

SUPPLEMENTAL MCP AMENDMENTS

“Clean” Version* of Amendments to the
Massachusetts Contingency Plan, 310 CMR 40.0000

*The “Clean” Version includes text changes and changes to
the Numerical Standards (at 310 CMR 40.0900) and the Massachusetts Oil and
Hazardous Material List (at 310 CMR 40.1600).

Amendments to the Massachusetts Contingency Plan, 310 CMR 40.0000

Note to Secretary of State Regulations Division: *this “clean” version incorporates the amendments into the relevant provisions of the current regulations. The “...” notation indicates that existing text, either before or after, is not amended. Also note, bold bracketed placeholders indicate where the amendment publication date or effective date are to be inserted. The “clean” version includes text changes and changes to the Numerical Standards (at 310 CMR 40.0900) and the Massachusetts Oil and Hazardous Material List (MOHML) (at 310 CMR 40.1600).*

40.0005: Effective Dates

(1) 310 CMR 40.0000, as published on January 13, 1995, shall take effect on February 1, 1995, except for 310 CMR 40.0180 which shall take effect on February 24, 1995. 310 CMR 40.0000, as effective prior to February 1, 1995, became effective on October 1, 1993, except for 310 CMR 40.0168 and 310 CMR 40.0600, which became effective on August 2, 1993.

(2) Except as provided by 310 CMR 40.0600, response actions which were approved by the Department:

(a) prior to July 20, 1992, and on or after October 3, 1988, shall be completed in a manner consistent with such approval and in accordance with 310 CMR 40.000, as effective prior to October 1, 1993, and M.G.L. c. 21E, as amended prior to July 20, 1992, and

(b) prior to October 1, 1993, and on or after July 20, 1992, shall be completed in a manner consistent with such approval and in accordance with 310 CMR 40.000, as effective prior to October 1, 1993, and M.G.L. c. 21E, as amended on July 20, 1992. 310 CMR 40.000 became effective on October 3, 1988, with the exception of 310 CMR 40.300 through 310 CMR 40.379 which became effective on August 31, 1988.

Copies of 310 CMR 40.000, as effective prior to October 1, 1993 (*i.e.* the 1988 Massachusetts Contingency Plan), may be obtained upon request from the Department for a nominal fee.

(3) Except as provided by 310 CMR 40.0600, response actions which were approved by the Department prior to October 3, 1988, shall be completed in a manner consistent with such approval and M.G.L. c. 21E, as amended prior to July 20, 1992.

(4) 310 CMR 40.0000 as published May 30, 1997, shall take effect May 30, 1997.

(5) 310 CMR 40.0000 as published March 24, 2006 shall take effect April 3, 2006, except as provided in 310 CMR 40.0027 regarding the electronic submittal of Remedial Monitoring Reports.

(6) 310 CMR 40.0000 as published [insert date of SOS Supplemental Amendments publication date] shall take effect [insert effective date two months from publication date], except for 310 CMR 40.0570 which shall take effect on [insert date of SOS Supplemental Amendments publication date].

40.0006: Terminology, Definitions and Acronyms

...

(12) For purposes of 310 CMR 40.0000, the following words and phrases shall have the following meanings unless the context clearly indicates otherwise:

...

Pilot Test means a test designed to acquire information on the anticipated performance of a remedial system. A Pilot Test shall be considered assessment if it is conducted and completed within 21 consecutive days, excluding time required for sample analyses, and involves only soil vapor, Nonaqueous Phase Liquid and/or groundwater extraction, otherwise it shall be considered remediation.

...

40.0008: Computation of Time Periods and Deadlines

(1) General. Unless otherwise specifically provided by law, 310 CMR 40.0000 or any order or determination issued pursuant to M.G.L. c. 21E or 310 CMR 40.0000, any time period or deadline prescribed or referred to in 310 CMR 40.0000 or in any order or determination issued pursuant to M.G.L. c. 21E or 310 CMR 40.0000 shall begin with the first day following the act which initiates the running of the time period, and shall include every calendar day, including the last day of the time period so computed. If the last day is a Saturday, Sunday, legal holiday, or any other day on which the offices of the Department are closed, the time period shall run to the end of the next business day.

...

(4) Determining Date of Receipt of Document Submitted to the Department. Except as provided by 310 CMR 40.0008(5), each document required by, or submitted pursuant to, 310 CMR 40.0000 shall be deemed received by the Department as follows:

- (a) if served in hand, the document shall be deemed to be received on the date when delivered to the appropriate regional office of the Department (*i.e.* the date stamped received), unless the date stamped is rebutted by production of a receipt from the Department; provided, however, that if the date stamped reflects a date within seven days of the date the submittal is due, the submittal shall be deemed to have been received by the due date;
- (b) if given by regular mail, the document shall be deemed to be received when delivered to the appropriate office of the Department (*i.e.* the date stamped received); provided, however, that if the date stamped reflects a date within seven days of the date the submittal is due, the submittal shall be deemed to have been received by the due date;
- (c) if given by certified mail, return receipt requested, the document shall be deemed to be received when delivered to the appropriate office of the Department (*i.e.* the date stamped received), unless the date stamped is rebutted by production of the return receipt; provided, however, that if the date stamped reflects a date within seven days of the date the submittal is due, the submittal shall be deemed to have been received by the due date; or
- (d) if given by electronic transmission, where the Department provides for submitting the document by such means, the document shall be deemed to be received on the date the transmission is delivered to the Department, except as provided in 310 CMR 40.0008(4)(d)1.:
 - 1. if the date the transmission is delivered to the Department is within seven days of the date the submittal is due, the submittal shall be deemed to have been received by the due date;
 - 2. for documents submitted electronically, submission of a printed copy to the Department shall not be required.

(5) Exceptions.

- (a) Adjudicatory Proceedings. Documents required or permitted to be filed under 310 CMR 1.00: *Adjudicatory Proceedings*, and 310 CMR 5.00: *Administrative Penalty*, shall be filed in accordance with the rules for timely filing set forth therein.
- (b) Tier I Permits.
 - 1. The computation of time periods for timely action under 310 CMR 4.04(2) shall be determined in accordance with 310 CMR 40.0720(3).
 - 2. A Tier I Permit Application shall be deemed received by the Department in accordance with 310 CMR 40.0008(4), provided:
 - a. that for applications submitted electronically, the permit application fee has been paid by electronic transmittal; or
 - b. a copy of the permit application fee remittance is attached to the application and the applicant certifies that the application fee has been mailed, or hand-delivered to the Department, concurrent with submittal of the application. If a copy of the permit application fee remittance is not attached to the

application, or the certification of mailing or hand-delivery is not provided, the application shall be deemed received when the permit application fee is received (i.e. the date posted by the receiving bank).

(c) Interim Deadlines and Notices of Noncompliance. For purposes of determining whether a person has complied with an Interim Deadline or come into compliance with a requirement by the date specified in a Notice of Noncompliance, each document required to be submitted shall be deemed received by the Department as follows:

1. if served in hand, the document shall be deemed to be received on the date when delivered to the appropriate office of the Department (*i.e.* the date stamped received), unless the date stamped is rebutted by production of a receipt from the Department;
2. if given by regular mail, the document shall be deemed to be received on the date when delivered to the appropriate office of the Department (*i.e.* the date stamped received);
3. if given by certified mail, return receipt requested, the document shall be deemed to be received when delivered to the appropriate office of the Department (*i.e.* the date stamped received), unless the date stamped is rebutted by production of the return receipt; or
4. if given by electronic transmission, the document shall be deemed to be received on the date the transmission is delivered to the Department.

(d) Presumptive Approval of IRAs. Each written request for approval of an IRA shall be given to the Department by electronic transmittal, certified mail, return receipt requested, or served in hand. Each such submittal shall be deemed received by the Department as follows:

1. if served in hand, the document shall be deemed to be received on the date when delivered to the appropriate office of the Department (*i.e.* the date stamped received), unless the date stamped is rebutted by production of a receipt from the Department;
2. if given by certified mail, return receipt requested, the document shall be deemed to be received when delivered to the appropriate office of the Department (*i.e.* the date stamped received), unless the date stamped is rebutted by production of the return receipt; or
3. if given by electronic transmission, the document shall be deemed to be received on the date the transmission is delivered to the Department.

(e) Notification of Releases, Threats of Release and Imminent Hazards. Each notification required by 310 CMR 40.0300 shall be given to the Department (*i.e.* received) as follows:

1. if given orally, the notification shall be deemed to be received on the date and at the time when communicated in person or by telephone;
2. if given in writing and served in hand, the notification shall be deemed to be received on the date when delivered to the appropriate office of the Department (*i.e.* the date stamped

received), unless the date stamped is rebutted by production of a receipt from the Department;

3. if given in writing by regular mail, the notification shall be deemed to be received on the date when delivered to the appropriate office of the Department (*i.e.* the date stamped received);

4. if given in writing by certified mail, return receipt requested, the notification shall be deemed to be received on the date when delivered to the appropriate office of the Department (*i.e.* the date stamped received), unless the date stamped is rebutted by production of the return receipt; or

5. if given by electronic transmission, the notification shall be deemed to be received on the date the transmission is delivered to the Department.

40.0015: Content of Waste Site Cleanup Activity Opinions

(1) Each and every LSP Opinion submitted to the Department pursuant to M.G.L. c. 21E or 310 CMR 40.0000 shall bear the signature and seal of the LSP who rendered the LSP Opinion and the date on which the LSP Opinion was rendered.

...

(6) No provision in 310 CMR 40.0000 shall be construed to require that an LSP render a conclusion as to whether a person performing a response action has complied with a deadline or time period for the rendering of an LSP Opinion established by, or pursuant to, 310 CMR 40.0000.

(7) Electronic Submittal of Waste Site Cleanup Activity Opinions.

(a) On or after January 1, 2009, all LSP Opinions shall be submitted to the Department electronically on a form established by the Department for such purposes.

(b) The date of receipt of LSP Opinions by the Department shall be determined as specified in 310 CMR 40.0008(4).

(c) For LSP Opinions submitted electronically, submission of a printed copy to the Department shall not be required.

40.0027: Remedial Monitoring Report

(1) For a disposal site for which the requirement to submit Remedial Monitoring Reports applies as of April 3, 2006, the first Remedial Monitoring Report shall be submitted:

(a) on the monthly anniversary of the submittal of the first Status Report for the remedial action when the remedial action is addressing an Imminent Hazard or Condition of Substantial Release Migration; or

(b) concurrently with the submittal of the next Status Report for the remedial action when the remedial action is addressing conditions that do not pose an Imminent Hazard or Condition of Substantial Release Migration.

(2) Except as provided at 310 CMR 40.0027(3), a Remedial Monitoring Report shall document all monitoring and operational information relevant to the Active Operation and Maintenance of an Active Remedial System or Active Remedial Monitoring Program during the reporting period and since the submittal of any previous Remedial Monitoring Report. Such information includes, as applicable:

- (a) operating status of Active Remedial Systems, including any system shutdown and the date/duration of shutdown;
- (b) date(s) and number of monitoring events;
- (c) effluent concentrations;
- (d) identification of any discharges above permissible discharge concentrations;
- (e) recovery rates and/or volumes;
- (f) discharge volumes;
- (g) date, location, type, and volume of Remedial Additives applications;
- (h) groundwater data; and/or
- (i) related maps, graphs or diagrams;

(3) Remedial Monitoring Reports shall not be required for Active Operation and Maintenance of an Active Remedial System or Active Remedial Monitoring Program that is limited to window fans deployed to vent vapors within a building. Information related to the operation of such window fans shall be included in the next applicable Status Report.

(4) Prior to April 3, 2007, Remedial Monitoring Reports may be submitted to the Department either electronically or as a printed copy.

(5) The date of receipt of a Remedial Monitoring Report by the Department shall be determined as specified in 310 CMR 40.0008(4).

(6) For Remedial Monitoring Reports submitted electronically, submission of a printed copy to the Department shall not be required.

(7) Effective Date on and after which All Remedial Monitoring Reports Must Be Submitted Electronically. On or after April 3, 2007, all Remedial Monitoring Reports must be submitted to the Department electronically on a form established by the Department for such purposes.

40.0028 Well Maintenance and Security

(1) Any well installed or constructed for the purposes of sampling, monitoring or remediating environmental media or environmental conditions as part of response actions conducted under the MCP shall be maintained and secured throughout its period of service to prevent the introduction of contaminants to the subsurface environment or the exacerbation of groundwater contamination by the vertical movement of water within the borehole or annular space.

40.0046: Application of Remedial Additives

(1) In General. Any person performing response actions at a disposal site in accordance with M.G.L. c. 21E and 310 CMR 40.0000 may apply Remedial Additives to the ground surface or subsurface and/or groundwater, provided such application, and any Remedial Additive By-product:

(a) does not erode or otherwise impair the functioning of the surficial and subsurface soils, infiltrate underground utilities, building interiors or subsurface structures, result in groundwater mounding within two feet of the ground surface, or result in flooding of or breakout to the ground surface;

(b) does not result in concentrations of Remedial Additives and/or Remedial Additive By-products in the soil or groundwater that exceed the Massachusetts Ground Water Quality Standards established by 314 CMR 6.00, or the applicable groundwater or soil standards set forth in 310 CMR 40.0000, at any point measured 50 feet or more downgradient from the furthest downgradient point of application;

(c) does not exacerbate existing conditions, or prevent or impair the performance of remedial actions at the disposal site; and

(d) is otherwise performed in compliance M.G.L. c. 21E and 310 CMR 40.0000.

(2) Relationship to Massachusetts Ground Water Discharge Permit Program. Any person performing response actions at a disposal site in accordance with M.G.L. c. 21E and 310 CMR 40.0000 may apply Remedial Additives to ground surface or subsurface and/or groundwater, without a permit from the Department pursuant to M.G.L. c. 21, § 43, and 314 CMR 5.00, the Massachusetts Ground Water Discharge Permit Program, provided the discharge is exempt from such permitting requirements under 314 CMR 5.05.

(3) Requirement for Applications Near Water Supplies. The application of Remedial Additives within 100 feet of any private water supply well, within 800 feet of any public water supply well or well field, within 800 feet of any surface water supply used in a public water system or any tributary thereto, or within 50 feet of any other surface water body or any tributary thereto, is prohibited, unless approved in writing by the Department.

(4) Requirements for Treatment of Soil and Groundwater. Each person performing response actions at a disposal site pursuant to M.G.L. c. 21E and 310 CMR 40.0000 that include the application of Remedial Additives shall:

(a) prior to the initial application of Remedial Additives, collect soil and/or groundwater samples at the disposal site for analysis in accordance with 310 CMR 40.0017 to document the concentration of oil and hazardous material;

(b) prior to any subsequent application of Remedial Additives, collect and analyze soil and/or groundwater samples at the disposal site in accordance with 310 CMR 40.0017 to document the concentration of oil and hazardous material and/or Remedial Additive By-products, which may be present in soil and/or groundwater from previous application of Remedial Additives; and

(c) after each application of Remedial Additives, monitor the groundwater hydraulically upgradient and downgradient, and where practicable underlying the point of application of the Remedial Additives at regular intervals not to exceed every three months thereafter to detect any migration of oil and/or hazardous material, Remedial Additives and/or Remedial Additive By-products from the disposal site.

(5) Notwithstanding the requirements of 310 CMR 40.0046(4)(b), where the application of Remedial Additives is occurring more than once within a calendar month, sampling prior to any subsequent application may be limited to once monthly.

(6) Each person performing response actions at a disposal site pursuant to M.G.L. c. 21E and 310 CMR 40.0000 that include the application of Remedial Additives, shall after the final application of Remedial Additives at a disposal site, monitor the groundwater at regular intervals for a reasonable period of time to demonstrate compliance with 310 CMR 40.0046(1)(b), unless the concentrations of Remedial Additives applied were below applicable standards set forth in 40.0046(1)(b). For determining a reasonable time period, each person shall consider the types, concentrations, and application methodology of Remedial Additives applied, the presence of Remedial Additive By-products, rate and direction of groundwater movement and flow, and the permeability of the soils at the disposal site.

40.0101: Role of the Department in Response Actions

- (1) The Department may, without limitation:
 - (a) review and evaluate reports of releases or threats of release of oil and/or hazardous material and Imminent Hazards and, when reasonably necessary, perform or arrange for the performance of one or more response actions;
 - (b) collect or oversee the collection of pertinent facts regarding releases or threats of release of oil and/or hazardous material;
 - (c) require persons undertaking response actions to collect pertinent facts regarding releases or threats of release of oil and/or hazardous material;
 - (d) perform or arrange for performance of response actions by the Department, and/or RPs, PRPs or Other Persons;
 - (e) establish Interim Deadlines for the completion of response actions;
 - (f) issue permits, including, but not limited, to approvals and conditional approvals, to persons seeking to carry out response actions at those sites for which a permit is required by M.G.L. c. 21E and 310 CMR 40.0000;
 - (g) coordinate and oversee response actions conducted by RPs, PRPs or Other Persons to assure the consistency of the response actions with M.G.L. c. 21E and 310 CMR 40.0000;
 - (h) audit response actions not overseen or conducted by the Department;
 - (i) establish an administrative record upon which the selection of a response action is based;
 - (j) conduct or oversee, and/or require persons carrying out one or more response actions to conduct, Public Involvement Activities;
 - (k) conduct enforcement and seek reimbursement and compensation to which the Commonwealth is entitled pursuant to M.G.L. c. 21E;
 - (l) provide Technical Assistance Grants to eligible applicants in accordance with 310 CMR 40.1400;
 - (m) seek the resources of federal or other state agencies or local governments to respond to releases or threats of release of oil and/or hazardous material;
 - (n) authorize persons to enter any site, or other location to be investigated as a possible disposal site, not owned or operated by him or her for the purpose of performing one or more response actions upon the consent of the owner or operator thereof, in accordance with 310 CMR 40.0173;

- (o) request persons to provide information to the Department with respect to a release or threat of release or any site or other location where oil and/or hazardous material is or might be located;
- (p) acquire real property, or any interest therein, by purchase, gift or lease, or by eminent domain under the provisions of M.G.L. c. 79, if necessary to carry out the purposes of M.G.L. c. 21E;
- (q) restrict the use of property that is or was a site, and modify or release such restrictions, if necessary to carry out the purposes of M.G.L. c. 21E;
- (r) record, or cause, allow or require the owner of property that is or was a site to record, notice of the restrictions of the use of the property, or of the modification or release of the restrictions, in accordance with M.G.L. c. 21E, § 6;
- (s) publish and maintain lists of Location to be Investigated and disposal sites;
- (t) conduct compliance assistance to provide guidance to persons undertaking response actions to assist such persons in achieving compliance with M.G.L. c. 21E, 310 CMR 40.0000 and other applicable requirements;
- (u) specify requirements to prevent and control, and to counter the effects of, releases or threats of release of oil and/or hazardous material, in accordance with M.G.L. c. 21E, § 6. Such requirements may include, without limitation, but without duplication of requirements prescribed in other programs of the Department, the preparation of contingency plans, the acquisition, construction, maintenance and operation of equipment, facilities and resources for the monitoring, prevention and control of releases, and the staffing and training of personnel regarding the prevention and control of releases of oil or hazardous material; and
- (v) take any other action authorized by M.G.L. c. 21E and/or 310 CMR 40.0000 as it deems reasonable necessary.

40.0317: Releases and Threats of Release Which Do Not Require Notification

Notwithstanding the provisions of 310 CMR 40.0311 through 40.0315, the following releases and threats of release of oil and/or hazardous material are exempt from the notification requirements set forth in 310 CMR 40.0300:

- (1) releases of oil that occur during normal handling and transfer operations at an oil facility, if the releases are completely captured by a properly functioning oil/water separator; provided, however, that releases of oil which exceed the capacity of the oil/water separator, and that releases of oil from the oil/water separator, itself, in excess of its discharge permit limits, shall be subject to the notification requirements set forth in 310 CMR 40.0300;

...

(22) arsenic, beryllium or nickel in Boston Blue Clay or arsenic in an area documented by the U.S. Geological Survey or in other scientific literature as an area of elevated arsenic measured in soil or groundwater that

(a) is consistently present in the environment at and in the vicinity of the sampling location;

(b) is solely attributable to natural geologic or ecologic conditions; and

(c) has not been mobilized or transferred to another environmental medium or increased in concentration in an environmental medium as a result of anthropogenic activities.

SUBPART E: TIER CLASSIFICATION AND RESPONSE ACTION DEADLINES

40.0500: Tier Classification and Response Action Deadlines

The regulations published at 310 CMR 40.0500 through 40.0599, cited collectively as 310 CMR 40.0500, establish requirements and procedures for the rendering of LSP Tier Classification Opinions, and deadlines for completing response actions at disposal sites. LSP Tier Classification Opinions are considered by the Department in determining the appropriate level of Departmental oversight for response actions conducted by RPs, PRPs and Other Persons at disposal sites.

...

40.0550: Response Action Deadlines and Requirements for Tier I Disposal Sites

(1) Deadlines for Response Action Outcomes. Except as expressly provided by 310 CMR 40.0530(6) or 310 CMR 40.0000 or as otherwise ordered or agreed to in writing by the Department, any person undertaking response actions at a Tier I disposal site pursuant to a Tier I Permit, as described in 310 CMR 40.0700, shall achieve a Response Action Outcome pursuant to 310 CMR 40.1000 within five years of the effective date of such permit.

(2) Deadlines for Submittals. Except as expressly provided by 310 CMR 40.0530(6), 310 CMR 40.0550(3), or 310 CMR 40.0000, or as otherwise ordered or agreed to in writing by the Department, any person undertaking response actions at a Tier I disposal site pursuant to a Tier I Permit shall submit the following documents to the Department by the following deadlines:

- (a) a scope of work for a Phase II - Comprehensive Site Assessment pursuant to 310 CMR 40.0834 prior to the implementation of Phase II field work, unless the Phase II field work had been implemented prior to Tier Classification;
- (b) Phase II Report, and, if applicable, a Phase III Remedial Action Plan within two years of the effective date of such permit;
- (c) a Phase IV Remedy Implementation Plan within three years of the effective date of such permit;
- (d) a Response Action Outcome Statement pursuant to 310 CMR 40.1000 within five years of the effective date of such permit; and
- (e) any other submittal as required by the terms and conditions of a Tier I Permit pursuant to 310 CMR 40.0740.

...

40.0560: Response Action Deadlines and Requirements for Tier II Disposal Sites

(1) Deadlines for Response Action Outcomes. Except as expressly provided by 310 CMR 40.0530(6) or 310 CMR 40.0000 or as otherwise ordered or agreed to in writing by the Department, an RP, PRP or Other Person undertaking response actions at a Tier II disposal site shall achieve a Response Action Outcome within five years of the effective date of initial Tier Classification.

- (a) A Tier II Classification for a disposal site shall expire five years from the effective date of the initial Tier Classification of such disposal site; and
- (b) An RP, PRP or Other Person shall not conduct Comprehensive Response Actions pursuant to 310 CMR 40.0800 at a disposal site for which a Tier II Classification has expired unless a Tier II Classification Extension is obtained pursuant to 310 CMR 40.0560(7).

(2) Deadlines for Submittals. Except as provided by 310 CMR 40.0530(6), 310 CMR 40.0560(3), or 310 CMR 40.0000 or as otherwise ordered or agreed to in writing by the Department, an RP, PRP or Other Person undertaking response actions at a Tier II disposal site shall submit the following documents to the Department by the following deadlines:

- (a) a scope of work for a Phase II - Comprehensive Site Assessment pursuant to 310 CMR 40.0834 prior to the implementation of Phase II field work, unless the Phase II field work had been implemented prior to Tier Classification;
- (b) a Phase II Report, and, if applicable, a Phase III Remedial Action Plan, within two years of the effective date of Tier Classification;
- (c) a Phase IV Remedy Implementation Plan within three years of the effective date of Tier Classification; and
- (d) a Response Action Outcome Statement pursuant to 310 CMR 40.1000 within five years of the effective date of Tier Classification.

...

40.0570: Requirements for Eligible Persons, Eligible Tenants or Other Persons Seeking to Re-Establish Response Action Deadlines

- (1) Notwithstanding 310 CMR 40.0550 and 40.0560, Eligible Persons, Eligible Tenants or Other Persons who are required or intend to conduct response actions at a Tier IA, IB, IC, ID or Tier II disposal site and who have not previously submitted a Tier I Permit Application or Tier II Classification Submittal for the disposal site may seek to re-establish the deadlines for response actions by submitting a Tier I Permit Application or Tier II Classification Submittal, whichever is applicable; provided, however, that for the purpose of re-establishing deadlines pursuant to this section:
 - (a) Eligible Persons who became an owner or operator of a site or portion thereof prior to **[the effective date of this section]** shall make such submittal within one hundred and twenty (120) days of **[the effective date of this section]**, unless the Department agrees to a later date;
 - (b) Eligible Persons who become an owner or operator of a site or portion thereof after **[the effective date of this section]** shall make such submittal within one hundred and twenty (120) days of becoming such an owner or operator, unless the Department agrees to a later date;
 - (c) Eligible Tenants who acquire occupancy, possession or control of a site or portion thereof prior to **[the effective date of this section]** shall make such submittal within one hundred and twenty (120) days of **[the effective date of this section]**, unless the Department agrees to a later date;
 - (d) Eligible Tenants who acquire occupancy, possession or control of a site or portion thereof after **[the effective date of this section]** shall make such submittal within one hundred and twenty (120) days of acquiring such occupancy, possession or control, unless the Department agrees to a later date;
 - (e) Persons who became Other Persons prior to **[the effective date of this section]** shall make such submittal within one hundred and twenty (120) days of **[the effective date of this section]**, unless the Department agrees to a later date; and
 - (f) Persons who became Other Persons after **[the effective date of this section]** shall make such submittal within one hundred and twenty (120) days of becoming an Other Person, unless the Department agrees to a later date.
- (2) Deadlines re-established pursuant to this section shall be calculated from the effective date of the Tier I Permit or Tier II Classification submitted to the Department pursuant to 310 CMR 40.0570(1).

(3) An Eligible Person, Eligible Tenant, or Other Person seeking to re-establish response action deadlines pursuant to this section must provide with the Tier I Permit Application or Tier II Classification Submittal a written certification pursuant to 310 CMR 40.0009 stating that:

(a) such person, in the case of a person asserting to be an Eligible Person, is an owner or operator of the disposal site or a portion thereof who would be liable under M.G.L. c. 21E, § 5(a)(1) solely, did not cause or contribute to the release, and did not own or operate the site at the time of the release;

(b) such person, in the case of a person asserting to be an Eligible Tenant, is a person who acquired occupancy, possession or control of the disposal site, or a portion thereof, after the release of oil or hazardous material has been reported to the department, did not cause or contribute to the release, and would not otherwise be liable pursuant to M.G.L. c. 21E, § 5(a)(2) through (5);

(c) such person, in the case of a person asserting to be an Other Person, is not an RP or PRP, with specific facts sufficient to support this statement;

(d) such person is not, and was not at any time, affiliated with any other person (i) who owned or operated the property from which the release originated, or caused such release, and (ii) who is potentially liable under M.G.L. c. 21E for the disposal site through any direct or indirect contractual, corporate or financial relationship other than:

1. that established by any instrument creating such person's interest in property within the disposal site boundaries; or

2. that established by an instrument wholly unrelated to the disposal site and which would not otherwise render such person potentially liable as a result of the relationship; and

(e) such person, if a trust, consists of trustees, members and/or beneficiaries, all of whom satisfy 310 CMR 40.0570(3)(a) through (d).

Nothing in this section shall preclude the Department from considering any other information relative to whether such person is an Eligible Person, Eligible Tenant or Other Person.

(4) Any person seeking to re-establish response action deadlines pursuant to this section may elect to rely upon a Phase I Report and NRS Scoresheet previously provided to the Department, provided that the Tier I Permit Application or Tier II Classification Submittal includes an LSP Opinion stating that such Application or Submittal relies on such previous Phase I Report and NRS Scoresheet.

(5) Provided that 310 CMR 40.0570(1) through (4) are satisfied, and unless at any time following the Department's receipt of a Tier I Permit Application or Tier II Classification Submittal pursuant to this section the Department establishes an Interim Deadline(s) as described in 310 CMR 40.0167 for

conducting response actions, the response action submittal deadlines for Eligible Persons, Eligible Tenants or Other Persons undertaking response actions pursuant to this section shall be re-established as follows:

- (a) a scope of work for a Phase II - Comprehensive Site Assessment pursuant to 310 CMR 40.0834 prior to the implementation of Phase II field work, unless the Phase II field work had been implemented prior to Tier Classification;
- (b) a Phase II Report, and, if applicable, a Phase III Remedial Action Plan, within two years of the effective date of the Tier I Permit or Tier II Classification;
- (c) a Phase IV Remedy Implementation Plan within three years of the effective date of Tier I Permit or Tier II Classification; and
- (d) a Response Action Outcome Statement pursuant to 310 CMR 40.1000 within five years of the effective date of Tier I Permit or Tier II Classification.

(6) If the person filing the certification pursuant to 310 CMR 40.0570(3) is subsequently determined not to be an Eligible Person, Eligible Tenant or Other Person, or if such certification is determined at any time to be inaccurate or untrue, the original response action deadlines for the site shall supersede the deadlines established pursuant to this section.

(7) In establishing Interim Deadlines for response actions pursuant to this section and 310 CMR 40.0167, the Department may consider, without limitation, the complexity of the disposal site and the extent to which response actions have already been completed for the disposal site.

(8) Nothing in this section shall limit a person's ability to seek a transfer of a Tier I Permit or Tier II Classification; provided, however, that any response action deadline re-established pursuant to this section shall apply only to the Eligible Person, Eligible Tenant or Other Person making the submittals set forth in this section, or to any subsequent Eligible Person, Eligible Tenant or Other Person to whom the Tier I Permit or Tier II Classification is transferred who also files the certification described in 310 CMR 40.0570(3) within the applicable deadline specified in 310 CMR 40.0570(1).

40.0702: Applicability

...

(5) Except as provided in 310 CMR 40.0703(2), 310 CMR 40.0893, or 310 CMR 40.1067(6)(a), no person shall initiate or continue to perform Comprehensive Response Actions at a Tier I disposal site after the Tier I Permit obtained by such person for the Tier I disposal site has expired,

unless and until such person obtains a Permit Extension in accordance with 310 CMR 40.0706 and 40.0720.

...

40.0706: Additional Application Submittal Requirements for Tier I Permit Extensions

(1) General.

(a) A Tier I Permit Extension Application shall be submitted to the Department at least 45 days before the date of expiration of the Tier I Permit.

(b) No Tier I Permit expiration date shall be extended unless and until the permittee(s) has obtained a Permit Extension in accordance with 310 CMR 40.0720.

(c) Except as provided by 310 CMR 40.0703(2), 310 CMR 40.0893 or 310 CMR 40.1067(6)(a), no person shall initiate or continue to perform Comprehensive Response Actions at a Tier I disposal site after a Tier I Permit obtained by such person has expired, unless and until such person obtains a Permit Extension in accordance with 310 CMR 40.0720.

(d) A Tier I Permit Extension does not forgive an RP's, PRP's or Other Person's noncompliance with any provisions of 310 CMR 40.0000. A Tier I Permit Extension means the RP, PRP or Other Person has approval to continue with response actions in compliance with all applicable provisions of 310 CMR 40.0000. Such Extension shall not be construed as approval by the Department of the scope or adequacy of plans or of the response actions as actually conducted.

(2) Content of Application. In addition to the requirements in 310 CMR 40.0703, an application for a Permit Extension shall include the following:

(a) a statement as to why the extension is sought; and

(b) each applicant's compliance history, as required by 310 CMR 40.0703(9)(b), since the effective date of his or her permit only.

...

40.0751: Duration of Tier I Permits

(3) Unless otherwise specified by the Department, a Tier I Permit Extension shall be effective for a period of two years beyond the effective date of the Tier I Permit Extension or two years from the expiration date of the initial Tier I Permit or most recent Tier I Permit Extension, whichever date is later.

40.0560: Response Action Deadlines and Requirements for Tier II Disposal Sites

(7) Tier II Classification Extensions.

(a) If a Response Action Outcome Statement indicating that a Temporary or Permanent Solution has been achieved has not been submitted to the Department for a Tier II disposal site prior to the expiration of the Tier II Classification, the person undertaking response actions at such site shall extend the Tier II Classification by submitting a Tier II Classification Extension Submittal to the Department.

(b) The Tier II Classification Extension Submittal shall be provided to the Department at least 45 days before the date of expiration of the Tier II Classification.

(c) The Tier II Classification Extension Submittal shall consist of the following:

1. a completed transmittal form using a form provided by the Department for such purposes, which shall include a statement explaining why a Temporary or Permanent Solution has not been achieved at the site.
2. a description of the status of response actions including a plan and a proposed schedule for implementing such plan which details the steps that will be taken in order to achieve, at a minimum, a Class C Response Action Outcome at the disposal site pursuant to 310 CMR 40.1000 within one year of the effective date of the Tier II Classification Extension, and a schedule for achieving a Permanent Solution, if feasible;
3. the certification required by 310 CMR 40.0009;
4. the certification required by 310 CMR 40.0540(1);
5. an updated compliance history required by 310 CMR 40.0540(2) since the effective date of the Tier II Classification; and
6. an LSP Opinion indicating that the plans and/or reports submitted are in conformance with the requirements of 310 CMR 40.0000.

(d) A Tier II Classification Extension shall take effect 45 days after submission of a complete Tier II Classification Extension Submittal to the Department, unless the Department issues a written denial for such Extension prior to the termination of such 45 day time period. Unless otherwise specified by the Department, the Extension shall be effective for a period of one year beyond the effective date of the Tier II Classification Extension or one year from the expiration date of the Tier II Classification in effect prior to the submission of the most recent Extension, whichever date is later. An RP, PRP or Other Person shall notify the Department pursuant to this section if additional extensions are required on an annual basis thereafter; and

(e) The Department reserves the right to reconsider the need for Departmental oversight or to initiate enforcement actions related to any Tier II Classification Extension Submittal or when any timeline for achieving an RAO pursuant to 310 CMR 40.0560 is exceeded; and

(f) A Tier II Classification Extension obtained under 310 CMR 40.0560(7) does not forgive an RP's, PRP's or Other Person's noncompliance with any provisions of 310 CMR 40.0000, including but not limited to, noncompliance that resulted from the late submittal or failure to submit an IRA Plan, Status Report, Phase I Report, Tier Classification, Phase II Report, Phase III Remedial Action Plan, Phase IV Remedy Implementation Plan, and/or failure to achieve a Response Action Outcome. A Tier II Classification Extension means the RP, PRP or Other Person has approval to continue with response actions in compliance with all applicable provisions of 310 CMR 40.0000. Such Extension shall not be construed as approval by the Department of the scope or adequacy of plans or of the response actions as actually conducted.

40.0870: Phase IV - Implementation of the Selected Remedial Action Alternative

310 CMR 40.0871 through 40.0889, cited collectively as 310 CMR 40.0870, contain the requirements and procedures for conducting Phase IV Comprehensive Remedial Response Actions at disposal sites.

40.0871: General Provisions

- (1) Phase IV contains requirements for the design, construction, and implementation of the Comprehensive Remedial Action alternative selected as a result of the Phase III evaluation under 310 CMR 40.0850.
- (2) Phase IV activities shall include, without limitation, the following:
 - (a) preparation of a Remedy Implementation Plan (RIP) as set forth in 310 CMR 40.0874;
 - (b) documentation of the construction of the Comprehensive Remedial Action as described in 310 CMR 40.0875; and
 - (c) implementation and final inspection of the Comprehensive Remedial Action.
- (3) Where appropriate, reports and plans prepared required in Phase IV may be combined.
- (4) RPs, PRPs and Other Persons conducting Phase IV activities shall ensure that persons with the appropriate level of training, supervision and applicable licenses or certifications are engaged in the design, construction, operation and maintenance of the Comprehensive Remedial Action.
- (5) All federal, state and local permits, licenses or approvals and any agreements necessary for construction and operation of the Comprehensive

Remedial Action shall be secured as early in Phase IV as possible in order to avoid delays in implementing the remedial action.

(6) The Comprehensive Remedial Action shall not be conducted until a complete RIP, as described in 310 CMR 40.0874, has been received by the Department. Unless otherwise specified by the Department in writing, approval from the Department shall not be required to conduct the Comprehensive Remedial Action. Any person implementing the Comprehensive Remedial Action shall conform with the proposals and specifications contained in the RIP and any conditions specified by the Department. Significant modifications to the RIP shall be submitted to the Department prior to implementation of the modified RIP.

40.0892: Phase V Status and Remedial Monitoring Reports

(1) At a minimum, at a disposal site where Phase V operation, maintenance and/or monitoring of Comprehensive Response Actions is being conducted, a Phase V Status Report as described in 310 CMR 40.0892(2) shall be submitted to the Department six months from the receipt by the Department of the Phase IV Completion Statement and every six months thereafter for the duration of the operation of the remedy. Each Status Report shall document activities occurring over the period of time since the previously submitted Status Report.

(2) Phase V Status Reports shall include, without limitation, the following:

- (a) a description of the type and frequency of operation, maintenance and/or monitoring activities conducted;
- (b) a description of any significant modifications of the operation, maintenance and/or monitoring program made since the submission of the preceding Phase V Status Report;
- (c) an evaluation of the performance of the remedial action during the period of time since the last Status Report, including whether the remedial action is achieving remedial goals specified in the Phase IV Remedy Implementation Plan as described in 310 CMR 40.0874(3), and a description of any conditions or problems noted during the period that are or may be affecting the performance of the remedial action;
- (d) a description of any measures taken to correct conditions which are affecting the performance of the remedial action; and
- (e) the name, license number, signature and seal of the LSP.

(3) For a disposal site where Active Operation and Maintenance of a Comprehensive Remedial Action is being conducted, in addition to and/or in

conjunction with the submittal of a Phase V Status Report, a Remedial Monitoring Report shall be submitted to the Department on a form established by the Department for such purposes at the following frequency:

(a) when Phase V activities include the Active Operation and Maintenance of a Comprehensive Remedial Action to address an Imminent Hazard or Condition of Substantial Release Migration, with the first Phase V Status Report and monthly thereafter. In such cases where the Active Operation and Maintenance of a Comprehensive Remedial Action is not initiated until after the submittal of the first Phase V Status Report, the Remedial Monitoring Report shall be submitted on the monthly anniversary of the submittal of the first Phase V Status Report;

(b) when Phase V activities include Active Operation and Maintenance of a Comprehensive Remedial Action to address conditions that do not pose an Imminent Hazard or Condition of Substantial Release Migration, with the first Phase V Status Report and every 6 months thereafter. In such cases where the Active Operation and Maintenance of the Comprehensive Remedial Action is initiated after the submittal of the first Phase V Status Report, the Remedial Monitoring Report shall be submitted concurrently with the submittal of the next Phase V Status Report;

(c) Notwithstanding 310 CMR 40.0892(3)(a) and (b), when activities that include the Active Operation and Maintenance of a Comprehensive Remedial Action are continued in Phase V after being initiated in a previous phase of work (i.e., as an Immediate Response Action, Release Abatement Measure, or during the initial implementation and operation of a remedy in Phase IV), the Status Report submittal schedule established under the previous phase of work shall be continued into Phase V.

40.0924: Identification of Exposure Points

(1) All potential Exposure Points shall be identified and described in the documentation of the Risk Characterization after considering the site and receptor information described in 310 CMR 40.0904 through 40.0923.

(2) The identification of an Exposure Point shall be consistent with the type and method of Risk Characterization which is being performed.

(a) Methods 1 and 2 Risk Characterizations - The Exposure Point(s) in groundwater and soil shall be identified and documented for all current and reasonably foreseeable Site Activities and Uses.

1. For groundwater, the Exposure Point(s) shall be the groundwater resource itself, as measured at each wellhead and/or nearest tap of a well screened within the horizontal and vertical distribution of the

oil and/or hazardous material in the groundwater. Existing water supply wells and monitoring wells shall be used to represent current or potential groundwater Exposure Points.

2. For soil, the Exposure Point(s) shall be defined by the horizontal and vertical distribution of the contaminated soil in combination with the soil category(ies) determined to be applicable. For a contiguous volume of contaminated soil comprised of one or more soil categories as defined in 310 CMR 40.0933, a separate and distinct Exposure Point shall be represented by the soil in each category.

(b) Method 3 Risk Characterization – The Exposure Point(s) in all environmental media shall be identified for all current and reasonably foreseeable Site Activities and Uses.

1. For comparisons to Applicable or Suitably Analogous Standards, the Exposure Point shall be identified in a manner consistent with the applicable regulations.

2. Except as provided in 310 CMR 40.0924(2)(b)3., in GW-1 groundwater areas, for the comparison to drinking water standards listed in 310 CMR 22 and for the calculation of current and/or potential exposure to the groundwater, the Exposure Point(s) shall be the groundwater resource itself, as measured at each wellhead and/or nearest tap of a well screened within the horizontal and vertical distribution of the oil and/or hazardous material in the groundwater. Existing water supply wells and monitoring wells shall be used to represent current or potential groundwater Exposure Points.

3. In GW-1 areas that are designated GW-1 solely on the basis of being located within a Zone II or an Aquifer Protection District that overlays or is contiguous with a Zone II and where sites meet the following criteria, the Exposure Point shall be the existing Public Water Supply well(s) for the evaluation of current and future drinking water exposures and the Exposure Point Concentration shall be identified pursuant to 310 CMR 40.0926(8):

- a. Contamination is limited to Oil;
- b. A Phase II Report for the disposal site pursuant to 310 CMR 40.0830 has been submitted;
- c. The disposal site is located at a distance greater than 1,000 feet from a Public Water Supply well;
- d. It has been demonstrated that NAPL is not present at a thickness equal to or greater than ½ inch in any environmental medium;
- e. It has been demonstrated through adequate characterization of horizontal migration that groundwater contaminant concentrations are
 - i. not detected at or above analytical limits appropriate for a GW-1 area at the downgradient

- edge of the plume, at least 1,000 feet from the Public Water Supply well(s), and
 - ii. decreasing within the boundaries of the plume. Demonstration of diminishing contamination concentrations within the plume shall consider both the spatial and temporal distribution of the contamination and other measures indicative of biodegradation of the contaminants;
 - f. It has been demonstrated through adequate characterization of vertical migration that contamination has not entered bedrock including the submittal of a profile sectional map showing the following information:
 - i. known or inferred depth to bedrock;
 - ii. depths to the top and bottom of the plume throughout the length of the plume; and
 - iii. existing well screen depths in comparison to the plume; and
 - g. It has been demonstrated that there is no potential Exposure Point Concentration in accordance with the criteria specified at 310 CMR 40.0926(8).
4. For current or potential soil exposures, the following depths shall be considered with any applicable site-specific information when determining Exposure Points:
- a. zero to three feet for exposures associated with surficial activity;
 - b. zero to six feet for exposures associated with utility installation and repair; and
 - c. zero to 15 feet for exposures associated with excavation scenarios and building construction.
5. For other exposures, the Exposure Point shall be identified considering the timing of the exposure, the nature of the potential receptors and the likely frequency of exposure.

(3) Consideration shall be given to the identification of Exposure Points which may be located at a distance from the original source of the release, particularly when the migration of oil and/or hazardous material may result in Exposure Points in addition to those identified under current site conditions.

(4) Examples of typical Exposure Points for disposal sites shall include, without limitation:

- (a) an existing public or private water supply;
- (b) a future drinking water supply;
- (c) a hot spot of contamination in a neighborhood playground;
- (d) a volume of subsurface soil at a potential construction site;
- (e) a distant shellfish bed.

40.0926: Identification of Exposure Point Concentrations and other Data Criteria

- (1) For each oil and/or hazardous material in each medium at each Exposure Point, an Exposure Point Concentration shall be identified and documented.
- (2) Exposure Point Concentrations shall be determined or estimated in a manner consistent with the type and method of Risk Characterization which is being performed.
- (3) In estimating the Exposure Point Concentration, the objective shall be to identify a conservative estimate of the average concentration contacted by a receptor at the Exposure Point over the period of exposure.
 - (a) Maximum concentrations shall be used to estimate an Exposure Point Concentration under the following conditions:
 1. evaluations of acute exposures;
 2. screening assessments that evaluate maximum exposure potential to streamline the assessment process; or
 3. evaluations of exposures for which the data available to characterize temporal variability or the spatial distribution of site concentration is limited, including when there is insufficient data to adequately characterize the effects of seasonal variation on groundwater contaminant concentrations.
 - (b) For chronic and subchronic exposures (other than for screening evaluations), the arithmetic average of site data is acceptable as an Exposure Point Concentration, provided either of the following criteria are met:
 1. for discrete or composite samples, the arithmetic average is less than or equal to the applicable standard or risk-based concentration limit, seventy-five (75) percent of the data points used in the averaging procedure are equal to or less than the applicable standard or risk-based concentration limit, and no data point used in the averaging is ten times greater than the applicable standard or risk-based concentration limit; or
 2. a valid justification is provided indicating that the sample mean is unlikely to substantially underestimate the true mean of the concentration of oil or hazardous material at the Exposure Point. Such a demonstration should include, but need not be limited to, consideration of the observed distribution of the data, sampling strategy (including frequency, density, and potential biases), graphical representation of analytical results, and/or statistical analyses.
 - (c) For chronic and subchronic exposures (other than for screening evaluations), the use of maximum concentrations or the ninety-fifth (95th) percentile upper confidence limit on the mean, whichever is lower, shall be used to estimate an Exposure Point Concentration when the criteria specified in 310 CMR 40.0926(3)(b) are not met. In such cases, the sample size is likely to be insufficient for the simple arithmetic average to estimate the true value with reasonable confidence and there is a considerable probability of substantially underestimating the mean.

- (4) In determining the concentrations to compare to Upper Concentration Limits, the objective shall be to provide a conservative estimate of the average concentration within the site, and the average concentration within any Hot Spots within the site. A conservative estimate of the average concentration should be developed in accordance with 40.0926(3).
- (5) In determining the concentrations to evaluate Hot Spots, the objective shall be to provide a conservative estimate of the average concentration within the Hot Spot. A conservative estimate of the average concentration should be developed in accordance with 40.0926(3).
- (6) Exposure Point Concentrations may be developed using monitoring data gathered during the site investigation or, when appropriate, through the use of fate and transport models generally accepted by the environmental modeling community.
- (7) Any mathematical equations or models used to identify Exposure Point Concentrations shall be clearly documented.
- (8) No exposure potential exists (the Exposure Point Concentration may be set equal to zero) for those sites described at 310 40.0924(2)(b)3. if the following conditions are met and documented based on data collected at the disposal site:
 - (a) Demonstration of source elimination at the disposal site as described in 310 CMR 40.1003(5);
 - (b) Demonstration of diminishing contaminant concentrations throughout the horizontal and vertical extent of the plume;
 - (c) Demonstration that contaminant concentrations are not detected at or above analytical limits appropriate for a GW-1 area at the downgradient edge of the plume, at least 1,000 feet from the Public Water Supply well; and
 - (d) The demonstrations pursuant to 310 CMR 40.0926(8)(b) and (c) are confirmed by a minimum of two years of quarterly groundwater monitoring conducted after the termination of any Active Remedial System and after the achievement of such contaminant concentrations.

40.0932: Identification of Applicable Groundwater Categories

- (1) The groundwater categories describe the potential for three different types of exposure. More than one category may apply to a single disposal site. In such cases all applicable categories shall be identified.
- (2) Groundwater at all disposal sites shall be considered a potential source of discharge to surface water and shall be categorized, at a minimum, as category GW-3. The site, receptors, and exposure information identified in 310 CMR 40.0904 through 40.0929 shall be used in conjunction with the

criteria listed below to determine if the groundwater shall also be categorized as GW-1 and/or GW-2.

- (3) The appropriate groundwater category shall be identified for both:
 - (a) groundwater currently affected by the release of oil and/or hazardous materials, and
 - (b) any area to which the groundwater affected by the release is expected to migrate.

(4) Groundwater Category GW-1 Except as provided by 310 CMR 40.0932(5), groundwater shall be defined as GW-1 if the groundwater is located:

- (a) within a Current Drinking Water Source Area; or
- (b) within a Potential Drinking Water Source Area.

(5) Notwithstanding the provisions of 310 CMR 40.0932(4):

- (a) Interim Wellhead Protection Area. Groundwater that is categorized as a Current Drinking Water Source Area, solely due to its location within an Interim Wellhead Protection Area, need not be so categorized if it is demonstrated that there is no hydrogeologic connection between the groundwater and the public water supply well on the basis of the following:

...

- (d) Existing Private Wells. Groundwater that is categorized as a Current Drinking Water Source Area solely due to its location within 500 feet of a private water supply well need not be categorized as GW-1 if:

...

- 3. the private water supply did not exist at the time of notification pursuant to 310 CMR 40.0300 or was not installed in conformance with applicable laws, by-laws or regulations.

- (e) Zone A. Groundwater that is categorized as a Current Drinking Water Source Area solely due to its location within a Zone A need not be categorized as GW-1 if it is demonstrated that there is no hydrogeologic connection between the groundwater and the Class A surface water drinking source, based on an investigation and evaluation of site-specific conditions, including, but not limited to, as appropriate, the investigation and evaluation of site stratigraphic, potentiometric, and geochemical conditions.

- (f) The provisions of 310 CMR 40.0932(5)(a) through (e) apply to specific criteria for the inclusion of an area in the GW-1 category. Nothing in 310 CMR 40.0932(5) shall limit the applicability of any other criteria described in 310 CMR 40.0932(4)(a) or (b) to the categorization of groundwater at a disposal site.

(6) Groundwater Category GW-2. Groundwater shall be defined to be in category GW-2 if it is located within 30 feet of an existing or planned building or structure that is or will be occupied, and the average annual depth to groundwater in that area is 15 feet or less. Category GW-2 groundwater is considered to be a potential source of vapors of oil and/or hazardous material to indoor air. Construction of a building in an area in which the average annual depth to groundwater is 15 feet or less will change the groundwater category at the site to include GW-2; change the activities, uses and/or exposures at the disposal site; and may negate the notification exemption described at 310 CMR 40.0317(17).

40.1074: Notice of Activity and Use Limitation

(1) General Requirements. At any disposal site or portion of a disposal site where a RP, PRP or Other Person is conducting a response action(s) for which a Notice of Activity and Use Limitation has been selected as a form of Activity and Use Limitation pursuant to 310 CMR 40.1070, the following requirements shall be met:

(a) the Notice of Activity and Use Limitation shall be prepared using Form 1075 set forth in 310 CMR 40.1099;

(b) an Activity and Use Limitation Opinion shall be submitted on a form prescribed by the Department to the Department with a Response Action Outcome Statement pursuant to 310 CMR 40.1056(2)(g) and shall specify:

1. why the Notice of Activity and Use Limitation is appropriate to:
 - a. achieve and/or maintain a level of No Significant Risk for a Class A or B Response Action Outcome; or
 - b. eliminate a substantial hazard for a Class C Response Action Outcome.
2. Site Activities and Uses which are inconsistent with maintaining a condition of No Significant Risk or eliminating a Substantial Hazard;
3. Site Activities and Uses to be permitted; and
4. obligations and conditions necessary to meet the objectives of the Notice of Activity and Use Limitation;

(c) a Notice of Activity and Use Limitation shall be recorded and/or registered as specified in 310 CMR 40.1074(3);

(d) except as provided in 310 CMR 40.0932(5)(d)c., a Notice of Activity and Use Limitation shall not be used to limit access to and/or use of groundwater for a Class A or B RAO pursuant to 310 CMR 40.1035 and 310 CMR 40.1045; and

(e) Prior to the recording and/or registration of a Notice of Activity and Use Limitation pursuant to 310 CMR 40.1074(3), current holders of any record interest(s) in the area subject to the proposed Notice (including without limitation, owners, lessees, tenants, mortgagees, and holders of

easements or licenses) shall be notified by certified mail, return receipt requested, of the existence and location of oil and/or hazardous material within such area and the terms of such proposed Notice. Such proposed Notice of Activity and Use Limitation shall not be recorded and/or registered until at least 30 days after such notification of current record interest holders has occurred, unless all parties receiving such notification provide a written waiver of the 30-day waiting period to the property owner;

(f) the person(s) signing the Notice of Activity and Use Limitation shall submit a statement, on a form prescribed by the Department, certifying that:

1. the person(s) or entity identified as the property owner(s) on the Notice owned the property at the time the Notice was recorded and/or registered pursuant to 310 CMR 40.1074(3); and
2. record interest-holders were notified of the proposed Notice pursuant to 310 CMR 40.1074(1)(e).

...

40.1250: Procedures for Liens

The regulations published at 310 CMR 40.1250 through 310 CMR 40.1259, cited collectively herein as 310 CMR 40.1250, set forth procedures for recording, registering and filing liens authorized by M.G.L. c. 21E, § 13.

40.1251: Notice of Intent to Perfect a Lien

Whenever the Department intends to record, register or file a lien on real or personal property pursuant to M.G.L. c. 21E, § 13, the Department shall provide a notice of such intent to any owner of the property whose name and address is known to the Department as of 21 days prior to the date the Department provides such notice of intent, and also to the following persons who have a Property Interest in the property over which the Department's lien will have priority pursuant to M.G.L. c. 21E, §13:

- (1) persons having a recorded or registered Property Interest in the property whose name and address is known to the Department as of 21 days prior to the date the Department provides such notice of intent;
- (2) persons having an unrecorded or unregistered Property Interest in the property whose interest, name and address is known to the Department as of 21 days prior to the date the Department provides such notice of intent; and

(3) persons having an unrecorded or unregistered Property Interest in the property whose interest, name and/or address is unknown to the Department.

40.1252: Content of Notice of Intent to Perfect a Lien

Each Lien Notice shall include all of the following:

- (1) a statement of the Department's statutory and regulatory authority to record, register or file the lien;
- (2) a concise statement of the alleged factual and legal basis for the lien, including a description of the property and any debt to the Commonwealth;
- (3) a statement that any owner of the property and any person having a Property Interest in the property over which the lien will have priority pursuant to M.G.L. c. 21E, § 13 has a right to an adjudicatory hearing on such perfection;
- (4) a statement of the requirements that must be complied with by a person having a right to an adjudicatory proceeding pursuant to 310 CMR 40.1254 in order to avoid being deemed to have waived his or her right to such adjudicatory hearing; and
- (5) a statement of how and when the debt owed must be paid to avoid perfection of the lien.

40.1253: Service of Notice of Intent to Perfect a Lien

Each Lien Notice shall be served by one or more of the following methods:

- (1) Service in hand at the person's last known address or at the last known address of any officer, employee, or agent of the person authorized by appointment of the person or by law to accept service.
- (2) Service in hand personally to the person, or to any officer, employee, or agent of the person authorized by appointment of the person or by law to accept service.
- (3) By certified mail, return receipt requested, addressed to the person's last known address, or to the last known address of any officer, employee, or agent of the person authorized by appointment of the person or by law to accept service.

(4) With respect to any person having an unrecorded or unregistered Property Interest in the property whose name and/or address is unknown to the Department, by publication in a newspaper of general circulation serving the community where the property is located.

40.1254: Right to Adjudicatory Hearing

Subject to the provisions of 310 CMR 40.1255, whenever the Department seeks to perfect a lien on any real or personal property, the following persons shall have the right to an adjudicatory hearing:

- (1) any owner of the property;
- (2) any other person having a recorded or registered Property Interest in the property over which the lien will have priority pursuant to M.G.L. c. 21E, § 13; and/or
- (3) any person having an unrecorded or unregistered Property Interest in the property over which the lien will have priority pursuant to M.G.L. c. 21E, § 13.

40.1255: Waiver of Right to Adjudicatory Hearing

Any person who has a right to an adjudicatory hearing pursuant to 310 CMR 40.1254 shall be deemed to have waived the right to an adjudicatory hearing unless the Department receives from such person a written statement that denies that the Department has a basis to perfect the lien, and does so subject to and in compliance with applicable provisions of the Department's Rules for Adjudicatory Proceedings, 310 CMR 1.00, within 21 days of the following:

- (a) with respect to the notice required by 310 CMR 40.1251(1) or (2), the date of issuance of the notice in accordance with 310 CMR 40.1253(1), (2) or (3); or
- (b) with respect to the notice required by 310 CMR 40.1251(3), the date of publication of the notice in accordance with 310 CMR 40.1253(4).

40.1256: Conducting the Adjudicatory Hearing

(1) Every adjudicatory hearing conducted pursuant to M.G.L. c. 21E and 310 CMR 40.1250 shall be conducted in accordance with all applicable provisions of M.G.L. c. 30A and 310 CMR 1.00, provided, however, that to the extent such provisions are inconsistent with M.G.L. c. 21E and 310 CMR 40.1250, the provisions of M.G.L. c. 21E and 310 CMR 40.1250 shall apply.

(2) The Department shall not be required to prove any facts alleged by the Department in the Lien Notice unless such facts are expressly denied in the statement filed pursuant to 310 CMR 40.1255.

(3) If, in the statement filed pursuant to 310 CMR 40.1255, the person filing such statement denies one or more facts, the Department shall demonstrate a reasonable likelihood that such fact or facts is true or exists.

(4) Damage to the environment, as defined in M.G.L. c. 214A, § 7, will not be at issue during the conduct of hearings pursuant to 310 CMR 40.1250.

40.1403: Minimum Public Involvement Activities in Response Actions

(1) Public Involvement Activities undertaken at all disposal sites are those designed primarily to provide the public with information regarding the risks posed by the disposal site, status of response actions, availability of technical assistance grants, and opportunities for public involvement.

...

(10) Any time environmental samples are taken at a property on behalf of someone other than the owner of the property, the person(s) conducting the response actions shall:

(a) provide the property owner with a written notice pursuant to 310 CMR 40.1403(2)(a) on a form established by the Department for such purpose which explains that the property owner will be provided the results of the sample analyses; such written notice shall be provided to the property owner :

1. as soon as possible, but no more than seven days after the date of sampling, when conducted as part of an Immediate Response Action to address releases defined at 310 CMR 40.0311; or
2. prior to the date of sampling when conducted as part of any other response action;

(b) within 30 days of the date the sample results are issued by the laboratory, provide the property owner with:

1. the results of the sample analyses of samples from the property owner's property and a written notice that additional documentation associated with the samples, such as that listed at 310 CMR 40.0017(3), will be provided to the property owner within 30 days of receipt of a request for such documentation. The person providing written notice shall provide such additional documentation to the property owner within 30 days of receipt of a request;

2. a statement that public involvement opportunities are available under 310 CMR 40.1403(9) and, if the site is tier classified, under 310 CMR 40.1404;

(c) provide to the Department with the next required MCP submittal the results of and additional documentation associated with any sampling subject to the notice requirements of 310 CMR 40.1403(10), a copy of the written notice required by 310 CMR 40.1403(10)(a), and a copy of any alternative schedule for providing sampling results established pursuant to 310 CMR 40.1403(10)(d); and

(d) Notwithstanding the provisions at 310 CMR 40.1403(10)(b), when sampling at a property will occur on an ongoing basis, an alternative schedule may be established for providing the results of multiple sampling events to a property owner, provided that such schedule is established in writing and agreed to by the property owner. The person(s) conducting the response actions shall include with the results of the sample analyses a written notice that additional documentation associated with the samples, such as that listed at 310 CMR 40.0017(3), will be provided to the property owner within 30 days of receipt of a request for such documentation. The person providing written notice shall provide such additional documentation to the property owner within 30 days of receipt of a request.

(11) Any person conducting a remedial action as part of an Immediate Response Action to prevent, control, or eliminate an Imminent Hazard pursuant to 310 CMR 40.0322 and 310 CMR 40.0426 or to address a Critical Exposure Pathway pursuant to 310 CMR 40.0414(3) through (4) shall provide notice of such remedial actions to owners and/or operators and to other persons who may experience significant health or safety impacts from the disposal site that is being addressed by the Immediate Response Action (i.e., Affected Individuals as defined in 310 CMR 40.0006).

(a) Unless otherwise specified by the Department, notification shall be made orally or in writing as soon as possible but not later than 72 hours after commencement of the remedial action;

(b) Oral notifications shall be followed by a written notice pursuant to 310 CMR 40.1403(2)(a) within seven (7) days of the oral notification;

(c) Written notices shall be provided on a form established by the Department for such purpose that includes information about the purpose, nature and expected duration of the remedial action, and a statement of the Public Involvement Activities available under 310 CMR 40.1403(9) and, if applicable, 310 CMR 40.1404;

(d) For multi-unit or industrial or commercial buildings, the person conducting the Immediate Response Action shall, in addition to notifying Affected Individuals, request that the owners and/or operators of the building(s) post the notice where it will be visible to individuals who are routinely present in such building(s);

- (e) Upon completion of the Immediate Response Action where a remedial action was conducted to prevent, control, or eliminate an Imminent Hazard or to address a Critical Exposure Pathway, the person conducting the Immediate Response Action shall, concurrently with submitting the Immediate Response Action Completion Statement to the Department, provide those same Affected Individuals for whom notification pursuant to 310 CMR 40.1403(11)(a) through (d) was required with a written notice pursuant to 310 CMR 40.1403(2)(a) that includes a copy of the Immediate Response Action Completion Statement; and
- (f) A copy of all written notices required by this section shall be submitted to the Department with the Immediate Response Action Completion Statement.

40.1406: Notification to Owners of Property within the Boundaries of a Disposal Site

- (1) Any person(s) conducting response action(s) at a disposal site shall provide written notice on a form established by the Department for such purpose and in accordance with the requirements of 310 CMR 40.1403(2)(a) to the owner(s) of property(ies) within the boundaries of the disposal site as depicted and/or described pursuant to 310 CMR 40.0835(4)(b) and/or 310 CMR 40.1056(2)(a) that said property(ies) (or a portion of the property(ies)) is within the disposal site boundaries. The person(s) conducting response actions at the disposal site shall:
 - (a) provide the following information in or with the written notice:
 - 1. a copy of the disposal site map or description of disposal site boundaries prepared pursuant to 310 CMR 40.0835(4)(b) and/or 310 CMR 40.1056(2)(a) showing or describing the boundaries of the disposal site;
 - 2. a copy of the conclusions prepared pursuant to 310 CMR 40.0835(4)(i) or 310 CMR 40.1056;
 - 3. a statement that Public Involvement Activities are available under 310 CMR 40.1400; and
 - 4. the name, address and telephone number of a contact person representing the person(s) conducting response actions who may be contacted for additional information on the disposal site;
 - (b) provide such written notice concurrently with submitting the Phase II Report to the Department, pursuant to 310 CMR 40.0835 or the Response Action Outcome Statement for the disposal site, pursuant to 310 CMR 40.1000, whichever is submitted sooner;
 - 1. for written notice provided concurrently with submitting the Phase II Report to the Department, additional written notice of the

Response Action Outcome for the disposal site shall be subsequently provided pursuant to 310 CMR 40.1406(3);

2. for written notice provided concurrently with submitting the Response Action Outcome Statement for the disposal site to the Department, such written notice shall also include a statement explaining how to obtain additional documentation of the Response Action Outcome; and

(c) if the number of property owners to receive the written notices exceeds fifty (50), provide a written notice pursuant to 310 CMR 40.1403(2)(a) to property owners only after the Board(s) of Health in the community(ies) in which the properties are located and the Department receive written notice.

(2) Any person(s) conducting response actions who provided written notice to a property owner(s) pursuant to 310 CMR 40.1406(1) who later determines as the result of an additional response action(s) that a property is not within the boundaries of the disposal site shall make written notice to said property owner(s) within 30 days of receiving the additional information upon which such a determination is based. Such written notice shall include:

(a) the basis of the determination,

(b) an updated copy of the disposal site map prepared pursuant to 310 CMR 40.0835(4)(b) or 310 CMR 40.1056(2)(a) showing the revised boundaries of the disposal site, and

(c) a statement explaining how to obtain additional documentation that supports the determination.

(3) Any person(s) conducting response action(s) who provided written notice to a property owner(s) upon submission of the Phase II Report pursuant to 310 CMR 40.1406(1) shall subsequently upon achievement of a Response Action Outcome for the disposal site provide a written notice pursuant to 310 CMR 40.1403(2)(a) of the Response Action Outcome to the owners of those properties for which notice was previously provided concurrently with submitting the Response Action Outcome to the Department. Such written notice shall include:

(a) a copy of the conclusions prepared pursuant to 310 CMR 40.1056;

(b) an updated copy of the disposal site map, if the identified disposal site boundaries have changed since the previous notice;

(c) the name, address and telephone number of a contact person representing the person(s) conducting response actions who may be contacted for additional information on the disposal site; and

(d) a statement explaining how to obtain additional documentation of the Response Action Outcome.

(4) If the number of property owners that would receive written notices pursuant to 310 CMR 40.1406 exceeds fifty (50), alternative means of

providing notice to property owners (e.g., use of a public notice published in the local newspaper) may, upon approval by the Department, be used to fulfill the requirements of this section. In such case, written notice to the Board(s) of Health in the community(ies) in which the properties are located shall be provided pursuant to 310 CMR 40.1406(1)(c) prior to providing notice to the property owners, and such written notice shall also inform the Board(s) of Health of the alternative means by which notice will be provided to the property owners.

(5) A copy of all written notices required by this section shall be submitted to the Department with the corresponding Phase II Report or Response Action Outcome Statement.

[Insert the aliphatic and aromatic petroleum fraction values below into the existing table at 310 CMR 40.1514(2) in alphabetical order.]

40.1514(2) Mobility and Persistence Values and Scores Organic OHMs

Organic OHM	MOBILITY AND PERSISTENCE VALUES AND SCORES										
	Solubility (mg/l)		Vapor Pressure (mm Hg)		K _{ow}		Degradation Potential		Specific Gravity		Total Score
	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	
Aliphatics C5 – C8	11	5	80	10	<E+04	5	NP	0	<1	0	20
C9-C12	0.07	0	0.7	5	>E+04	0	NP	0	<1	0	5
C9-C18	0.01	0	0.2	5	>E+04	0	NP	0	<1	0	5
C19-C36	N/A	0	N/A	0	N/A	0	P	10	<1	0	10
Aromatics C9-C10	51	5	2	10	<E+04	5	NP	0	<1	0	20
C11-C22	5.8	5	0.02	5	>E+04	0	NP	0	<1	0	10

[Replace the existing table at 310 CMR 40.0974(2) with the table below.]

310 CMR 40.0974(2): **TABLE 1^{††}**

MCP Method 1 GROUNDWATER STANDARDS

APPLICABLE IN AREAS WHERE THE GROUNDWATER IS CONSIDERED TO BE ONE OR MORE OF THE FOLLOWING CATEGORIES PER 310 CMR 40.0932

Oil and/or Hazardous Material	CAS Number	GW-1	GW-2	GW-3
		Standard	Standard	Standard
		µg/liter (ppb)	µg/liter (ppb)	µg/liter (ppb)
ACENAPHTHENE	83-32-9	20	NA	6,000
ACENAPHTHYLENE	208-96-8	30	10,000	40
ACETONE	67-64-1	6,300	50,000	50,000
ALDRIN	309-00-2	0.5	2	20
ALIPHATIC HYDROCARBONS (See Petroleum Hydrocarbons)				
ANTHRACENE	120-12-7	60	NA	30
ANTIMONY	7440-36-0	6	NA	8,000
AROMATIC HYDROCARBONS (See Petroleum Hydrocarbons)				
ARSENIC	7440-38-2	10	NA	900
BARIUM	7440-39-3	2,000	NA	50,000
BENZENE	71-43-2	5	2,000	10,000
BENZO(a)ANTHRACENE	56-55-3	1	NA	1,000
BENZO(a)PYRENE	50-32-8	0.2	NA	500
BENZO(b)FLUORANTHENE	205-99-2	1	NA	400
BENZO(g,h,i)PERYLENE	191-24-2	50	NA	20
BENZO(k)FLUORANTHENE	207-08-9	1	NA	100
BERYLLIUM	7440-41-7	4	NA	200
BIPHENYL, 1,1-	92-52-4	0.9	200	50,000
BIS(2-CHLOROETHYL)ETHER	111-44-4	30	30	50,000
BIS(2-CHLOROISOPROPYL)ETHER	39638-32-9	30	100	50,000
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	6	NA	50,000
BROMODICHLOROMETHANE	75-27-4	3	6	50,000
BROMOFORM	75-25-2	4	700	50,000
BROMOMETHANE	74-83-9	10	7	800
CADMIUM	7440-43-9	5	NA	4
CARBON TETRACHLORIDE	56-23-5	5	2	5,000
CHLORDANE	12789-03-6	2	NA	2
CHLOROANILINE, p-	106-47-8	20	50,000	300
CHLOROBENZENE	108-90-7	100	200	1,000
CHLOROFORM	67-66-3	70	50	20,000
CHLOROPHENOL, 2-	95-57-8	10	20,000	7,000
CHROMIUM (TOTAL) *	7440-47-3	100	NA	300
CHROMIUM(III)	16065-83-1	100	NA	600
CHROMIUM(VI)	18540-29-9	100	NA	300
CHRYSENE	218-01-9	2	NA	70
CYANIDE **	57-12-5	200	NA	30
DIBENZO(a,h)ANTHRACENE	53-70-3	0.5	NA	40
DIBROMOCHLOROMETHANE	124-48-1	2	20	50,000
DICHLOROBENZENE, 1,2- (o-DCB)	95-50-1	600	2,000	2,000
DICHLOROBENZENE, 1,3- (m-DCB)	541-73-1	40	2,000	50,000
DICHLOROBENZENE, 1,4- (p-DCB)	106-46-7	5	200	8,000
DICHLOROBENZIDINE, 3,3'-	91-94-1	80	NA	2,000
DICHLORODIPHENYL DICHLOROETHANE, P,P'- (DDD)	72-54-8	0.2	NA	50

310 CMR 40.0974(2): **TABLE 1^{††}****MCP Method 1 GROUNDWATER STANDARDS****APPLICABLE IN AREAS WHERE THE GROUNDWATER IS CONSIDERED TO BE ONE OR MORE OF THE FOLLOWING CATEGORIES PER 310 CMR 40.0932**

Oil and/or Hazardous Material	CAS Number	GW-1	GW-2	GW-3
		Standard	Standard	Standard
		µg/liter (ppb)	µg/liter (ppb)	µg/liter (ppb)
DICHLORODIPHENYLDICHLOROETHYLENE,P,P'- (DDE)	72-55-9	0.05	NA	400
DICHLORODIPHENYLTRICHLOROETHANE, P,P'- (DDT)	50-29-3	0.3	NA	1
DICHLOROETHANE, 1,1-	75-34-3	70	1,000	20,000
DICHLOROETHANE, 1,2-	107-06-2	5	5	20,000
DICHLOROETHYLENE, 1,1-	75-35-4	7	80	30,000
DICHLOROETHYLENE, CIS-1,2-	156-59-2	70	100	50,000
DICHLOROETHYLENE, TRANS-1,2-	156-60-5	100	90	50,000
DICHLOROMETHANE	75-09-2	5	10,000	50,000
DICHLOROPHENOL, 2,4-	120-83-2	10	30,000	2,000
DICHLOROPROPANE, 1,2-	78-87-5	5	3	50,000
DICHLOROPROPENE, 1,3-	542-75-6	0.4	10	200
DIELDRIN	60-57-1	0.1	8	0.5
DIETHYL PHTHALATE	84-66-2	2,000	50,000	9,000
DIMETHYL PHTHALATE	131-11-3	30,000	50,000	50,000
DIMETHYLPHENOL, 2,4-	105-67-9	60	40,000	50,000
DINITROPHENOL, 2,4-	51-28-5	200	50,000	20,000
DINITROTOLUENE, 2,4-	121-14-2	30	20,000	50,000
DIOXANE, 1,4-	123-91-1	3	6,000	50,000
ENDOSULFAN	115-29-7	10	NA	2
ENDRIN	72-20-8	2	NA	5
ETHYLBENZENE	100-41-4	700	20,000	5,000
ETHYLENE DIBROMIDE	106-93-4	0.02	2	50,000
FLUORANTHENE	206-44-0	90	NA	200
FLUORENE	86-73-7	30	NA	40
HEPTACHLOR	76-44-8	0.4	2	1
HEPTACHLOR EPOXIDE	1024-57-3	0.2	7	2
HEXACHLOROBENZENE	118-74-1	1	1	6,000
HEXACHLOROBUTADIENE	87-68-3	0.6	1	3,000
HEXACHLOROCYCLOHEXANE, GAMMA (gamma-HCH)	58-89-9	0.2	200	4
HEXACHLOROETHANE	67-72-1	8	100	50,000
HMX	2691-41-0	200	50,000	50,000
INDENO(1,2,3-cd)PYRENE	193-39-5	0.5	NA	100
LEAD	7439-92-1	15	NA	10
MERCURY	7439-97-6	2	NA	20
METHOXYCHLOR	72-43-5	40	NA	10
METHYL ETHYL KETONE	78-93-3	4,000	50,000	50,000
METHYL ISOBUTYL KETONE	108-10-1	350	50,000	50,000
METHYL MERCURY	22967-92-6	0.3	NA	20
METHYL TERT BUTYL ETHER	1634-04-4	70	50,000	50,000
METHYLNAPHTHALENE, 2-	91-57-6	10	2,000	20,000
NAPHTHALENE	91-20-3	140	1,000	20,000
NICKEL	7440-02-0	100	NA	200
PENTACHLOROPHENOL	87-86-5	1	NA	200
PERCHLORATE	-	2	NA	1,000
PETROLEUM HYDROCARBONS				

310 CMR 40.0974(2): **TABLE 1^{††}****MCP Method 1 GROUNDWATER STANDARDS****APPLICABLE IN AREAS WHERE THE GROUNDWATER IS CONSIDERED TO BE ONE OR MORE OF THE FOLLOWING CATEGORIES PER 310 CMR 40.0932**

Oil and/or Hazardous Material	CAS Number	GW-1	GW-2	GW-3
		Standard	Standard	Standard
		µg/liter (ppb)	µg/liter (ppb)	µg/liter (ppb)
TOTAL PETROLEUM HYDROCARBON [†]	NA	200	5,000	5,000
ALIPHATIC HYDROCARBONS				
C5 through C8 Aliphatic Hydrocarbons	NA	300	3,000	50,000
C9 through C12 Aliphatic Hydrocarbons	NA	700	5,000	50,000
C9 through C18 Aliphatic Hydrocarbons	NA	700	5,000	50,000
C19 through C36 Aliphatic Hydrocarbons	NA	14,000	NA	50,000
AROMATIC HYDROCARBONS				
C9 through C10 Aromatic Hydrocarbons	NA	200	7,000	50,000
C11 through C22 Aromatic Hydrocarbons	NA	200	50,000	5,000
PHENANTHRENE	85-01-8	40	NA	10,000
PHENOL	108-95-2	1000	50,000	2,000
POLYCHLORINATED BIPHENYLS (PCBs)	1336-36-3	0.5	5	10
PYRENE	129-00-0	80	NA	20
SELENIUM	7782-49-2	50	NA	100
RDX	121-82-4	1	50,000	50,000
SILVER	7440-22-4	100	NA	7
STYRENE	100-42-5	100	100	6,000
TETRACHLORODIBENZO-p-DIOXIN (TCDD), 2,3,7,8-	1746-01-6	3.E-05	NA	4.E-02
TETRACHLOROETHANE, 1,1,1,2-	630-20-6	5	10	50,000
TETRACHLOROETHANE, 1,1,2,2-	79-34-5	2	9	50,000
TETRACHLOROETHYLENE	127-18-4	5	50	30,000
THALLIUM	7440-28-0	2	NA	3,000
TOLUENE	108-88-3	1,000	50,000	40,000
TRICHLOROBENZENE, 1,2,4-	120-82-1	70	2,000	50,000
TRICHLOROETHANE, 1,1,1-	71-55-6	200	4,000	20,000
TRICHLOROETHANE, 1,1,2-	79-00-5	5	900	50,000
TRICHLOROETHYLENE	79-01-6	5	30	5,000
TRICHLOROPHENOL, 2,4,5-	95-95-4	200	50,000	3,000
TRICHLOROPHENOL 2,4,6-	88-06-2	10	5,000	500
VANADIUM	7440-62-2	30	NA	4,000
VINYL CHLORIDE	75-01-4	2	2	50,000
XYLENES (Mixed Isomers)	1330-20-7	10,000	9,000	5,000
ZINC	7440-66-6	5,000	NA	900

NA - Not Applicable

* - The Total Chromium standard is applicable in the absence of species-specific data for Chromium III and Chromium VI.

** - Cyanide expressed as Physiologically Available Cyanide (PAC). In the absence of measured Physiologically Available Cyanide, the standard is applicable to Total Cyanide.

† - The Total Petroleum Hydrocarbon (TPH) standard may be used as an alternative to the appropriate combinations of the Aliphatic and Aromatic Hydrocarbon Fraction standards. The use of the general TPH standard is a valid option only for C9 and greater petroleum hydrocarbons; it is not appropriate for the characterization of risks associated with lighter (gasoline-range) hydrocarbons.

†† - The Department periodically reviews the scientific basis for these Standards and amends them, as appropriate, to incorporate new scientific information.

[Replace the existing table at 310 CMR 40.0975(6)(a) with the table below.]

310 CMR 40.0975(6)(a): TABLE 2^{††}

MCP Method 1 SOIL CATEGORY S-1 STANDARDS

APPLICABLE TO SOIL WHERE THE COMBINATION OF SOIL & GROUNDWATER CATEGORIES ARE:

Oil and/or Hazardous Material	CAS Number	S-1 SOIL & GW-1	S-1 SOIL & GW-2	S-1 SOIL & GW-3
		µg/g (ppm)	µg/g (ppm)	µg/g (ppm)
ACENAPHTHENE	83-32-9	4	1,000	1,000
ACENAPHTHYLENE	208-96-8	1	600	10
ACETONE	67-64-1	6	50	400
ALDRIN	309-00-2	0.04	0.04	0.04
ALIPHATIC HYDROCARBONS (See Petroleum Hydrocarbons)				
ANTHRACENE	120-12-7	1,000	1,000	1,000
ANTIMONY	7440-36-0	20	20	20
AROMATIC HYDROCARBONS (See Petroleum Hydrocarbons)				
ARSENIC	7440-38-2	20	20	20
BARIUM	7440-39-3	1,000	1,000	1,000
BENZENE	71-43-2	2	30	30
BENZO(a)ANTHRACENE	56-55-3	7	7	7
BENZO(a)PYRENE	50-32-8	2	2	2
BENZO(b)FLUORANTHENE	205-99-2	7	7	7
BENZO(g,h,i)PERYLENE	191-24-2	1,000	1,000	1,000
BENZO(k)FLUORANTHENE	207-08-9	70	70	70
BERYLLIUM	7440-41-7	100	100	100
BIPHENYL, 1,1-	92-52-4	0.05	6	1,000
BIS(2-CHLOROETHYL)ETHER	111-44-4	0.7	0.7	0.7
BIS(2-CHLOROISOPROPYL)ETHER	39638-32-9	0.7	0.7	3
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	200	200	200
BROMODICHLOROMETHANE	75-27-4	0.1	0.1	20
BROMOFORM	75-25-2	0.1	1	200
BROMOMETHANE	74-83-9	0.5	0.5	30
CADMIUM	7440-43-9	2	2	2
CARBON TETRACHLORIDE	56-23-5	10	5	10
CHLORDANE	12789-03-6	0.7	0.7	0.7
CHLOROANILINE, p-	106-47-8	1	100	3
CHLOROBENZENE	108-90-7	1	3	100
CHLOROFORM	67-66-3	0.4	0.3	400
CHLOROPHENOL, 2-	95-57-8	0.7	100	100
CHROMIUM (TOTAL) *	7440-47-3	30	30	30
CHROMIUM(III)	16065-83-1	1,000	1,000	1,000
CHROMIUM(VI)	18540-29-9	30	30	30
CHRYSENE	218-01-9	70	70	70
CYANIDE **	57-12-5	100	100	100
DIBENZO(a,h)ANTHRACENE	53-70-3	0.7	0.7	0.7
DIBROMOCHLOROMETHANE	124-48-1	0.005	0.03	20
DICHLOROBENZENE, 1,2- (o-DCB)	95-50-1	9	30	300
DICHLOROBENZENE, 1,3- (m-DCB)	541-73-1	1	40	100
DICHLOROBENZENE, 1,4- (p-DCB)	106-46-7	0.7	4	50
DICHLOROBENZIDINE, 3,3'-	91-94-1	1	1	1
DICHLORODIPHENYL DICHLOROETHANE, P,P'- (DDD)	72-54-8	4	4	4
DICHLORODIPHENYLDICHLOROETHYLENE,P,P'- (DDE)	72-55-9	3	3	3

MCP Method 1 SOIL CATEGORY S-1 STANDARDS

APPLICABLE TO SOIL WHERE THE COMBINATION OF SOIL & GROUNDWATER CATEGORIES ARE:

Oil and/or Hazardous Material	CAS Number	S-1 SOIL & GW-1	S-1 SOIL & GW-2	S-1 SOIL & GW-3
		µg/g (ppm)	µg/g (ppm)	µg/g (ppm)
DICHLORODIPHENYLTRICHLOROETHANE, P,P'- (DDT)	50-29-3	3	3	3
DICHLOROETHANE, 1,1-	75-34-3	0.4	5	500
DICHLOROETHANE, 1,2-	107-06-2	0.1	0.1	10
DICHLOROETHYLENE, 1,1-	75-35-4	3	40	500
DICHLOROETHYLENE, CIS-1,2-	156-59-2	0.3	0.4	100
DICHLOROETHYLENE, TRANS-1,2-	156-60-5	1	1	500
DICHLOROMETHANE	75-09-2	0.1	20	200
DICHLOROPHENOL, 2,4-	120-83-2	0.7	60	40
DICHLOROPROPANE, 1,2-	78-87-5	0.1	0.1	10
DICHLOROPROPENE, 1,3-	542-75-6	0.01	0.4	9
DIELDRIN	60-57-1	0.05	0.05	0.05
DIETHYL PHTHALATE	84-66-2	10	200	300
DIMETHYL PHTHALATE	131-11-3	30	50	600
DIMETHYLPHENOL, 2,4-	105-67-9	0.7	100	500
DINITROPHENOL, 2,4-	51-28-5	3	50	50
DINITROTOLUENE, 2,4-	121-14-2	0.7	2	2
DIOXANE, 1,4-	123-91-1	0.2	6	70
ENDOSULFAN	115-29-7	0.5	200	1
ENDRIN	72-20-8	8	8	8
ETHYLBENZENE	100-41-4	40	500	500
ETHYLENE DIBROMIDE	106-93-4	0.1	0.1	0.7
FLUORANTHENE	206-44-0	1,000	1,000	1,000
FLUORENE	86-73-7	1,000	1,000	1,000
HEPTACHLOR	76-44-8	0.2	0.2	0.2
HEPTACHLOR EPOXIDE	1024-57-3	0.09	0.09	0.09
HEXACHLOROBENZENE	118-74-1	0.7	0.7	0.7
HEXACHLOROBUTADIENE	87-68-3	6	6	6
HEXACHLOROCYCLOHEXANE, GAMMA (gamma-HCH)	58-89-9	0.003	0.7	0.5
HEXACHLOROETHANE	67-72-1	0.7	3	9
HMX	2691-41-0	2	100	1,000
INDENO(1,2,3-cd)PYRENE	193-39-5	7	7	7
LEAD	7439-92-1	300	300	300
MERCURY	7439-97-6	20	20	20
METHOXYCHLOR	72-43-5	200	200	200
METHYL ETHYL KETONE	78-93-3	4	50	400
METHYL ISOBUTYL KETONE	108-10-1	0.4	50	400
METHYL MERCURY	22967-92-6	3	3	3
METHYL TERT BUTYL ETHER	1634-04-4	0.1	100	100
METHYLNAPHTHALENE, 2-	91-57-6	0.7	80	300
NAPHTHALENE	91-20-3	4	40	500
NICKEL	7440-02-0	20	20	20
PENTACHLOROPHENOL	87-86-5	3	10	10
PERCHLORATE	-	0.1	0.9	0.9
PETROLEUM HYDROCARBONS				
TOTAL PETROLEUM HYDROCARBON †	NA	1,000	1,000	1,000
ALIPHATIC HYDROCARBONS				
C5 through C8 Aliphatic Hydrocarbons	NA	100	100	100

MCP Method 1 SOIL CATEGORY S-1 STANDARDS

APPLICABLE TO SOIL WHERE THE COMBINATION OF SOIL & GROUNDWATER CATEGORIES ARE:

Oil and/or Hazardous Material	CAS Number	S-1 SOIL & GW-1	S-1 SOIL & GW-2	S-1 SOIL & GW-3
		µg/g (ppm)	µg/g (ppm)	µg/g (ppm)
C9 through C12 Aliphatic Hydrocarbons	NA	1,000	1,000	1,000
C9 through C18 Aliphatic Hydrocarbons	NA	1,000	1,000	1,000
C19 through C36 Aliphatic Hydrocarbons	NA	3,000	3,000	3,000
AROMATIC HYDROCARBONS				
C9 through C10 Aromatic Hydrocarbons	NA	100	100	100
C11 through C22 Aromatic Hydrocarbons	NA	1,000	1,000	1,000
PHENANTHRENE	85-01-8	10	500	500
PHENOL	108-95-2	1	50	20
POLYCHLORINATED BIPHENYLS (PCBs)	1336-36-3	2	2	2
PYRENE	129-00-0	1,000	1,000	1,000
RDX	121-41-0	1	8	8
SELENIUM	7782-49-2	400	400	400
SILVER	7440-22-4	100	100	100
STYRENE	100-42-5	3	4	30
TETRACHLORODIBENZO-p-DIOXIN (TCDD), 2,3,7,8- (equivalents)	1746-01-6	2.E-05	2.E-05	2.E-05
TETRACHLOROETHANE, 1,1,1,2-	630-20-6	0.1	0.1	7
TETRACHLOROETHANE, 1,1,2,2-	79-34-5	0.005	0.02	0.8
TETRACHLOROETHYLENE	127-18-4	1	10	30
THALLIUM	7440-28-0	8	8	8
TOLUENE	108-88-3	30	500	500
TRICHLOROBENZENE, 1,2,4-	120-82-1	2	70	500
TRICHLOROETHANE, 1,1,1-	71-55-6	30	500	500
TRICHLOROETHANE, 1,1,2-	79-00-5	0.1	2	4
TRICHLOROETHYLENE	79-01-6	0.3	2	90
TRICHLOROPHENOL, 2,4,5-	95-95-4	4	1,000	600
TRICHLOROPHENOL 2,4,6-	88-06-2	0.7	20	20
VANADIUM	7440-62-2	600	600	600
VINYL CHLORIDE	75-01-4	0.6	0.6	0.6
XYLENES (Mixed Isomers)	1330-20-7	400	300	500
ZINC	7440-66-6	2,500	2,500	2,500

NOTE: All concentrations of oil and/or hazardous material in soil are calculated and presented on a dry weight/dry weight basis.

NA - Not Applicable

* - The Total Chromium standard is applicable in the absence of species-specific data for Chromium III and Chromium VI.

** - Cyanide expressed as Physiologically Available Cyanide (PAC). In the absence of measured Physiologically Available Cyanide, the standard is applicable to Total Cyanide.

† - The Total Petroleum Hydrocarbon (TPH) standard may be used as an alternative to the appropriate combinations of the Aliphatic and Aromatic Hydrocarbon Fraction standards. The use of the general TPH standard is a valid option only for C9 and greater petroleum hydrocarbons; it is not appropriate for the characterization of risks associated with lighter (gasoline-range) hydrocarbons.

†† - The Department periodically reviews the scientific basis for these Standards and amends them, as appropriate, to incorporate new scientific information.

[Replace the existing table at 310 CMR 40.0975(6)(b) with the table below.]

310 CMR 40.0975(6)(b): TABLE 3^{††}

MCP Method 1 SOIL CATEGORY S-2 STANDARDS

APPLICABLE TO SOIL WHERE THE COMBINATION OF SOIL & GROUNDWATER CATEGORIES ARE:

Oil and/or Hazardous Material	CAS Number	S-2 SOIL & GW-1	S-2 SOIL & GW-2	S-2 SOIL & GW-3
		µg/g (ppm)	µg/g (ppm)	µg/g (ppm)
ACENAPHTHENE	83-32-9	4	3,000	3,000
ACENAPHTHYLENE	208-96-8	1	600	10
ACETONE	67-64-1	6	50	400
ALDRIN	309-00-2	0.4	0.4	0.4
ALIPHATIC HYDROCARBONS (See Petroleum Hydrocarbons)				
ANTHRACENE	120-12-7	3,000	3,000	3,000
ANTIMONY	7440-36-0	30	30	30
AROMATIC HYDROCARBONS (See Petroleum Hydrocarbons)				
ARSENIC	7440-38-2	20	20	20
BARIUM	7440-39-3	3,000	3,000	3,000
BENZENE	71-43-2	2	200	200
BENZO(a)ANTHRACENE	56-55-3	40	40	40
BENZO(a)PYRENE	50-32-8	4	4	4
BENZO(b)FLUORANTHENE	205-99-2	40	40	40
BENZO(g,h,i)PERYLENE	191-24-2	3,000	3,000	3,000
BENZO(k)FLUORANTHENE	207-08-9	400	400	400
BERYLLIUM	7440-41-7	200	200	200
BIPHENYL, 1,1-	92-52-4	0.05	6	3,000
BIS(2-CHLOROETHYL)ETHER	111-44-4	0.7	0.7	3
BIS(2-CHLOROISOPROPYL)ETHER	39638-32-9	0.7	0.7	50
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	700	700	700
BROMODICHLOROMETHANE	75-27-4	0.1	0.1	100
BROMOFORM	75-25-2	0.1	1	800
BROMOMETHANE	74-83-9	0.5	0.5	30
CADMIUM	7440-43-9	30	30	30
CARBON TETRACHLORIDE	56-23-5	10	5	60
CHLORDANE	12789-03-6	30	30	30
CHLOROANILINE, p-	106-47-8	1	100	3
CHLOROENZENE	108-90-7	1	3	100
CHLOROFORM	67-66-3	0.4	0.3	800
CHLOROPHENOL, 2-	95-57-8	0.7	100	300
CHROMIUM (TOTAL) *	7440-47-3	200	200	200
CHROMIUM(III)	16065-83-1	3,000	3,000	3,000
CHROMIUM(VI)	18540-29-9	200	200	200
CHRYSENE	218-01-9	400	400	400
CYANIDE **	57-12-5	400	400	400
DIBENZO(a,h)ANTHRACENE	53-70-3	4	4	4
DIBROMOCHLOROMETHANE	124-48-1	0.005	0.03	100
DICHLOROENZENE, 1,2- (o-DCB)	95-50-1	9	30	300
DICHLOROENZENE, 1,3- (m-DCB)	541-73-1	1	40	500
DICHLOROENZENE, 1,4- (p-DCB)	106-46-7	0.7	4	300
DICHLOROENZIDINE, 3,3'-	91-94-1	10	10	10
DICHLORODIPHENYL DICHLOROETHANE, P,P'- (DDD)	72-54-8	30	30	30

MCP Method 1 SOIL CATEGORY S-2 STANDARDS

APPLICABLE TO SOIL WHERE THE COMBINATION OF SOIL & GROUNDWATER CATEGORIES ARE:

Oil and/or Hazardous Material	CAS Number	S-2 SOIL	S-2 SOIL	S-2 SOIL
		& GW-1	& GW-2	& GW-3
		µg/g (ppm)	µg/g (ppm)	µg/g (ppm)
DICHLORODIPHENYLDICHLOROETHYLENE,P,P'- (DDE)	72-55-9	20	20	20
DICHLORODIPHENYLTRICHLOROETHANE, P,P'- (DDT)	50-29-3	20	20	20
DICHLOROETHANE, 1,1-	75-34-3	0.4	5	1,000
DICHLOROETHANE, 1,2-	107-06-2	0.1	0.1	90
DICHLOROETHYLENE, 1,1-	75-35-4	3	40	1,000
DICHLOROETHYLENE, CIS-1,2-	156-59-2	0.3	0.4	500
DICHLOROETHYLENE, TRANS-1,2-	156-60-5	1	1	1,000
DICHLOROMETHANE	75-09-2	0.1	20	900
DICHLOROPHENOL, 2,4-	120-83-2	0.7	60	40
DICHLOROPROPANE, 1,2-	78-87-5	0.1	0.1	100
DICHLOROPROPENE, 1,3-	542-75-6	0.01	0.4	70
DIELDRIN	60-57-1	0.4	0.4	0.4
DIETHYL PHTHALATE	84-66-2	10	200	300
DIMETHYL PHTHALATE	131-11-3	30	50	600
DIMETHYLPHENOL, 2,4-	105-67-9	0.7	100	1,000
DINITROPHENOL, 2,4-	51-28-5	3	50	90
DINITROTOLUENE, 2,4-	121-14-2	0.7	10	10
DIOXANE, 1,4-	123-91-1	0.2	6	500
ENDOSULFAN	115-29-7	0.5	300	1
ENDRIN	72-20-8	10	10	10
ETHYLBENZENE	100-41-4	40	1,000	1,000
ETHYLENE DIBROMIDE	106-93-4	0.1	0.1	4
FLUORANTHENE	206-44-0	3,000	3,000	3,000
FLUORENE	86-73-7	3,000	3,000	3,000
HEPTACHLOR	76-44-8	2	2	2
HEPTACHLOR EPOXIDE	1024-57-3	0.7	0.7	0.7
HEXACHLOROBENZENE	118-74-1	5	5	5
HEXACHLOROBUTADIENE	87-68-3	90	90	90
HEXACHLOROCYCLOHEXANE, GAMMA (gamma-HCH)	58-89-9	0.003	2	0.5
HEXACHLOROETHANE	67-72-1	0.7	3	100
HMX	2691-41-0	2	100	1,000
INDENO(1,2,3-cd)PYRENE	193-39-5	40	40	40
LEAD	7439-92-1	300	300	300
MERCURY	7439-97-6	30	30	30
METHOXYCHLOR	72-43-5	300	300	300
METHYL ETHYL KETONE	78-93-3	4	50	400
METHYL ISOBUTYL KETONE	108-10-1	0.4	50	400
METHYL MERCURY	22967-92-6	5	5	5
METHYL TERT BUTYL ETHER	1634-04-4	0.1	100	500
METHYLNAPHTHALENE, 2-	91-57-6	0.7	80	500
NAPHTHALENE	91-20-3	4	40	1,000
NICKEL	7440-02-0	700	700	700
PENTACHLOROPHENOL	87-86-5	3	70	10
PERCHLORATE	-	0.1	5	5
PETROLEUM HYDROCARBONS				

MCP Method 1 SOIL CATEGORY S-2 STANDARDS

APPLICABLE TO SOIL WHERE THE COMBINATION OF SOIL & GROUNDWATER CATEGORIES ARE:

Oil and/or Hazardous Material	CAS Number	S-2 SOIL & GW-1	S-2 SOIL & GW-2	S-2 SOIL & GW-3
		µg/g (ppm)	µg/g (ppm)	µg/g (ppm)
TOTAL PETROLEUM HYDROCARBON [†]	NA	3,000	3,000	3,000
ALIPHATIC HYDROCARBONS				
C5 through C8 Aliphatic Hydrocarbons	NA	500	500	500
C9 through C12 Aliphatic Hydrocarbons	NA	3,000	3,000	3,000
C9 through C18 Aliphatic Hydrocarbons	NA	3,000	3,000	3,000
C19 through C36 Aliphatic Hydrocarbons	NA	5,000	5,000	5,000
AROMATIC HYDROCARBONS				
C9 through C10 Aromatic Hydrocarbons	NA	300	500	500
C11 through C22 Aromatic Hydrocarbons	NA	1,000	3,000	3,000
PHENANTHRENE	85-01-8	10	1,000	1,000
PHENOL	108-95-2	1	50	20
POLYCHLORINATED BIPHENYLS (PCBs)	1336-36-3	3	3	3
PYRENE	129-00-0	3,000	3,000	3,000
SELENIUM	7782-49-2	800	800	800
RDX	121-41-0	1	60	60
SILVER	7440-22-4	200	200	200
STYRENE	100-42-5	3	4	200
TETRACHLORODIBENZO-p-DIOXIN (TCDD), 2,3,7,8- (equivalents)	1746-01-6	5.E-05	5.E-05	5.E-05
TETRACHLOROETHANE, 1,1,1,2-	630-20-6	0.1	0.1	100
TETRACHLOROETHANE, 1,1,1,2-	79-34-5	0.005	0.02	10
TETRACHLOROETHYLENE	127-18-4	1	10	200
THALLIUM	7440-28-0	60	60	60
TOLUENE	108-88-3	30	1,000	1,000
TRICHLOROBENZENE, 1,2,4-	120-82-1	2	70	900
TRICHLOROETHANE, 1,1,1-	71-55-6	30	600	1,000
TRICHLOROETHANE, 1,1,2-	79-00-5	0.1	2	60
TRICHLOROETHYLENE	79-01-6	0.3	2	700
TRICHLOROPHENOL, 2,4,5-	95-95-4	4	1,000	600
TRICHLOROPHENOL 2,4,6-	88-06-2	0.7	20	20
VANADIUM	7440-62-2	1,000	1,000	1,000
VINYL CHLORIDE	75-01-4	0.9	0.7	4
XYLENES (Mixed Isomers)	1330-20-7	400	300	1,000
ZINC	7440-66-6	3,000	3,000	3,000

NOTE: All concentrations of oil and/or hazardous material in soil are calculated and presented on a dry weight/dry weight basis.

NA - Not Applicable

* - The Total Chromium standard is applicable in the absence of species-specific data for Chromium III and Chromium VI.

** - Cyanide expressed as Physiologically Available Cyanide (PAC). In the absence of measured Physiologically Available Cyanide, the standard is applicable to Total Cyanide.

† - The Total Petroleum Hydrocarbon (TPH) standard may be used as an alternative to the appropriate combinations of the Aliphatic and Aromatic Hydrocarbon Fraction standards. The use of the general TPH standard is a valid option only for C9 and greater petroleum hydrocarbons; it is not appropriate for the characterization of risks associated with lighter (gasoline-range) hydrocarbons.

†† - The Department periodically reviews the scientific basis for these Standards and amends them, as appropriate, to incorporate new scientific information.

[Replace the existing table at 310 CMR 40.0975(6)(c) with the table below.]

310 CMR 40.0975(6)(c): TABLE 4^{††}

MCP Method 1: SOIL CATEGORY S-3 STANDARDS

APPLICABLE TO SOIL WHERE THE COMBINATION OF SOIL & GROUNDWATER CATEGORIES ARE:

Oil and/or Hazardous Material	CAS Number	S-3 SOIL & GW-1	S-3 SOIL & GW-2	S-3 SOIL & GW-3
		µg/g (ppm)	µg/g (ppm)	µg/g (ppm)
ACENAPHTHENE	83-32-9	4	5,000	5,000
ACENAPHTHYLENE	208-96-8	1	600	10
ACETONE	67-64-1	6	50	400
ALDRIN	309-00-2	1	1	1
ALIPHATIC HYDROCARBONS (See Petroleum Hydrocarbons)				
ANTHRACENE	120-12-7	5,000	5,000	5,000
ANTIMONY	7440-36-0	30	30	30
AROMATIC HYDROCARBONS (See Petroleum Hydrocarbons)				
ARSENIC	7440-38-2	20	20	20
BARIUM	7440-39-3	5,000	5,000	5,000
BENZENE	71-43-2	2	700	900
BENZO(a)ANTHRACENE	56-55-3	300	300	300
BENZO(a)PYRENE	50-32-8	30	30	30
BENZO(b)FLUORANTHENE	205-99-2	300	300	300
BENZO(g,h,i)PERYLENE	191-24-2	5,000	5,000	5,000
BENZO(k)FLUORANTHENE	207-08-9	3,000	3,000	3,000
BERYLLIUM	7440-41-7	200	200	200
BIPHENYL, 1,1-	92-52-4	0.05	6	4,000
BIS(2-CHLOROETHYL)ETHER	111-44-4	0.7	0.7	9
BIS(2-CHLOROISOPROPYL)ETHER	39638-32-9	0.7	0.7	100
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	3,000	3,000	3,000
BROMODICHLOROMETHANE	75-27-4	0.1	0.1	500
BROMOFORM	75-25-2	0.1	1	800
BROMOMETHANE	74-83-9	0.5	0.5	30
CADMIUM	7440-43-9	30	30	30
CARBON TETRACHLORIDE	56-23-5	10	5	400
CHLORDANE	12789-03-6	50	50	50
CHLOROANILINE, p-	106-47-8	1	100	3
CHLOROBENZENE	108-90-7	1	3	100
CHLOROFORM	67-66-3	0.4	0.3	800
CHLOROPHENOL, 2-	95-57-8	0.7	100	300
CHROMIUM (TOTAL) *	7440-47-3	200	200	200
CHROMIUM(III)	16065-83-1	5,000	5,000	5,000
CHROMIUM(VI)	18540-29-9	200	200	200
CHRYSENE	218-01-9	3,000	3,000	3,000
CYANIDE **	57-12-5	400	400	400
DIBENZO(a,h)ANTHRACENE	53-70-3	30	30	30
DIBROMOCHLOROMETHANE	124-48-1	0.005	0.03	500
DICHLOROBENZENE, 1,2- (o-DCB)	95-50-1	9	30	300
DICHLOROBENZENE, 1,3- (m-DCB)	541-73-1	1	40	500
DICHLOROBENZENE, 1,4- (p-DCB)	106-46-7	0.7	4	2,000
DICHLOROBENZIDINE, 3,3'-	91-94-1	40	40	40
DICHLORODIPHENYL DICHLOROETHANE, P,P'- (DDD)	72-54-8	30	30	30
DICHLORODIPHENYLDICHLOROETHYLENE,P,P'- (DDE)	72-55-9	30	30	30

MCP Method 1: SOIL CATEGORY S-3 STANDARDS**APPLICABLE TO SOIL WHERE THE COMBINATION OF SOIL & GROUNDWATER CATEGORIES ARE:**

Oil and/or Hazardous Material	CAS Number	S-3 SOIL & GW-1	S-3 SOIL & GW-2	S-3 SOIL & GW-3
		µg/g (ppm)	µg/g (ppm)	µg/g (ppm)
DICHLORODIPHENYLTRICHLOROETHANE, P,P'- (DDT)	50-29-3	30	30	30
DICHLOROETHANE, 1,1-	75-34-3	0.4	5	1,000
DICHLOROETHANE, 1,2-	107-06-2	0.1	0.1	300
DICHLOROETHYLENE, 1,1-	75-35-4	3	40	3,000
DICHLOROETHYLENE, CIS-1,2-	156-59-2	0.3	0.4	500
DICHLOROETHYLENE, TRANS-1,2-	156-60-5	1	1	3,000
DICHLOROMETHANE	75-09-2	0.1	20	900
DICHLOROPHENOL, 2,4-	120-83-2	0.7	60	40
DICHLOROPROPANE, 1,2-	78-87-5	0.1	0.1	600
DICHLOROPROPENE, 1,3-	542-75-6	0.01	0.4	100
DIELDRIN	60-57-1	2	2	2
DIETHYL PHTHALATE	84-66-2	10	200	300
DIMETHYL PHTHALATE	131-11-3	30	50	600
DIMETHYLPHENOL, 2,4-	105-67-9	0.7	100	1,000
DINITROPHENOL, 2,4-	51-28-5	3	50	90
DINITROTOLUENE, 2,4-	121-14-2	0.7	50	70
DIOXANE, 1,4-	123-91-1	0.2	6	500
ENDOSULFAN	115-29-7	0.5	300	1
ENDRIN	72-20-8	10	10	10
ETHYLBENZENE	100-41-4	40	1,000	3,000
ETHYLENE DIBROMIDE	106-93-4	0.1	0.1	30
FLUORANTHENE	206-44-0	5,000	5,000	5,000
FLUORENE	86-73-7	5,000	5,000	5,000
HEPTACHLOR	76-44-8	8	8	8
HEPTACHLOR EPOXIDE	1024-57-3	0.7	0.7	0.7
HEXACHLOROBENZENE	118-74-1	30	30	30
HEXACHLOROBUTADIENE	87-68-3	100	100	100
HEXACHLOROCYCLOHEXANE, GAMMA (gamma-HCH)	58-89-9	0.003	2	0.5
HEXACHLOROETHANE	67-72-1	0.7	3	100
HMX	2691-41-0	2	100	1,000
INDENO(1,2,3-cd)PYRENE	193-39-5	300	300	300
LEAD	7439-92-1	300	300	300
MERCURY	7439-97-6	30	30	30
METHOXYCHLOR	72-43-5	300	300	300
METHYL ETHYL KETONE	78-93-3	4	50	400
METHYL ISOBUTYL KETONE	108-10-1	0.4	50	400
METHYL MERCURY	22967-92-6	5	5	5
METHYL TERT BUTYL ETHER	1634-04-4	0.1	100	500
METHYLNAPHTHALENE, 2-	91-57-6	0.7	80	500
NAPHTHALENE	91-20-3	4	40	3,000
NICKEL	7440-02-0	700	700	700
PENTACHLOROPHENOL	87-86-5	3	500	10
PERCHLORATE	-	0.1	5	5
PETROLEUM HYDROCARBONS				
TOTAL PETROLEUM HYDROCARBON †	NA	5,000	5,000	5,000
ALIPHATIC HYDROCARBONS				

MCP Method 1: SOIL CATEGORY S-3 STANDARDS**APPLICABLE TO SOIL WHERE THE COMBINATION OF SOIL & GROUNDWATER CATEGORIES ARE:**

Oil and/or Hazardous Material	CAS Number	S-3 SOIL	S-3 SOIL	S-3 SOIL
		& GW-1	& GW-2	& GW-3
		µg/g (ppm)	µg/g (ppm)	µg/g (ppm)
C5 through C8 Aliphatic Hydrocarbons	NA	500	500	500
C9 through C12 Aliphatic Hydrocarbons	NA	5,000	5,000	5,000
C9 through C18 Aliphatic Hydrocarbons	NA	5,000	5,000	5,000
C19 through C36 Aliphatic Hydrocarbons	NA	5,000	5,000	5,000
AROMATIC HYDROCARBONS				
C9 through C10 Aromatic Hydrocarbons	NA	300	500	500
C11 through C22 Aromatic Hydrocarbons	NA	1,000	5,000	5,000
PHENANTHRENE	85-01-8	10	3,000	3,000
PHENOL	108-95-2	1	50	20
POLYCHLORINATED BIPHENYLS (PCBs)	1336-36-3	3	3	3
PYRENE	129-00-0	5,000	5,000	5,000
RDX	121-82-4	1	100	200
SELENIUM	7782-49-2	800	800	800
SILVER	7440-22-4	200	200	200
STYRENE	100-42-5	3	4	1,000
TETRACHLORODIBENZO-p-DIOXIN (TCDD), 2,3,7,8- (equivalents)	1746-01-6	3.E-04	3.E-04	3.E-04
TETRACHLOROETHANE, 1,1,1,2-	630-20-6	0.1	0.1	300
TETRACHLOROETHANE, 1,1,1,2-	79-34-5	0.005	0.02	40
TETRACHLOROETHYLENE	127-18-4	1	10	1,000
THALLIUM	7440-28-0	80	80	80
TOLUENE	108-88-3	30	2,000	3,000
TRICHLOROBENZENE, 1,2,4-	120-82-1	2	70	900
TRICHLOROETHANE, 1,1,1-	71-55-6	30	600	3,000
TRICHLOROETHANE, 1,1,2-	79-00-5	0.1	2	200
TRICHLOROETHYLENE	79-01-6	0.3	2	2,000
TRICHLOROPHENOL, 2,4,5-	95-95-4	4	100	200
TRICHLOROPHENOL 2,4,6-	88-06-2	0.7	20	20
VANADIUM	7440-62-2	1,000	1,000	1,000
VINYL CHLORIDE	75-01-4	0.9	0.7	30
XYLENES (Mixed Isomers)	1330-20-7	400	300	3,000
ZINC	7440-66-6	5,000	5,000	5,000

NOTE: All concentrations of oil and/or hazardous material in soil are calculated and presented on a dry weight/dry weight basis.

NA - Not Applicable

* - The Total Chromium standard is applicable in the absence of species-specific data for Chromium III and Chromium VI.

** - Cyanide expressed as Physiologically Available Cyanide (PAC). In the absence of measured Physiologically Available Cyanide, the standard is applicable to Total Cyanide.

† - The Total Petroleum Hydrocarbon (TPH) standard may be used as an alternative to the appropriate combinations of the Aliphatic and Aromatic Hydrocarbon Fraction standards. The use of the general TPH standard is a valid option only for C9 and greater petroleum hydrocarbons; it is not appropriate for the characterization of risks associated with lighter (gasoline-range) hydrocarbons.

†† - The Department periodically reviews the scientific basis for these Standards and amends them, as appropriate, to incorporate new scientific information.

[Replace the existing table at 310 CMR 40.0985(6) with the table below.]

310 CMR 40.0985(6): TABLE 5^{††}

MCP Method 2: DIRECT CONTACT EXPOSURE-BASED SOIL CONCENTRATIONS

APPLICABLE TO THE SPECIFIED SOIL CATEGORY

Oil and/or Hazardous Material	CAS Number	Soil	Soil	Soil
		Category S-1	Category S-2	Category S-3
		µg/g (ppm)	µg/g (ppm)	µg/g (ppm)
ACENAPHTHENE	83-32-9	1,000	3,000	5,000
ACENAPHTHYLENE	208-96-8	1,000	3,000	5,000
ACETONE	67-64-1	500	1,000	3,000
ALDRIN	309-00-2	0.04	0.4	1
ALIPHATIC HYDROCARBONS (See Petroleum Hydrocarbons)				
ANTHRACENE	120-12-7	1,000	3,000	5,000
ANTIMONY	7440-36-0	20	30	30
AROMATIC HYDROCARBONS (See Petroleum Hydrocarbons)				
ARSENIC	7440-38-2	20	20	20
BARIUM	7440-39-3	1,000	3,000	5,000
BENZENE	71-43-2	30	200	900
BENZO(a)ANTHRACENE	56-55-3	7	40	300
BENZO(a)PYRENE	50-32-8	2	4	30
BENZO(b)FLUORANTHENE	205-99-2	7	40	300
BENZO(g,h,i)PERYLENE	191-24-2	1,000	3,000	5,000
BENZO(k)FLUORANTHENE	207-08-9	70	400	3,000
BERYLLIUM	7440-41-7	100	200	200
BIPHENYL, 1,1-	92-52-4	1,000	3,000	4,000
BIS(2-CHLOROETHYL)ETHER	111-44-4	0.7	3	9
BIS(2-CHLOROISOPROPYL)ETHER	39638-32-9	3	50	100
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	200	700	3,000
BROMODICHLOROMETHANE	75-27-4	20	100	500
BROMOFORM	75-25-2	200	1,000	3,000
BROMOMETHANE	74-83-9	60	900	1,000
CADMIUM	7440-43-9	2	30	30
CARBON TETRACHLORIDE	56-23-5	10	60	400
CHLORDANE	12789-03-6	0.7	30	50
CHLOROANILINE, p-	106-47-8	200	300	300
CHLOROBENZENE	108-90-7	500	1,000	3,000
CHLOROFORM	67-66-3	400	800	800
CHLOROPHENOL, 2-	95-57-8	100	2,000	2,000
CHROMIUM (TOTAL) *	7440-47-3	30	200	200
CHROMIUM(III)	16065-83-1	1,000	3,000	5,000
CHROMIUM(VI)	18540-29-9	30	200	200
CHRYSENE	218-01-9	70	400	3,000
CYANIDE **	57-12-5	100	400	400
DIBENZO(a,h)ANTHRACENE	53-70-3	0.7	4	30
DIBROMOCHLOROMETHANE	124-48-1	20	100	500
DICHLOROBENZENE, 1,2- (o-DCB)	95-50-1	1,000	3,000	5,000
DICHLOROBENZENE, 1,3- (m-DCB)	541-73-1	100	500	500
DICHLOROBENZENE, 1,4- (p-DCB)	106-46-7	50	300	2,000
DICHLOROBENZIDINE, 3,3'-	91-94-1	1	10	40
DICHLORODIPHENYL DICHLOROETHANE, P,P'- (DDD)	72-54-8	4	30	30

310 CMR 40.0985(6): TABLE 5^{††}

MCP Method 2: DIRECT CONTACT EXPOSURE-BASED SOIL CONCENTRATIONS

APPLICABLE TO THE SPECIFIED SOIL CATEGORY

Oil and/or Hazardous Material	CAS Number	Soil	Soil	Soil
		Category S-1	Category S-2	Category S-3
		µg/g (ppm)	µg/g (ppm)	µg/g (ppm)
DICHLORODIPHENYLDICHLOROETHYLENE,P,P'- (DDE)	72-55-9	3	20	30
DICHLORODIPHENYLTRICHLOROETHANE, P,P'- (DDT)	50-29-3	3	20	30
DICHLOROETHANE, 1,1-	75-34-3	500	1,000	3,000
DICHLOROETHANE, 1,2-	107-06-2	10	90	600
DICHLOROETHYLENE, 1,1-	75-35-4	500	1,000	3,000
DICHLOROETHYLENE, CIS-1,2-	156-59-2	100	500	500
DICHLOROETHYLENE, TRANS-1,2-	156-60-5	500	1,000	3,000
DICHLOROMETHANE	75-09-2	200	1,000	3,000
DICHLOROPHENOL, 2,4-	120-83-2	60	100	100
DICHLOROPROPANE, 1,2-	78-87-5	10	100	600
DICHLOROPROPENE, 1,3-	542-75-6	9	70	400
DIELDRIN	60-57-1	0.05	0.4	2
DIETHYL PHTHALATE	84-66-2	1,000	3,000	5,000
DIMETHYL PHTHALATE	131-11-3	1,000	3,000	5,000
DIMETHYLPHENOL, 2,4-	105-67-9	500	3,000	5,000
DINITROPHENOL, 2,4-	51-28-5	50	90	90
DINITROTOLUENE, 2,4-	121-14-2	2	10	70
DIOXANE, 1,4-	123-91-1	70	500	500
ENDOSULFAN	115-29-7	200	300	300
ENDRIN	72-20-8	8	10	10
ETHYLBENZENE	100-41-4	500	1,000	3,000
ETHYLENE DIBROMIDE	106-93-4	0.7	4	30
FLUORANTHENE	206-44-0	1,000	3,000	5,000
FLUORENE	86-73-7	1,000	3,000	5,000
HEPTACHLOR	76-44-8	0.2	2	8
HEPTACHLOR EPOXIDE	1024-57-3	0.09	0.7	0.7
HEXACHLOROBENZENE	118-74-1	0.7	5	30
HEXACHLOROBUTADIENE	87-68-3	6	90	100
HEXACHLOROCYCLOHEXANE, GAMMA (gamma-HCH)	58-89-9	0.7	5	30
HEXACHLOROETHANE	67-72-1	9	100	100
HMX	2691-41-0	1,000	3,000	3,000
INDENO(1,2,3-cd)PYRENE	193-39-5	7	40	300
LEAD	7439-92-1	300	300	300
MERCURY	7439-97-6	20	30	30
METHOXYCHLOR	72-43-5	200	300	300
METHYL ETHYL KETONE	78-93-3	500	1,000	3,000
METHYL ISOBUTYL KETONE	108-10-1	500	1,000	3,000
METHYL MERCURY	22967-92-6	3	5	5
METHYL TERT BUTYL ETHER	1634-04-4	100	500	500
METHYLNAPHTHALENE, 2-	91-57-6	300	500	500
NAPHTHALENE	91-20-3	500	1,000	3,000
NICKEL	7440-02-0	20	700	700
PENTACHLOROPHENOL	87-86-5	10	70	500
PERCHLORATE	-	0.9	5	5
PETROLEUM HYDROCARBONS				

MCP Method 2: DIRECT CONTACT EXPOSURE-BASED SOIL CONCENTRATIONS**APPLICABLE TO THE SPECIFIED SOIL CATEGORY**

Oil and/or Hazardous Material	CAS Number	Soil	Soil	Soil
		Category S-1	Category S-2	Category S-3
		µg/g (ppm)	µg/g (ppm)	µg/g (ppm)
TOTAL PETROLEUM HYDROCARBON [†]	NA	1,000	3,000	5,000
ALIPHATIC HYDROCARBONS				
C5 through C8 Aliphatic Hydrocarbons	NA	100	500	500
C9 through C12 Aliphatic Hydrocarbons	NA	1,000	3,000	5,000
C9 through C18 Aliphatic Hydrocarbons	NA	1,000	3,000	5,000
C19 through C36 Aliphatic Hydrocarbons	NA	2,500	5,000	5,000
AROMATIC HYDROCARBONS				
C9 through C10 Aromatic Hydrocarbons	NA	100	500	500
C11 through C22 Aromatic Hydrocarbons	NA	1,000	3,000	5,000
PHENANTHRENE	85-01-8	500	1,000	3,000
PHENOL	108-95-2	500	1,000	3,000
POLYCHLORINATED BIPHENYLS (PCBs)	1336-36-3	2	3	3
PYRENE	129-00-0	1,000	3,000	5,000
RDX	121-82-4	8	60	200
SELENIUM	7782-49-2	400	800	800
SILVER	7440-22-4	100	200	200
STYRENE	100-42-5	30	200	1,000
TETRACHLORODIBENZO-p-DIOXIN (TCDD), 2,3,7,8- (equivalents)	1746-01-6	2.E-05	5.E-05	3.E-04
TETRACHLOROETHANE, 1,1,1,2-	630-20-6	7	100	300
TETRACHLOROETHANE, 1,1,2,2-	79-34-5	0.8	10	40
TETRACHLOROETHYLENE	127-18-4	30	200	1000
THALLIUM	7440-28-0	8	60	80
TOLUENE	108-88-3	500	1,000	3,000
TRICHLOROBENZENE, 1,2,4-	120-82-1	500	900	900
TRICHLOROETHANE, 1,1,1-	71-55-6	500	1,000	3,000
TRICHLOROETHANE, 1,1,2-	79-00-5	4	60	200
TRICHLOROETHYLENE	79-01-6	90	700	2,000
TRICHLOROPHENOL, 2,4,5-	95-95-4	1,000	3,000	5,000
TRICHLOROPHENOL 2,4,6-	88-06-2	70	600	3,000
VANADIUM	7440-62-2	600	1,000	1,000
VINYL CHLORIDE	75-01-4	0.6	4	30
XYLENES (Mixed Isomers)	1330-20-7	500	1,000	3,000
ZINC	7440-66-6	2,500	3,000	5,000

NOTE: All concentrations of oil and/or hazardous material in soil are calculated and presented on a dry weight/dry weight basis.

NA - Not Applicable

* - The Total Chromium standard is applicable in the absence of species-specific data for Chromium III and Chromium VI.

** - Cyanide expressed as Physiologically Available Cyanide (PAC). In the absence of measured Physiologically Available Cyanide, the standard is applicable to Total Cyanide.

† - The Total Petroleum Hydrocarbon (TPH) standard may be used as an alternative to the appropriate combinations of the Aliphatic and Aromatic Hydrocarbon Fraction standards. The use of the general TPH standard is a valid option only for C9 and greater petroleum hydrocarbons; it is not appropriate for the characterization of risks associated with lighter (gasoline-range) hydrocarbons.

†† - The Department periodically reviews the scientific basis for these Standards and amends them, as appropriate, to incorporate new scientific information.

[Replace the existing table at 310 CMR 40.0996(7) with the table below.]

310 CMR 40.0996(7): TABLE 6^{††}

MCP Method 3: UPPER CONCENTRATION LIMITS (UCLs) IN GROUNDWATER AND SOIL

Oil and/or Hazardous Material	CAS Number	UCLs IN GROUNDWATER	UCLs IN SOIL
		µg/L (ppb)	µg/g (ppm)
ACENAPHTHENE	83-32-9	60,000	10,000
ACENAPHTHYLENE	208-96-8	100,000	10,000
ACETONE	67-64-1	100,000	10,000
ALDRIN	309-00-2	200	10
ALIPHATIC HYDROCARBONS (See Petroleum Hydrocarbons)			
ANTHRACENE	120-12-7	600	10,000
ANTIMONY	7440-36-0	80,000	300
AROMATIC HYDROCARBONS (See Petroleum Hydrocarbons)			
ARSENIC	7440-38-2	9,000	200
BARIUM	7440-39-3	100,000	10,000
BENZENE	71-43-2	100,000	9,000
BENZO(a)ANTHRACENE	56-55-3	10,000	3,000
BENZO(a)PYRENE	50-32-8	5,000	300
BENZO(b)FLUORANTHENE	205-99-2	4,000	3,000
BENZO(g,h,i)PERYLENE	191-24-2	500	10,000
BENZO(k)FLUORANTHENE	207-08-9	1,000	10,000
BERYLLIUM	7440-41-7	2,000	2,000
BIPHENYL, 1,1-	92-52-4	100,000	10,000
BIS(2-CHLOROETHYL)ETHER	111-44-4	100,000	90
BIS(2-CHLOROISOPROPYL)ETHER	39638-32-9	100,000	1,000
BIS(2-ETHYLHEXYL)PHTHALATE	117-81-7	100,000	10,000
BROMODICHLOROMETHANE	75-27-4	100,000	5,000
BROMOFORM	75-25-2	100,000	10,000
BROMOMETHANE	74-83-9	8,000	10,000
CADMIUM	7440-43-9	50	300
CARBON TETRACHLORIDE	56-23-5	50,000	4,000
CHLORDANE	12789-03-6	20	500
CHLOROANILINE, p-	106-47-8	100,000	3,000
CHLOROBENZENE	108-90-7	10,000	10,000
CHLOROFORM	67-66-3	100,000	8,000
CHLOROPHENOL, 2-	95-57-8	100,000	10,000
CHROMIUM (TOTAL) *	7440-47-3	3,000	2,000
CHROMIUM(III)	16065-83-1	6,000	10,000
CHROMIUM(VI)	18540-29-9	3,000	2,000

MCP Method 3: UPPER CONCENTRATION LIMITS (UCLs) IN GROUNDWATER AND SOIL

Oil and/or Hazardous Material	CAS Number	UCLs IN	UCLs IN
		GROUNDWATER	SOIL
		µg/L (ppb)	µg/g (ppm)
CHRYSENE	218-01-9	700	10,000
CYANIDE **	57-12-5	2,000	4,000
DIBENZO(a,h)ANTHRACENE	53-70-3	400	300
DIBROMOCHLOROMETHANE	124-48-1	100,000	5,000
DICHLOROBENZENE, 1,2- (o-DCB)	95-50-1	20,000	10,000
DICHLOROBENZENE, 1,3- (m-DCB)	541-73-1	100,000	5,000
DICHLOROBENZENE, 1,4- (p-DCB)	106-46-7	80,000	10,000
DICHLOROBENZIDINE, 3,3'-	91-94-1	20,000	400
DICHLORODIPHENYL DICHLOROETHANE, P,P'- (DDD)	72-54-8	500	300
DICHLORODIPHENYLDICHLOROETHYLENE,P,P'- (DDE)	72-55-9	4,000	300
DICHLORODIPHENYLTRICHLOROETHANE, P,P'- (DDT)	50-29-3	10	300
DICHLOROETHANE, 1,1-	75-34-3	100,000	10,000
DICHLOROETHANE, 1,2-	107-06-2	100,000	6,000
DICHLOROETHYLENE, 1,1-	75-35-4	100,000	10,000
DICHLOROETHYLENE, CIS-1,2-	156-59-2	100,000	5,000
DICHLOROETHYLENE, TRANS-1,2-	156-60-5	100,000	10,000
DICHLOROMETHANE	75-09-2	100,000	10,000
DICHLOROPHENOL, 2,4-	120-83-2	100,000	1,000
DICHLOROPROPANE, 1,2-	78-87-5	100,000	6,000
DICHLOROPROPENE, 1,3-	542-75-6	2,000	4,000
DIELDRIN	60-57-1	80	20
DIETHYL PHTHALATE	84-66-2	100,000	10,000
DIMETHYL PHTHALATE	131-11-3	100,000	10,000
DIMETHYLPHENOL, 2,4-	105-67-9	100,000	10,000
DINITROPHENOL, 2,4-	51-28-5	100,000	900
DINITROTOLUENE, 2,4-	121-14-2	100,000	700
DIOXANE, 1,4-	123-91-1	100,000	5,000
ENDOSULFAN	115-29-7	100	3,000
ENDRIN	72-20-8	50	100
ETHYLBENZENE	100-41-4	100,000	10,000
ETHYLENE DIBROMIDE	106-93-4	100,000	300
FLUORANTHENE	206-44-0	2,000	10,000
FLUORENE	86-73-7	400	10,000
HEPTACHLOR	76-44-8	20	80
HEPTACHLOR EPOXIDE	1024-57-3	70	7
HEXACHLOROBENZENE	118-74-1	60,000	300

MCP Method 3: UPPER CONCENTRATION LIMITS (UCLs) IN GROUNDWATER AND SOIL

Oil and/or Hazardous Material	CAS Number	UCLs IN GROUNDWATER	UCLs IN SOIL
		µg/L (ppb)	µg/g (ppm)
HEXACHLOROBUTADIENE	87-68-3	30,000	1,000
HEXACHLOROCYCLOHEXANE, GAMMA (gamma-HCH)	58-89-9	2,000	300
HEXACHLOROETHANE	67-72-1	100,000	1,000
HMX	2691-41-0	100,000	10,000
INDENO(1,2,3-cd)PYRENE	193-39-5	1,000	3,000
LEAD	7439-92-1	150	3,000
MERCURY	7439-97-6	200	300
METHOXYCHLOR	72-43-5	400	3,000
METHYL ETHYL KETONE	78-93-3	100,000	10,000
METHYL ISOBUTYL KETONE	108-10-1	100,000	10,000
METHYL MERCURY	22967-92-6	200	50
METHYL TERT BUTYL ETHER	1634-04-4	100,000	5,000
METHYLNAPHTHALENE, 2-	91-57-6	100,000	5,000
NAPHTHALENE	91-20-3	100,000	10,000
NICKEL	7440-02-0	2,000	7,000
PENTACHLOROPHENOL	87-86-5	2,000	5,000
PERCHLORATE	-	10,000	50
PETROLEUM HYDROCARBONS			
TOTAL PETROLEUM HYDROCARBON [†]	NA	50,000	10,000
ALIPHATIC HYDROCARBONS			
C5 through C8 Aliphatic Hydrocarbons	NA	100,000	5,000
C9 through C12 Aliphatic Hydrocarbons	NA	100,000	20,000
C9 through C18 Aliphatic Hydrocarbons	NA	100,000	20,000
C19 through C36 Aliphatic Hydrocarbons	NA	100,000	20,000
AROMATIC HYDROCARBONS			
C9 through C10 Aromatic Hydrocarbons	NA	100,000	5,000
C11 through C22 Aromatic Hydrocarbons	NA	100,000	10,000
PHENANTHRENE	85-01-8	100,000	10,000
PHENOL	108-95-2	100,000	10,000
POLYCHLORINATED BIPHENYLS (PCBs)	1336-36-3	100	100
PYRENE	129-00-0	800	10,000
RDX	121-82-4	100,000	2,000
SELENIUM	7782-49-2	1,000	8,000
SILVER	7440-22-4	1,000	2,000
STYRENE	100-42-5	60,000	10,000
TETRACHLORODIBENZO-p-DIOXIN (TCDD), 2,3,7,8-	1746-01-6	4.E-01	3.E-03

MCP Method 3: UPPER CONCENTRATION LIMITS (UCLs) IN GROUNDWATER AND SOIL

Oil and/or Hazardous Material	CAS Number	UCLs IN	UCLs IN
		GROUNDWATER	SOIL
		µg/L (ppb)	µg/g (ppm)
(equivalents)			
TETRACHLOROETHANE, 1,1,1,2-	630-20-6	100,000	3,000
TETRACHLOROETHANE, 1,1,2,2-	79-34-5	100,000	400
TETRACHLOROETHYLENE	127-18-4	100,000	10,000
THALLIUM	7440-28-0	30,000	800
TOLUENE	108-88-3	100,000	10,000
TRICHLOROBENZENE, 1,2,4-	120-82-1	100,000	9,000
TRICHLOROETHANE, 1,1,1-	71-55-6	100,000	10,000
TRICHLOROETHANE, 1,1,2-	79-00-5	100,000	2,000
TRICHLOROETHYLENE	79-01-6	50,000	10,000
TRICHLOROPHENOL, 2,4,5-	95-95-4	100,000	10,000
TRICHLOROPHENOL 2,4,6-	88-06-2	50,000	10,000
VANADIUM	7440-62-2	40,000	10,000
VINYL CHLORIDE	75-01-4	100,000	300
XYLENES (Mixed Isomers)	1330-20-7	100,000	10,000
ZINC	7440-66-6	50,000	10,000

NOTE: All concentrations of oil and/or hazardous material in soil are calculated and presented on a dry weight/dry weight basis.

NA - Not Applicable

* - The Total Chromium standard is applicable in the absence of species-specific data for Chromium III and Chromium VI.

** - Cyanide expressed as Physiologically Available Cyanide (PAC). In the absence of measured Physiologically Available Cyanide, the standard is applicable to Total Cyanide.

† - The Total Petroleum Hydrocarbon (TPH) standard may be used as an alternative to the appropriate combinations of the Aliphatic and Aromatic Hydrocarbon Fraction standards. The use of the general TPH standard is a valid option only for C9 and greater petroleum hydrocarbons; it is not appropriate for the characterization of risks associated with lighter (gasoline-range) hydrocarbons.

†† - The Department periodically reviews the scientific basis for these Standards and amends them, as appropriate, to incorporate new scientific information.

[Amend the Reportable Concentrations for the following chemicals in Tables 1 and 2 of the Massachusetts Oil and Hazardous Material List at 310 CMR 40.1600]

RCGW-1

Chemical	RCGW-1 mg/L
ACENAPHTHYLENE	0.03
ACETONE	6.3
ANTHRACENE	0.03
BENZO(g,h,i)PERYLENE	0.02
BROMOMETHANE	0.007
CHLOROFORM	0.05
DICHLORODIPHENYLDICHLORO ETHYLENE,P,P'- (DDE)	0.00005
DICHLOROPROPENE, 1,3-	0.0004
DIMETHYLPHENOL, 2,4-	0.06
DIOXANE, 1,4-	0.003
FLUORENE	0.03
HMX	0.2
LEAD	0.01
METHYL ETHYL KETONE	4
Aliphatics, C5 to C8	0.3
Aliphatics, C9 to C12	0.7
Aliphatics, C9 to C18	0.7
Aliphatics, C19 to C36	14
PHENANTHRENE	0.04
PHENOL	1
POLYCHLORINATED BIPHENYLS (PCBs)	0.0005
RDX	0.001
XYLENES (Mixed Isomers)	5

RCGW-2

Chemical	RCGW-2 mg/L
ACENAPHTHENE	6
ACENAPHTHYLENE	0.04
ANTHRACENE	0.03
BENZO(g,h,i)PERYLENE	0.02
BERYLLIUM	0.2
BIS(2- CHLOROISOPROPYL)ETHER	0.1
BIS(2-ETHYLHEXYL)PHTHALATE	50
BROMOMETHANE	0.007
CHLOROFORM	0.05
CHLOROPHENOL, 2-	7
CHRYSENE	0.07
DICHLOROPROPENE, 1,3-	0.01
DIOXANE, 1,4-	6
ETHYLBENZENE	5
FLUORENE	0.04
HMX	50
METHYL TERT BUTYL ETHER	5
METHYLNAPHTHALENE, 2-	2
PETROLEUM HYDROCARBONS	5
Aliphatics, C5 to C8	3
Aliphatics, C9 to C12	5
Aliphatics, C9 to C18	5
Aliphatics, C19 to C36	50
Aromatics, C9 to C10	7
Aromatics, C11 to C22	5
PHENANTHRENE	10
POLYCHLORINATED BIPHENYLS (PCBs)	0.005
RDX	50
TOLUENE	40
XYLENES (Mixed Isomers)	5

RCS-1

Chemical	RCS-1 mg/kg
ACENAPHTHENE	4
ACENAPHTHYLENE	1
ACETONE	6
BERYLLIUM	100
BIS(2-ETHYLHEXYL)PHTHALATE	200
BROMOMETHANE	0.5
CHLOROFORM	0.3
CHRYSENE	70
DIOXANE, 1,4-	0.2
ETHYLBENZENE	40
FLUORENE	1000
HMX	2
METHYL ETHYL KETONE	4
METHYLNAPHTHALENE, 2-	0.7
PETROLEUM HYDROCARBONS	1000
Aliphatics, C19 to C36	3000
Aromatics, C11 to C22	1000
PHENANTHRENE	10
RDX	1
TRICHLOROPHENOL, 2,4,5-	4

RCS-2

Chemical	RCS-2 mg/kg
ACENAPHTHENE	3000
ACENAPHTHYLENE	10
ACETONE	50
ANTHRACENE	3000
BENZO(g,h,i)PERYLENE	3000
BERYLLIUM	200
BIS(2- CHLOROISOPROPYL)ETHER	0.7
BIS(2- ETHYLHEXYL)PHTHALATE	700
BROMOMETHANE	0.5
CHLOROFORM	0.3
CHLOROPHENOL, 2-	100
CHRYSENE	400
DICHLOROPROPENE, 1,3-	0.4
DIELDRIN	0.4
DIOXANE, 1,4-	6
ETHYLBENZENE	1000
FLUORENE	3000
HMX	100
METHYL ETHYL KETONE	50
METHYLNAPHTHALENE, 2-	80
PETROLEUM HYDROCARBONS	3000
Aliphatics, C9 to C12	3000
Aliphatics, C9 to C18	3000
Aromatics, C11 to C22	3000
PHENANTHRENE	1000
POLYCHLORINATED BIPHENYLS (PCBs)	3
RDX	60
TOLUENE	1000