-34-3	Ethane, 1,1-dichloro-	8010	1
			8240	5
1,2-Dichloroethane; Ethylene dichloride	107-06-2	Ethane, 1,2-dichloro-	8010	0.5
			8240	5
1,1-Dichloroethylene; Vinylidene chloride	75-35-4	Ethene, 1,1-dichloro-	8010	1
			8240	5
trans-1,2-Dichloroethylene	156-60-5	Ethene, 1,2-dichloro-, (E)-	8010	1
			8240	5
2,4-Dichlorophenol	120-83-2	Phenol, 2,4-dichloro-	8040	5
			8270	10
2,6-Dichlorophenol	87-65-0	Phenol, 2,6-dichloro-	8270	10
1,2-Dichloropropane	78-87-5	Propane, 1,2-dichloro-	8010	0.5
			8240	5
cis-1,3-Dichloropropene	10061-01-5	1-Propene, 1,3-dichloro-, (Z)-	8010	20
			8240	5
trans-1,3-Dichloropropene	10061-02-6	1-Propene, 1,3-dichloro-, (E)-	8010	5
			8240	5
Dieldrin	60-57-1	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aα,2β,2aα,3β,6β,6aα,7β,7aα)-	8080	0.05
			8270	10
Diethyl phthalate	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester	8060	5
			8270	10
O,O-Diethyl O-2-pyrazinyl phosphorothioate; Thionazin	297-97-2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester	8270	10
Dimethoate	60-51-5	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester	8270	10
p-(Dimethylamino)azobenzene	60-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-	8270	10
7,12-Dimethylbenz[a]anthracene	57-97-6	Benz[a]anthracene, 7,12-dimethyl-	8270	10
3,3'-Dimethylbenzidine	119-93-7	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-	8270	10
alpha, alpha-Dimethylphenethylamine	122-09-8	Benzeneethanamine, α,α-dimethyl-	8270	10
2,4-Dimethylphenol	105-67-9	Phenol, 2,4-dimethyl-	8040	5
			8270	10
Dimethyl phthalate	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester	8060	5
			8270	10
m-Dinitrobenzene	99-65-0	Benzene, 1,3-dinitro-	8270	10
4,6-Dinitro-o-cresol	534-52-1	Phenol, 2-methyl-4,6-dinitro-	8040	150
			8270	50
2,4-Dinitrophenol	51-28-5	Phenol, 2,4-dinitro-	8040	150
			8270	50
2,4-Dinitrotoluene	121-14-2	Benzene, 1-methyl-2,4-dinitro-	8090	0.2
			8270	10
2,6-Dinitrotoluene	606-20-2	Benzene, 2-methyl-1,3-dinitro-	8090	0.1
			8270	10
Dinoseb; DNBP; 2-sec-Butyl-4,6-dinitrophenol	88-85-7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-	8150	1
			8270	10
Di-n-octyl phthalate	117-84-0	1,2-Benzenedicarboxylic acid, dioctyl ester	8060	30
			8270	10
1,4-Dioxane	123-91-1	1,4-Dioxane	8015	150
Diphenylamine	122-39-4	Benzenamine, N-phenyl-	8270	10
Disulfoton	298-04-4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)-ethyl]ester S-[2-	8140	2
			8270	10
Endosulfan I	959-98-8	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide, (3α,5aβ,6α,9α,9aβ)-	8080	0.1
			8250	10

APPENDIX IX—GROUND-WATER MONITORING LIST [1]—Continued

Common name [2]	CAS RN [3]	Chemical abstracts service index name [4]	Suggested methods [5]	PQL (μg/L) [6]
Endosulfan II	33213-65-9	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro- 1,5,5a,6,9,9a-hexahydro-, 3-oxide, (3α,5aα,6β,9β,9aα)-	8080	0.05
Endosulfan sulfate	1031-07-8	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro- 1,5,5a,6,9,9a-hexahydro-, 3,3-dioxide.	8080 8270	0.5 10
Endrin	72-20-8	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aα, 2β,2aβ,3α,6α, 6aβ,7β,7aα)-	8080 8250	0.1 10
Endrin aldehyde	7421-93-4	1,2,4-Methenocyclopenta[cd]pentalene-5-carboxaldehyde, 2,2a,3,3,4,7-hexachlorodecahydro-, (1α,2β,2aβ,4β ,4aβ,5β,6aβ,6bβ,7R*)-	8080 8270	0.2 10
Ethylbenzene	100-41-4	Benzene, ethyl-	8020 8240	2 5
Ethyl methacrylate	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester	8015 8240 8270	10 5 10
Ethyl methanesulfonate	62-50-0	Methanesulfonic acid, ethyl ester	8270	10
Famphur	52-85-7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl]-O,O-dimethyl ester	8270	10
Fluoranthene	206-44-0	Fluoranthene	8100 8270	200 10
Fluorene	86-73-7	9H-Fluorene	8100 8270	200 10
Heptachlor	76-44-8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-	8080 8270	0.05 10
Heptachlor epoxide	1024-57-3	2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a,-hexahydro-, (1aα,1bβ,2α,5α ,5aβ,6β,6aα)	8080 8270	1 10
Hexachlorobenzene	118-74-1	Benzene, hexachloro-	8120 8270	0.5 10
Hexachlorobutadiene	87-68-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	8120 8270	5 10
Hexachlorocyclopentadiene	77-47-4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-	8120 8270	5 10
Hexachloroethane	67-72-1	Ethane, hexachloro-	8120 8270	0.5 10
Hexachlorophene	70-30-4	Phenol, 2,2'-methylenebis[3,4,6-trichloro-	8270	10
Hexachloropropene	1888-71-7	1-Propene, 1,1,2,3,3,3-hexachloro-	8270	10
2-Hexanone	591-78-6	2-Hexanone	8240	50
Indeno(1,2,3-cd)pyrene	193-39-5	Indeno[1,2,3-cd]pyrene	8100 8270	200 10
Isobutyl alcohol	78-83-1	1-Propanol, 2-methyl-	8015	50
Isodrin	465-73-6	1,4,5,8-Dimethanonaphthalene,1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a hexahydro-(1α,4α,4aβ,5β,8β,8aβ)-	8270	10
Isophorone	78-59-1	2-Cyclohexen-1-one, 3,5,5-trimethyl-	8090 8270	60 10
Isosafrole	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-	8270	10
Kepone	143-50-0	1,3,4-Metheno-2H-cyclobuta- [cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-	8270	10
Lead	(Total)	Lead	6010 7420 7421	40 1,000 10
Mercury	(Total)	Mercury	7470	2
Methacrylonitrile	126-98-7	2-Propenenitrile, 2-methyl-	8015 8240	5 5
Methapyrilene	91-80-5	1,2,Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-	8270	10
Methoxychlor	72-43-5	Benzene, 1,1'-(2,2,2,trichloroethylidene)bis[4-methoxy-	8080 8270	2 10
Methyl bromide; Bromomethane	74-83-9	Methane, bromo-	8010 8240	20 10
Methyl chloride; Chloromethane	74-87-3	Methane, chloro-	8010 8240	1 10
3-Methylcholanthrene	56-49-5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-	8270	10
Methylene bromide; Dibromomethane	74-95-3	Methane, dibromo-	8010 8240	15 5
Methylene chloride; Dichloromethane	75-09-2	Methane, dichloro-	8010 8240	5 5

APPENDIX IX—GROUND-WATER MONITORING LIST [1]—Continued

Common name [2]	CAS RN [3]	Chemical abstracts service index name [4]	Suggested methods [5]	PQL (µg/L) [6]
Methyl ethyl ketone; MEK	78-93-3	2-Butanone	8015	10
			8240	100
Methyl iodide; Iodomethane	74-88-4	Methane, iodo-	8010	40
			8240	5
Methyl methacrylate	80-62-6	2-Propenoic acid, 2-methyl-, methyl ester	8015	2
			8240	5
Methyl methanesulfonate	66-27-3	Methanesulfonic acid, methyl ester	8270	10
2-Methylnaphthalene	91-57-6	Naphthalene, 2-methyl-	8270	10
Methyl parathion; Parathion methyl	298-00-0	Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester	8140	0.5
			8270	10
4-Methyl-2-pentanone; Methyl isobutyl ketone	108-10-1	2-Pentanone, 4-methyl-	8015	5
			8240	50
Naphthalene	91-20-3	Naphthalene	8100	200
			8270	10
1,4-Naphthoquinone	130-15-4	1,4-Naphthalenedione	8270	10
1-Naphthylamine	134-32-7	1-Naphthalenamine	8270	10
2-Naphthylamine	91-59-8	2-Naphthalenamine	8270	10
Nickel	(Total)	Nickel	6010	50
			7520	400
o-Nitroaniline	88-74-4	Benzenamine, 2-nitro-	8270	50
m-Nitroaniline	99-09-2	Benzenamine, 3-nitro-	8270	50
p-Nitroaniline	100-01-6	Benzenamine, 4-nitro-	8270	50
Nitrobenzene	98-95-3	Benzene, nitro-	8090	40
			8270	10
o-Nitrophenol	88-75-5	Phenol, 2-nitro-	8040	5
			8270	10
p-Nitrophenol	100-02-7	Phenol, 4-nitro-	8040	10
			8270	50
4-Nitroquinoline 1-oxide	56-57-5	Quinoline, 4-nitro-, 1-oxide	8270	10
N-Nitrosodi-n-butylamine	924-16-3	1-Butanamine, N-butyl-N-nitroso-	8270	10
N-Nitrosodiethylamine	55-18-5	Ethanamine, N-ethyl-N-nitroso-	8270	10
N-Nitrosodimethylamine	62-75-9	Methanamine, N-methyl-N-nitroso-	8270	10
N-Nitrosodiphenylamine	86-30-6	Benzenamine, N-nitroso-N-phenyl-	8270	10
N-Nitrosodipropylamine; Di-n-propylnitrosamine	621-64-7	1-Propanamine, N-nitroso-N-propyl-	8270	10
N-Nitrosomethylethylamine	10595-95-6	Ethanamine, N-methyl-N-nitroso-	8270	10
N-Nitrosomorpholine	59-89-2	Morpholine, 4-nitroso-	8270	10
N-Nitrosopiperidine	100-75-4	Piperidine, 1-nitroso-	8270	10
N-Nitrosopyrrolidine	930-55-2	Pyrrolidine, 1-nitroso-	8270	10
5-Nitro-o-toluidine	99-55-8	Benzenamine, 2-methyl-5-nitro-	8270	10
Parathion	56-38-2	Phosphorothioic acid, O,O-diethyl-O-(4-nitrophenyl) ester	8270	10
Polychlorinated biphenyls; PCBs	See Note 7	1,1'-Biphenyl, chloro derivatives	8080	50
			8250	100
Polychlorinated dibenzo-p-dioxins; PCDDs	See Note 8	Dibenzo[b,e][1,4]dioxin, chloro derivatives	8280	0.01
Polychlorinated dibenzofurans; PCDFs	See Note 9	Dibenzofuran, chloro derivatives	8280	0.01
Pentachlorobenzene	608-93-5	Benzene, pentachloro-	8270	10
Pentachloroethane	76-01-7	Ethane, pentachloro-	8240	5
			8270	10
Pentachloronitrobenzene	82-68-8	Benzene, pentachloronitro-	8270	10
Pentachlorophenol	87-86-5	Phenol, pentachloro-	8040	5
			8270	50
Phenacetin	62-44-2	Acetamide, N-(4-ethoxyphenyl)	8270	10
Phenanthrene	85-01-8	Phenanthrene	8100	200
			8270	10
Phenol	108-95-2	Phenol	8040	1
			8270	10
p-Phenylenediamine	106-50-3	1,4-Benzenediamine	8270	10
Phorate	298-02-2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester	8140	2
			8270	10
2-Picoline	109-06-8	Pyridine, 2-methyl-	8240	5
			8270	10
Pronamide	23950-58-5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-	8270	10
Propionitrile; Ethyl cyanide	107-12-0	Propanenitrile	8015	60
			8240	5
Pyrene	129-00-0	Pyrene	8100	200
			8270	10
Pyridine	110-86-1	Pyridine	8240	5
			8270	10

APPENDIX IX—GROUND-WATER MONITORING LIST [1]—Continued

Common name [2]	CAS RN [3]	Chemical abstracts service index name [4]	Suggested methods [5]	PQL (µg/L) [6]
Safrole	94-59-7	1,3-Benzodioxole, 5-(2-propenyl)-	8270	10
Selenium	(Total)	Selenium	6010	750
			7740	20
			7741	20
Silver	(Total)	Silver	6010	70
			7760	100
Silvex; 2,4,5-TP	93-72-1	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-	8150	2
Styrene	100-42-5	Benzene, ethenyl-	8020	1
			8240	5
Sulfide	18496-25-8	Sulfide	9030	10,000
2,4,5-T; 2,4,5-Trichlorophenoxyacetic acid	93-76-5	Acetic acid, (2,4,5-trichlorophenoxy)-	8150	2
2,3,7,8-TCDD; 2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	Dibenzo[b,e][1,4]dioxin, 2,3,7,8-tetrachloro-	8280	0.005
1,2,4,5-Tetrachlorobenzene	95-94-3	Benzene, 1,2,4,5-tetrachloro-	8270	10
1,1,1,2-Tetrachloroethane	630-20-6	Ethane, 1,1,1,2-tetrachloro-	8010	5
			8240	5
1,1,2,2-Tetrachloroethane	79-34-5	Ethane, 1,1,2,2-tetrachloro-	8010	0.5
			8240	5
Tetrachloroethylene; Perchloroethylene; Tetrachloroethene	127-18-4	Ethene, tetrachloro-	8010	0.5
			8240	5
2,3,4,6-Tetrachlorophenol	58-90-2	Phenol, 2,3,4,6-tetrachloro-	8270	10
Tetraethyl dithiopyrophosphate; Sulfotepp	3689-24-5	Thiodiphosphoric acid ([(HO)$_2$P(S)]$_2$O), tetraethyl ester	8270	10
Thallium	(Total)	Thallium	6010	400
			7840	1,000
			7841	10
Tin	(Total)	Tin	7870	8,000
Toluene	108-88-3	Benzene, methyl-	8020	2
			8240	5
o-Toluidine	95-53-4	Benzenamine, 2-methyl-	8270	10
Toxaphene	8001-35-2	Toxaphene	8080	2
			8250	10
1,2,4-Trichlorobenzene	120-82-1	Benzene, 1,2,4-trichloro-	8270	10
1,1,1-Trichloroethane; Methylchloroform	71-55-6	Ethane, 1,1,1-trichloro-	8240	5
1,1,2-Trichloroethane	79-00-5	Ethane, 1,1,2-trichloro-	8010	0.2
			8240	5
Trichloroethylene; Trichloroethene	79-01-6	Ethene, trichloro-	8010	1
			8240	5
Trichlorofluoromethane	75-69-4	Methane, trichlorofluoro-	8010	10
			8240	5
2,4,5-Trichlorophenol	95-95-4	Phenol, 2,4,5-trichloro-	8270	10
2,4,6-Trichlorophenol	88-06-2	Phenol, 2,4,6-trichloro-	8040	5
			8270	10
1,2,3-Trichloropropane	96-18-4	Propane, 1,2,3-trichloro-	8010	10
			8240	5
O,O,O-Triethyl phosphorothioate	126-68-1	Phosphorothioic acid, O,O,O-triethyl ester	8270	10
sym-Trinitrobenzene	99-35-4	Benzene, 1,3,5-trinitro-	8270	10
Vanadium	(Total)	Vanadium	6010	80
			7910	2,000
			7911	40
Vinyl acetate	108-05-4	Acetic acid, ethenyl ester	8240	5
Vinyl chloride	75-01-4	Ethene, chloro-	8010	2
			8240	10
Xylene (total)	1330-20-7	Benzene, dimethyl-	8020	5
			8240	5
Zinc	(Total)	Zinc	6010	20
			7950	50

[1] The regulatory requirements pertain only to the list of substances; the right hand columns (Methods and PQL) are given for informational purposes only. See also footnotes 5 and 6.

[2] Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

[3] Chemical Abstracts Service registry number. Where "Total" is entered, all species in the ground water that contain this element are included.

[4] CAS index names are those used in the 9th Cumulative Index.

[5] Suggested Methods refer to analytical procedure numbers used in EPA Report SW-846 "Test Methods for Evaluating Solid Waste", third edition, November 1986. Analytical details can be found in SW-846 and in documentation on file at the agency. CAUTION: The methods listed are representative SW-846 procedures and may not always be the most suitable method(s) for monitoring an analyte under the regulations.

[6] Practical Quantitation Limits (PQLs) are the lowest concentrations of analytes in ground waters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions. The PQLs listed are generally

stated to one significant figure. CAUTION: The PQL values in many cases are based only on a general estimate for the method and not on a determination for individual compounds; PQLs are not a part of the regulation.

[7] Polychlorinated biphenyls (CAS RN 1336-36-3); this category contains congener chemicals, including constituents of Aroclor-1016 (CAS RN 12674-11-2), Aroclor-1221 (CAS RN 11104-28-2), Aroclor-1232 (CAS RN 11141-16-5), Aroclor-1242 (CAS RN 53469-21-9), Aroclor-1248 (CAS RN 12672-29-6), Aroclor-1254 (CAS RN 11097-69-1), and Aroclor-1260 (CAS RN 11096-82-5). The PQL shown is an average value for PCB congeners.

[8] This category contains congener chemicals, including tetrachlorodibenzo-p-dioxins (see also 2,3,7,8-TCDD), pentachlorodibenzo-p-dioxins, and hexachlorodibenzo-p-dioxins. The PQL shown is an average value for PCDD congeners.

[9] This category contains congener chemicals, including tetrachlorodibenzofurans, pentachlorodibenzofurans, and hexachlorodibenzofurans. The PQL shown is an average value for PCDF congeners.

PART 270—AMENDED

1. The authority citation for Part 270 is revised to read as follows:

Authority: Secs. 1006, 2002(a), 3001, 3004, and 3005, of the Solid Waste Disposal Act, as amended, 42 U.S.C. 6905, 6912(a), 6924 and 6925.

2. Section 270.14 is amended by revising paragraph (c)(4)(ii) to read as follows:

§ 270.14 Contents of Part B: general requirements.

* * * * *

(c) * * *

(4) * * *

(ii) Identifies the concentration of each Appendix IX, of Part 264 of this chapter, constituent throughout the plume or identifies the maximum concentrations of each Appendix IX constituent in the plume.

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