# Soil

## ALASKA

<table>
<thead>
<tr>
<th>Name</th>
<th>Jill Taylor</th>
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</thead>
<tbody>
<tr>
<td>Contact_Title</td>
<td>Environmental Program Specialist III</td>
</tr>
<tr>
<td>Organization</td>
<td>Alaska DEC Contaminated Sites Program</td>
</tr>
<tr>
<td>Address / City</td>
<td>410 Willoughby Avenue, Suite 303, Juneau, 99801</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:Jill_Taylor@dec.state.ak.us">Jill_Taylor@dec.state.ak.us</a></td>
</tr>
<tr>
<td>Contact_Phone</td>
<td>(907) 465-5209</td>
</tr>
</tbody>
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## Regulatory

### Soil

#### Direct Contact (Dermal)

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<tr>
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<tr>
<td>Citation_Location: &quot;18 AAC 75.325 (g) and (h) for Cumulative Risk. <a href="http://www.dec.state.ak.us/regulations/index.htm">http://www.dec.state.ak.us/regulations/index.htm</a> Cleanup Levels Guidance - Method 2 Standard Tables&quot;</td>
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<tr>
<td>Contact_Info: <a href="mailto:Jill_Taylor@dec.state.ak.us">Jill_Taylor@dec.state.ak.us</a></td>
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#### Ingestion

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#### Inhalation

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### Guidelines

#### Soil

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<tr>
<th>Ecological Risk</th>
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<td>Citation_Location: Risk Assessment Procedures Manual (this document is adopted by reference in 18 AAC 75)</td>
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## Soil

### ARKANSAS

<table>
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<tr>
<th>Name</th>
<th>Ashley Whitlow</th>
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<tr>
<td>Contact_Title</td>
<td>Senior Epidemiologist</td>
</tr>
<tr>
<td>Organization</td>
<td>Arkansas Department of Environmental Quality - Hazardous Waste Division</td>
</tr>
<tr>
<td>Address / City</td>
<td>8001 National Drive, Little Rock, 722198913</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:whitlow@adeq.state.ar.us">whitlow@adeq.state.ar.us</a></td>
</tr>
<tr>
<td>Contact_Phone</td>
<td>(501) 682-0869</td>
</tr>
</tbody>
</table>

#### Regulatory

**Soil**

**Impact to Groundwater**

**Basis:**

**Citation_Location:** Arkansas Pollution Control and Ecology Commission Regulation 2 (http://www.adeq.state.ar.us/regs/default.htm) and ADEQ Ground Water Remediation Level Interim Policy and Technical Guidance

**Contact_Info:** Ashley Whitlow; 501-682-0869; whitlow@adeq.state.ar.us

**Comments:** The Arkansas Voluntary Cleanup Act at A.C.A. § 8-7-1104 (http://170.94.58.9/NXT/gateway.dll?f=templates&fn=default.htm&vid=blr:code), sets up the performance-based concept of eliminating "unacceptable risk" in contaminated soils.

**Impact to Surface Water**

**Basis:**

**Citation_Location:** Arkansas Pollution Control and Ecology Commission (APC&EC) Regulation 2 (http://www.adeq.state.ar.us/regs/default.htm)

**Contact_Info:** Ashley Whitlow; 501-682-0869; whitlow@adeq.state.ar.us

**Comments:** The Arkansas Voluntary Cleanup Act at A.C.A. § 8-7-1104 (http://170.94.58.9/NXT/gateway.dll?f=templates&fn=default.htm&vid=blr:code), sets up the performance-based concept of eliminating "unacceptable risk" in contaminated soils.

**Basis:** Site-specific soil standards may be developed to prevent constituent exceedances of surface water risk-based criteria.

**Citation_Location:** None. Soil remediation standards are developed on a case-by-case basis (according to site-specific circumstances).

**Contact_Info:** Ashley Whitlow; 501-682-0869; whitlow@adeq.state.ar.us

**Comments:** The Arkansas Voluntary Cleanup Act at A.C.A. § 8-7-1104 (http://170.94.58.9/NXT/gateway.dll?f=templates&fn=default.htm&vid=blr:code), sets up the performance-based concept of eliminating "unacceptable risk" in contaminated soils.

- [✓] RCRA_CA
- [✓] Brownfields
- [✓] DrinkingWater
- [✓] SurfaceWater
- [✓] AirQuality (Clean Air Act)
- [✓] SolidWasteLandfill
- [✓] VoluntaryCleanup
- [✓] SafeDrinkingWaterAct
- [✓] UST
- [✓] WetlandsProgram
- [✓] Other
### ARKANSAS

**Name:** Ashley Whitlow  
**Contact Title:** Senior Epidemiologist  
**Organization:** Arkansas Department of Environmental Quality - Hazardous Waste Division  
**Address / City:** 8001 National Drive, Little Rock, 722198913  
**Email:** whitlow@adeq.state.ar.us  
**Contact Phone:** (501) 682-0689

### Guidelines

#### Soil

**Direct Contact (Dermal)**


**Citation Location:** None. Soil remediation standards are developed on a case-by-case basis (according to site-specific circumstances). Soil contaminants are initially screened using the screening levels presented in the EPA Region 6 HHMSSLs table: [http://www.epa.gov/earth16/6pd/rcra_c/pd-n/screenvalues.pdf](http://www.epa.gov/earth16/6pd/rcra_c/pd-n/screenvalues.pdf). Dermal toxicity values (for COCs that failed the screening process) for use in risk-based development of remediation goals are extrapolated from oral or inhalation toxicity values that are also presented in the HHMSSLs table.

**Contact Info:** Ashley Whitlow; 501-682-0869; whitlow@adeq.state.ar.us

**Comments:** The Arkansas Voluntary Cleanup Act at A.C.A. § 8-7-1104 ([http://170.94.58.9/NXT/gateway.dll?f=templates&fn=default.htm&vid=blr:code](http://170.94.58.9/NXT/gateway.dll?f=templates&fn=default.htm&vid=blr:code)), sets up the performance-based concept of eliminating "unacceptable risk" in contaminated soils.

#### Ecological Risk


**Citation Location:** "None. Soil remediation standards are developed on a case-by-case basis (according to site-specific circumstances). Soil contaminants are initially screened for ecological concerns using the following: USEPA.2001.Supplemental Guidance to RAGS: Region 4 Bulletins, Ecological Risk Assessment. [http://www.epa.gov/Region4/waste/ots/ecolbul.htm](http://www.epa.gov/Region4/waste/ots/ecolbul.htm)"

**Contact Info:** Ashley Whitlow; 501-682-0869; whitlow@adeq.state.ar.us

**Comments:** The Arkansas Voluntary Cleanup Act at A.C.A. § 8-7-1104 ([http://170.94.58.9/NXT/gateway.dll?f=templates&fn=default.htm&vid=blr:code](http://170.94.58.9/NXT/gateway.dll?f=templates&fn=default.htm&vid=blr:code)), sets up the performance-based concept of eliminating "unacceptable risk" in contaminated soils.

#### Impact to Groundwater


**Citation Location:** None. Soil remediation levels are developed on case-by-case basis (according to site-specific circumstances) with the aim of preventing contaminant migration to groundwater above Federal Maximum Contaminant Levels (MCLs), Maximum Contaminant Level Goals (MCLGs), or other protective, risk-based criteria. Soil contaminants are initially screened for groundwater migration concerns using screening values provided in: U.S. EPA. 1996. Soil Screening Guidance: Technical Background Document, May 1996. EPA/540/R95/128.

**Contact Info:** Ashley Whitlow; 501-682-0869; whitlow@adeq.state.ar.us

**Comments:** The Arkansas Voluntary Cleanup Act at A.C.A. § 8-7-1104 ([http://170.94.58.9/NXT/gateway.dll?f=templates&fn=default.htm&vid=blr:code](http://170.94.58.9/NXT/gateway.dll?f=templates&fn=default.htm&vid=blr:code)), sets up the performance-based concept of eliminating "unacceptable risk" in contaminated soils.

#### Ingestion


**Citation Location:** None. Soil remediation standards are developed on a case-by-case basis (according to site-specific circumstances). Soil contaminants are initially screened using the screening levels presented in the EPA Region 6 HHMSSLs table: [http://www.epa.gov/earth16/6pd/rcra_c/pd-n/screenvalues.pdf](http://www.epa.gov/earth16/6pd/rcra_c/pd-n/screenvalues.pdf). Oral toxicity values for use in a risk-based development of remediation goals for COCs that failed the screening process are obtained from the HHMSSLs table.

**Contact Info:** Ashley Whitlow; 501-682-0869; whitlow@adeq.state.ar.us

**Comments:** The Arkansas Voluntary Cleanup Act at A.C.A. § 8-7-1104 ([http://170.94.58.9/NXT/gateway.dll?f=templates&fn=default.htm&vid=blr:code](http://170.94.58.9/NXT/gateway.dll?f=templates&fn=default.htm&vid=blr:code)), sets up the performance-based concept of eliminating “unacceptable risk” in contaminated soils.

#### Inhalation
Soil

ARKANSAS

Name: Ashley Whitlow  
Contact_Title: Senior Epidemiologist

Organization: Arkansas Department of Environmental Quality - Hazardous Waste Division

Address / City: 8001 National Drive, Little Rock, 722198913

Email: whitlow@adeq.state.ar.us  
Contact_Phone: (501) 682-0689

Guidelines

http://www.epa.gov/oswer/riskassessment/risk_supersfund.htm

Citation_Location: None. Soil remediation standards are developed on a case-by-case basis (according to site-specific circumstances). Soil contaminants are initially screened using the screening levels presented in the EPA Region 6 Human Health Medium Specific Screening Levels (HHMSSLS) table: http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screenvalues.pdf. Inhalation toxicity values for use in the risk-based development of remediation goals for chemicals of concern (COCs) that failed the screening process are also obtained from the HHMSSLS table.

Contact_Info: Ashley Whitlow; 501-682-0869; whitlow@adeq.state.ar.us

Comments: The Arkansas Voluntary Cleanup Act at A.C.A. § 8-7-1104  
(http://170.94.58.9/NXT/gateway.dll?f=templates&fn=default.htm&vid=blr:code), sets up the performance-based concept of eliminating "unacceptable risk" in contaminated soils.

☐ RCRA_CA  ☐ Brownfields  ☐ DrinkingWater  ☐ SurfaceWater  ☐ AirQuality (Clean Air Act)
☐ SolidWasteLndfill  ☐ VoluntaryCleanup  ☐ SafeDrinkingWaterAct  ☐ UST  ☐ WetlandsProgram  ☐ Other
### Soil

#### ARIZONA

<table>
<thead>
<tr>
<th>Name: Richard Olm</th>
<th>Contact_Title: Senior Environmental Engineer</th>
</tr>
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<tbody>
<tr>
<td>Organization: Arizona Dept. of Environmental Quality, Remedial Projects</td>
<td></td>
</tr>
<tr>
<td>Address / City: 1110 West Washington Street, , AZ, Phoenix, 850072952</td>
<td></td>
</tr>
<tr>
<td>Email: <a href="mailto:rco@azdeq.gov">rco@azdeq.gov</a></td>
<td>Contact_Phone: (480) 367-0249</td>
</tr>
</tbody>
</table>

#### Regulatory

**Soil**

**Direct Contact (Dermal)**

- **Basis:**
- **Citation_Location:** [http://www.azsos.gov/public_services/Title_18/18-07.htm](http://www.azsos.gov/public_services/Title_18/18-07.htm), [http://www.azleg.state.az.us/FormatDocument.asp?inDoc=/ars/49/00152.htm&Title=49&DocType=ARS](http://www.azleg.state.az.us/FormatDocument.asp?inDoc=/ars/49/00152.htm&Title=49&DocType=ARS)
- **Contact_Info:** Jeanene Hanley, jph@azdeq.gov
- **Comments:** Arizona has default insitu residential and non-residential soil clean up standards that are protective of human health based upon the inhalation, ingestion, and dermal pathways. The allowable risk level is between $1 \times 10^{-6}$ and $1 \times 10^{-4}$. Groundwater protection from soil contamination is evaluated by a procedure described in the document "A screening method to determine soil concentrations protective of groundwater quality". Ecological risk is not included in the soil clean-up standards. No specific guidance has been developed to evaluate ecological risk.

#### Ecological Risk

- **Basis:**
- **Citation_Location:** [http://www.azsos.gov/public_services/Title_18/18-07.htm](http://www.azsos.gov/public_services/Title_18/18-07.htm)
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#### Impact to Groundwater

- **Basis:**
- **Citation_Location:** [http://www.azsos.gov/public_services/Title_18/18-07.htm](http://www.azsos.gov/public_services/Title_18/18-07.htm), [http://www.azleg.state.az.us/FormatDocument.asp?inDoc=/ars/49/00152.htm&Title=49&DocType=ARS](http://www.azleg.state.az.us/FormatDocument.asp?inDoc=/ars/49/00152.htm&Title=49&DocType=ARS)
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#### Inhalation
Soil

ARIZONA

Name: Richard Olm  Contact_Title: Senior Environmental Engineer
Organization: Arizona Dept. of Environmental Quality, Remedial Projects
Address / City: 1110 West Washington Street, , AZ, Phoenix, 850072952
Email: rco@azdeq.gov  Contact_Phone: (480) 367-0249

ARIZONA Regulatory

Basis:

Citation Location: http://www.azsos.gov/public_services/Title_18/18-07.htm,
http://www.azleg.state.az.us/FormatDocument.asp?inDoc=/ars/49/00152.htm&Title=49&DocType=ARS
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Guidelines

Impact to Groundwater

Basis:

Citation Location: A Screening Method to Determine Soil Concentrations protective of Groundwater Quality
Contact_Info: Richard Olm, rco@azdeq.gov
Comments: Arizona has default insitu residential and non-residential soil clean up standards that are protective of human health based upon the inhalation, ingestion, and dermal pathways. The allowable risk level is between 1 x10-6 and 1x10-4. Groundwater protection from soil contamination is evaluated by a procedure described in the document "A screening method to determine soil concentrations protective of groundwater quality". Ecological risk is not included in the soil clean-up standards. No specific guidance has been developed to evaluate ecological risk.
# Soil

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<td>Branch Chief</td>
</tr>
<tr>
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<td>Site Mitigation and Brownfields Reuse Program</td>
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<tr>
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<td>Email:</td>
<td><a href="mailto:msorense@dtsc.ca.gov">msorense@dtsc.ca.gov</a></td>
</tr>
<tr>
<td>Contact_Phone:</td>
<td>(916) 255-6660</td>
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### Regulatory

#### Soil

**Direct Contact (Dermal)**

| Basis: | CA Health and Safety Code, Div 20, Chapter 6.5 and 6.8. (see [http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=hsc&codebody=&hits=20](http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=hsc&codebody=&hits=20)) requires cleanups be consistent with the NCP. Risk range of 1.E-06 to 1.E-04 is utilized to establish cleanup levels and considers 9 criteria analysis. |
| Contact_Info: | Deputy Director, Site Mitigation and Brownfields Reuse Program, (916) 322-0504. (see [http://www.dtsc.ca.gov/index.cfm](http://www.dtsc.ca.gov/index.cfm)) |
| Comments: | |

**Ecological Risk**

| Basis: | CA Health and Safety Code, Div 20, Chapter 6.5 and 6.8. (see [http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=hsc&codebody=&hits=20](http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=hsc&codebody=&hits=20)) requires cleanups be consistent with the NCP. Risk range of 1.E-06 to 1.E-04 is utilized to establish cleanup levels and considers 9 criteria analysis. |
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| Comments: | |

**Impact to Groundwater**

| Basis: | "Cleanup criteria can established based on human health risk or beneficial use of the resource. Statute relating to human health risk is CA Health and Safety Code, Div 20, Chapter 6.5 and 6.8. (see [http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=hsc&codebody=&hits=20](http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=hsc&codebody=&hits=20)) requires cleanups be consistent with the NCP. Risk range of 1.E-06 to 1.E-04 is utilized to establish cleanup levels and considers 9 criteria analysis. Statute relating to beneficial use is California Water Code, Division 7. Water Quality (see [http://www.waterboards.ca.gov/water_laws/docs/portercologne.pdf](http://www.waterboards.ca.gov/water_laws/docs/portercologne.pdf)). Section 13050(f) defines "Beneficial uses" of the waters of the state that may be protected against water quality degradation include, but are not necessarily limited to, domestic, municipal, agricultural, and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. Water quality goals are established in regional basin plans; for examples see [http://www.waterboards.ca.gov/plnspols/index.html](http://www.waterboards.ca.gov/plnspols/index.html)." |
| Contact_Info: | "For human health risk, contact: Deputy Director, Site Mitigation and Brownfields Reuse Program, (916) 322-0504. (see [http://www.dtsc.ca.gov/index.cfm](http://www.dtsc.ca.gov/index.cfm)) For beneficial use, contact: State Water Resources Control Board, Division of Water Quality (916) 341-5250 ([http://www.waterboards.ca.gov/quality.html?counter=85](http://www.waterboards.ca.gov/quality.html?counter=85))" |
| Comments: | |

**Impact to Surface Water**

| Basis: | "Cleanup criteria can established based on human health risk, ecological impact, or beneficial use of the resource. Statute relating to human health risk or ecological impact is CA Health and Safety Code, Div 20, Chapter 6.5 and 6.8. (see [http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=hsc&codebody=&hits=20](http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=hsc&codebody=&hits=20)) requires cleanups be consistent with the NCP. Risk range of 1.E-06 to 1.E-04 is utilized to establish cleanup levels and considers 9 criteria analysis. Statute relating to beneficial use is California Water Code, Division 7. Water Quality. (see [http://www.waterboards.ca.gov/water_laws/docs/portercologne.pdf](http://www.waterboards.ca.gov/water_laws/docs/portercologne.pdf)). Section 13050(f) defines "Beneficial uses" of the waters of the state that may be protected against water quality degradation include, but are not necessarily limited to, domestic, municipal, agricultural, and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. Water quality goals are established in regional basin plans; for examples see [http://www.waterboards.ca.gov/plnspols/index.html](http://www.waterboards.ca.gov/plnspols/index.html)." |
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<th>Deputy Director, Site Mitigation and Brownfields Reuse Program, (916) 322-0504. (see <a href="http://www.dtsc.ca.gov/index.cfm">http://www.dtsc.ca.gov/index.cfm</a>)</th>
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<td>CA Health and Safety Code, Div 20, Chapter 6.5 and 6.8. (see <a href="http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=hsc&amp;codebody=&amp;hits=20">http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=hsc&amp;codebody=&amp;hits=20</a>) requires cleanups be consistent with the NCP. Risk range of 1.E-06 to 1.E-04 is utilized to establish cleanup levels and considers 9 criteria analysis.</td>
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<tr>
<th>Contact_Info:</th>
<th>Deputy Director, Site Mitigation and Brownfields Reuse Program, (916) 322-0504. (see <a href="http://www.dtsc.ca.gov/index.cfm">http://www.dtsc.ca.gov/index.cfm</a>)</th>
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**Comments:**

- ✔ RCRA_CA
- ✔ Brownfields
- ☐ DrinkingWater
- ✔ SurfaceWater
- ☐ AirQuality (Clean Air Act)
- ☐ SolidWasteLandfill
- ✔ VoluntaryClnUp
- ☐ SafeDrinkingWaterAct
- ☐ UST
- ☐ WetlandsProgram
- ☐ Other
## Soil

**CALIFORNIA**

<table>
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<tr>
<th>Name:</th>
<th>Mike Sorensen</th>
<th>Contact_Title: Branch Chief</th>
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<td>Organization:</td>
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<td></td>
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<tr>
<td>Contact_Phone:</td>
<td>(916) 255-6660</td>
<td></td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:msorense@dtsc.ca.gov">msorense@dtsc.ca.gov</a></td>
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### Guidelines

#### Soil

**Direct Contact (Dermal)**

**Basis:**

Citation Location: *1. Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities (see http://www.dtsc.ca.gov/AssessingRisk/Supplemental_Guidance.cfm). This DTSC guidance manual supplements the U.S. Environmental Protection Agency manual for performing human health risk assessments (Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A), Interim Final (EPA/540/1-89/002, December 1989)) and OSWER directives by providing recommendations on specific technical or scientific issues that may be encountered when preparing multimedia risk assessment reports for submittal and review by the DTSC. 2. CalTOX (see http://www.dtsc.ca.gov/AssessingRisk/caltox.cfm). CalTOX is an innovative spreadsheet model that relates the concentration of a chemical in soil to the risk of an adverse health effect for a person living or working on or near the contaminated soil. CalTOX computes site-specific health-based soil clean-up concentrations given target risk levels or human health risks given soil concentrations at the site. 3. Preliminary Endangerment Assessment Guidance Manual (see http://www.dtsc.ca.gov/SiteCleanup/Brownfields/upload/SMP_REP_PEA_CH1.pdf - note, this is only chapter one of the guidance manual, other chapters can be found at http://www.dtsc.ca.gov/PublicationsForms/prog_pub.cfm?prog=Site%20). The Preliminary Endangerment Assessment (PEA) provides basic information for determining if there has been a release of a hazardous substance that presents a risk to human health or the environment.*

**Contact_Info:**

**Comments:**

#### Ecological Risk

**Basis:**

Citation Location: *Guidance for Ecological Risk Assessments (see http://www.dtsc.ca.gov/AssessingRisk/eco.cfm). This document contains the description of the DTSC-recommended phased method for conducting an ecological risk assessment. Outlined are the contents of a Scoping Assessment, a Phase I Predictive Assessment, a Phase II Validation Study and a Phase III Impact Assessment. More detailed guidance for each of these components will be available in a series of additional documents. Also included are flow charts describing the process with a text description of the decision points and work products contained in the flow charts.*

**Contact_Info:**

**Comments:**

#### Impact to Groundwater

**Basis:**

Citation Location: *Compilation Of Existing Guidance For The Development Of Site-Specific Water Quality Objectives In The State Of California (see http://www.waterboards.ca.gov/docs/sitespec/sitespecificwqo.pdf ) This document provides the State of California, United States Environmental Protection Agency (USEPA) Region 9, other stakeholders and the general public with a compilation of existing guidance and information on the development of site-specific water quality objectives (SSOs). The document presents background information on default national aquatic life criteria, including their strengths and limitations. Published and unpublished methodologies for the derivation of site-specific objectives are described with links, references and case examples provided for greater detail.*

**Contact_Info:**

**Comments:**

#### Impact to Surface Water
Soil

CALIFORNIA

Name: Mike Sorensen  
Contact_Title: Branch Chief

Organization: Site Mitigation and Brownfields Reuse Program

Address / City:

Email: msorense@dtsc.ca.gov  
Contact_Phone: (916) 255-6660

Guidelines

Basis: Compilation Of Existing Guidance For The Development Of Site-Specific Water Quality Objectives In The State Of California (see http://www.waterboards.ca.gov/docs/sitespec/sitespecificwqo.pdf ) This document provides the State of California, United States Environmental Protection Agency (USEPA) Region 9, other stakeholders and the general public with a compilation of existing guidance and information on the development of site-specific water quality objectives (SSOs). The document presents background information on default national aquatic life criteria, including their strengths and limitations. Published and unpublished methodologies for the derivation of site-specific objectives are described with links, references and case examples provided for greater detail.

Contact_Info: Deputy Director, Site Mitigation and Brownfields Reuse Program, (916) 322-0504. (see http://www.dtsc.ca.gov/index.cfm)

Comments:

Ingestion

2. CalTOX (see http://www.dtsc.ca.gov/AssessingRisk/caltox.cfm). CalTOX is an innovative spreadsheet model that relates the concentration of a chemical in soil to the risk of an adverse health effect for a person living or working on or near the contaminated soil. CalTOX computes site-specific health-based soil clean-up concentrations given target risk levels or human health risks given soil concentrations at the site.  
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Contact_Info:

Comments:

Inhalation

2. CalTOX (see http://www.dtsc.ca.gov/AssessingRisk/caltox.cfm). CalTOX is an innovative spreadsheet model that relates the concentration of a chemical in soil to the risk of an adverse health effect for a person living or working on or near the contaminated soil. CalTOX computes site-specific health-based soil clean-up concentrations given target risk levels or human health risks given soil concentrations at the site.  
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Contact_Info: Deputy Director, Site Mitigation and Brownfields Reuse Program, (916) 322-0504. (see http://www.dtsc.ca.gov/index.cfm)

Comments:

Other
CALIFORNIA

Name: Mike Sorensen  
Contact_Title: Branch Chief

Organization: Site Mitigation and Brownfields Reuse Program

Address / City:

Email: msorense@dtsc.ca.gov  
Contact_Phone: (916) 255-6660

Guidelines

Basis:

Citation_Location: 1. For risk assessment of lead exposures, see LeadSpread. (see http://www.dtsc.ca.gov/AssessingRisk/leadspread.cfm). LeadSpread is a tool that can be used to estimate blood lead concentrations resulting from exposure to lead via dietary intake, drinking water, soil and dust ingestion, inhalation, and dermal contact.  
2. Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater (Interim Final - February 2005) (see http://www.waterboards.ca.gov/sanfranciscobay/esl.htm) The document Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater (4th edition, February 2005) is a technical report prepared by staff of the California Regional Water Quality Board, San Francisco Bay Region. Information provided in the document is not intended to establish policy or regulation. Volume 1 of the document presents lookup tables of conservative Environmental Screening Levels (“ESLs”) for over 100 chemicals commonly found at sites with contaminated soil and groundwater. Volume 2 describes how the ESLs were developed and provides detailed tables and appendices in support of the summary lookup tables. 
3. California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties (see http://www.calepa.ca.gov/Brownfields/documents/2005/CHHSLsGuide.pdf). The California Human Health Screening Levels (CHHSLs or “Chisels”) are concentrations of 54 hazardous chemicals in soil or soil gas that the California Environmental Protection Agency (Cal/EPA) considers to be below thresholds of concern for risks to human health. The CHHSLs can be used to screen sites for potential human health concerns where releases of hazardous chemicals to soils have occurred. Under most circumstances, and within the limitations described in this document, the presence of a chemical in soil, soil gas or indoor air at concentrations below the corresponding CHHSLs can be assumed to not pose a significant health risk to people who may live (residential CHHSLs) or work (commercial/industrial CHHSLs) at the site. However, evaluation of other potential environmental concerns must also be addressed. The presence of a chemical at concentrations in excess of a CHHSL does not indicate that adverse impacts to human health are occurring or will occur but suggests that further evaluation of potential human health concerns is warranted. 
4. USEPA Region 9 Preliminary Remediation Goals (PRGs). PRGs are tools for evaluating and cleaning up contaminated sites. They are risk-based concentrations that are intended to assist risk assessors and others in initial screening-level evaluations of environmental measurements. The PRGs contained in the Region 9 PRG Table are generic; they are calculated without site specific information. However, they may be re-calculated using site specific data. PRGs should be viewed as Agency guidelines, not legally enforceable standards. They are used for site "screening" and as initial cleanup goals if applicable. PRGs are not de facto cleanup standards and should not be applied as such. However, they are helpful in providing long-term targets to use during the analysis of different remedial alternatives. By developing PRGs early in the decision-making process, design staff may be able to streamline the consideration of remedial alternatives. (see http://www.epa.gov/region09/waste/sfund/prg/index.html)

Contact_Info:

Comments:

☑ RCRA_CA ☑ Brownfields ☐ DrinkingWater ☑ SurfaceWater ☐ AirQuality (Clean Air Act)
☐ SolidWsteLndfill ☑ VoluntaryClnUp ☐ SafeDrinkingWaterAct ☐ UST ☐ WetlandsProgram ☐ Other
**Soil**

**COLORADO**

Name: Barbara O'Grady  
Contact_Title: Environmental Protection Specialist III  
Organization: Remedial Programs/Hazardous Materials and Waste Management  
Address / City: 4300 Cherry Creek Drive South, Denver, 80246  
Email: barbara.ogrady@state.co.us  
Contact_Phone: (303) 692-3395

### Guidelines

#### Soil

**Direct Contact (Dermal)**

Basis:

Citation_Location: http://www.cdphe.state.co.us/hm/soilplcydraft.pdf  
Contact_Info: Walter Avramenko 303-692-3362 walter.avramenko@state.co.us  
Comments: The guidance outlines a tiered approach ranging from Tier 1 Background/Method Detection Limits; Tier 2 using a conservative risk-based approach to calculate levels protective of human health and groundwater quality; Tier 3 allows for site specific information to modify Tier 2 values and Tier 4 set forth a flexible framework to allow a more detailed evaluation of site information.

#### Impact to Groundwater

Basis:

Citation_Location: http://www.cdphe.state.co.us/hm/soilplcydraft.pdf  
Contact_Info: Walter Avramenko 303-692-3362 walter.avramenko@state.co.us  
Comments: The guidance outlines a tiered approach ranging from Tier 1 Background/Method Detection Limits; Tier 2 using a conservative risk-based approach to calculate levels protective of human health and groundwater quality; Tier 3 allows for site specific information to modify Tier 2 values and Tier 4 set forth a flexible framework to allow a more detailed evaluation of site information.

#### Impact to Surface Water

Basis:

Citation_Location: http://www.cdphe.state.co.us/hm/soilplcydraft.pdf  
Contact_Info: Walter Avramenko 303-692-3362 walter.avramenko@state.co.us  
Comments: The guidance outlines a tiered approach ranging from Tier 1 Background/Method Detection Limits; Tier 2 using a conservative risk-based approach to calculate levels protective of human health and groundwater quality; Tier 3 allows for site specific information to modify Tier 2 values and Tier 4 set forth a flexible framework to allow a more detailed evaluation of site information.

#### Ingestion

Basis:

Citation_Location: http://www.cdphe.state.co.us/hm/soilplcydraft.pdf  
Contact_Info: Walter Avramenko 303-692-3362 walter.avramenko@state.co.us  
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#### Inhalation

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Citation_Location: http://www.cdphe.state.co.us/hm/soilplcydraft.asp  
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Soil

CONNECTICUT

Name: Traci Lott  
Organization: CT DEP/Remediation  
Address / City: 79 Elm St., Hartford, 06106  
Email: traci.iott@po.state.ct.us

Contact_Title: Environmental Analyst III  
Contact_Phone: (860) 424-3082

Regulatory

Soil

Direct Contact (Dermal)

Basis: 
Citation_Location: Dermal absorption is not considered in the Direct Exposure Criteria contained in 22z-133k-2 RCSA
Contact_Info: Traci Iott at traci.iott@po.state.ct.us

Comments:

Ecological Risk

Basis: 
Citation_Location: 22a-133k-2 RCSA Standards for Soil Remediation See subsection (i) Additional Remediation of Soil
Contact_Info: Traci Iott at traci.iott@po.state.ct.us

Comments:

Impact to Groundwater

Basis: 
Citation_Location: 22a-133k-2 RCSA Standards for Soil Remediation See subsections (c) Pollutant Mobility Criteria as well as (d) Alternative Soil Criteria and (e) Applying the Direct Exposure Criteria and Pollutant Mobility Criteria
Contact_Info: Traci Iott at traci.iott@po.state.ct.us

Comments:

Impact to Surface Water

Basis: 
Citation_Location: 22a-133k-2 RCSA Standards for Soil Remediation See subsection (i) Additional Remediation of Soil
Contact_Info: Traci Iott at traci.iott@po.state.ct.us

Comments:

Ingestion

Basis: 
Citation_Location: 22a-133k-2 RCSA Standards for Soil Remediation See subsections (b) Direct Exposure Criteria as well as (d) Alternative Soil Criteria and (e) Applying the Direct Exposure Criteria and Pollutant Mobility Criteria
Contact_Info: Traci Iott at traci.iott@po.state.ct.us

Comments:

Inhalation

Basis: 
Citation_Location: 22a-133k-3 RCSA (Regulations of Connecticut State Agencies) - Groundwater Remediation Standards. See subsections (c) Volatilization Criteria and (f) Applying the Criteria for Groundwater. Volatilization standards based on soil vapor are included in the ground-water portion of the regulations.
Contact_Info: Traci Iott at traci.iott@po.state.ct.us

Comments:

- R CRA_CA
- SolidWsteLndfill
- Brownfields
- DrinkingWater
- SurfaceWater
- AirQuality (Clean Air Act)
- VoluntaryClnUp
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other
## Soil

### CONNECTICUT

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<tr>
<th>Name:</th>
<th>Traci Lott</th>
<th>Contact_Title:</th>
<th>Environmental Analyst III</th>
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<tr>
<td>Organization:</td>
<td>CT DEP/Remediation</td>
<td></td>
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<tr>
<td>Address / City:</td>
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</tr>
<tr>
<td>Contact_Phone:</td>
<td>(860) 424-3082</td>
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### Not Specified

#### Soil

#### Impact to Surface Water

**Basis:**

Citation_Location: No guidance is available. The potential impact of polluted soil on a waterbody is currently handled on a case by case basis

Contact_Info: Traci Lott at traci.iott@po.state.ct.us

#### Guidelines

**Ecological Risk**

**Basis:**

Citation_Location: Currently Ecological Risk is currently evaluated on a case by case basis. General Guidance is available at http://www.dep.state.ct.us/wst/remediation/risk/eraindex.htm. See http://www.dep.state.ct.us/wst/remediation/risk/eraandremediation.pdf for more information on the approach CTDEP is proposing Ecological Risk Assessment as it pertains to Remediation Programs. CT specific guidance is currently under development for Ecological Risk Assessments.

Contact_Info: Traci Lott at traci.iott@po.state.ct.us

#### Impact to Groundwater

**Basis:**

Citation_Location: See the Comprehensive List of Approved Additional and Alternative Criteria for additional values (http://www.dep.state.ct.us/wtr/regs/remediation/alternative_and_approved_criteria.pdf)

Contact_Info: Traci Lott at traci.iott@po.state.ct.us

#### Ingestion

**Basis:**

Citation_Location: See the Comprehensive List of Approved Additional and Alternative Criteria for additional values (http://www.dep.state.ct.us/wtr/regs/remediation/alternative_and_approved_criteria.pdf)

Contact_Info: Traci Lott at traci.iott@po.state.ct.us

#### Inhalation

**Basis:**

The proposed revisions include an update to the model used to develop the criteria, along with an update of toxicity values, quantification levels, addition of new chemical as well as the consideration of exposure for children. Changes to the application of the criteria are also proposed.

Citation_Location: Proposed revisions to CT Volatilization Criteria can be found at http://www.dep.state.ct.us/wtr/regs/RvVolCri.pdf

Contact_Info: Traci Lott at traci.iott@po.state.ct.us

**Comments:**

- [✓] RCRA_CA
- [✓] Brownfields
- [✓] UST
- [✓] WetlandsProgram
- [✓] SoilWasteLndfill
- [✓] VoluntaryClnUp
- [✓] SafeDrinkingWaterAct
- [✓] DrinkingWater
- [✓] SurfaceWater
- [✓] AirQuality (Clean Air Act)
- [✓] Other
- [✓] Other

10/16/2006
### DE Maria

<table>
<thead>
<tr>
<th>Name:</th>
<th>stephen johnson</th>
<th>Contact Title:</th>
<th>Environmental Engineer</th>
</tr>
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<tr>
<td>Organization:</td>
<td>Site Investigation and Restoration Branch</td>
<td>Address / City:</td>
<td>Email:</td>
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<tr>
<td>Contact Phone:</td>
<td>(302) 395-2600</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email:</td>
<td>Qazi Salahudin</td>
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#### Regulatory

**Soil**

**Direct Contact (Dermal)**

- **Basis:** Human health--not greater than 1E-5 excess cancer, cumulative risk for all media, all analytes
- **Citation Location:** DE Regulations Gov Haz Substance Cleanup Section 9
- **Contact Info:** Qazi Salahudin
- **Comments:**

**Ecological Risk**

- **Basis:** Surface Water Quality Standards
- **Citation Location:** DE Regulations Gov Haz Substance Cleanup Section 9
- **Contact Info:** Qazi Salahudin
- **Comments:**

**Impact to Groundwater**

- **Basis:** Risk based or MCL
- **Citation Location:** DE Regulations Gov Haz Substance Cleanup Section 9.2
- **Contact Info:** Qazi Salahudin
- **Comments:**

**Impact to Surface Water**

- **Basis:** Surface Water Quality Standards
- **Citation Location:** DE Regulations Gov Haz Substance Cleanup Section 9.3
- **Contact Info:** Qazi Salahudin
- **Comments:**

**Ingestion**

- **Basis:** Human health--not greater than 1E-5 excess cancer, cumulative risk for all media, all analytes
- **Citation Location:** DE Regulations Gov Haz Substance Cleanup Section 9
- **Contact Info:** Qazi Salahudin
- **Comments:**

**Inhalation**

- **Basis:** Human health--not greater than 1E-5 excess cancer, cumulative risk for all media, all analytes
- **Citation Location:** DE Regulations Gov Haz Substance Cleanup Section 9
- **Contact Info:** Qazi Salahudin (for all)
- **Comments:**

- [ ] RCRA_CA
- [ ] Brownfields
- [ ] DrinkingWater
- [ ] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [ ] SolidWasteLandfill
- [ ] VoluntaryCleanUp
- [ ] SafeDrinkingWaterAct
- [ ] UST
- [ ] WetlandsProgram
- [ ] Other
### DELAWARE

<table>
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<tr>
<th>Name:</th>
<th>Stephen Johnson</th>
<th>Contact_Title:</th>
<th>Environmental Engineer</th>
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<td>Organization:</td>
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<td>Contact_Phone: (302) 395-2600</td>
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### Guidelines

#### Soil

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**Impact to Groundwater**

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**Ingestion**

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**Inhalation**

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- SolidWasteLandfill
- VoluntaryCleanup
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other
# Soil

**FLORIDA**

<table>
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<th>Name</th>
<th>Contact_Title</th>
<th>Organization</th>
<th>Address / City</th>
<th>Email</th>
<th>Contact_Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bheem R. Kothur</td>
<td>PE III</td>
<td>DWM/S&amp;HWR/RCRA/HSWA</td>
<td>2600 Blair Stone Road, MS#4560, Tallahassee, 323992400</td>
<td><a href="mailto:Bheem.Kothur@dep.state.fl.us">Bheem.Kothur@dep.state.fl.us</a></td>
<td>(850) 245-8781</td>
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## Regulatory

### Soil

#### Direct Contact (Dermal)

**Basis:**

Citation_Location: Soil Cleanup Target Levels, Chapter 62-777, F.A.C.

**Contact_Info:**

**Comments:** FYI we have web site: www.dep.state.fl.us/legal/rules/main rule list.htm; click on rules under complete listing; Choose, Rules in numerical order or rule by proper area. If you need any further help, please let me know. FYI, no standards for VI and Sediment Standards. Thanks.

#### Impact to Groundwater

**Basis:**

Citation_Location: Groundwater Cleanup Target Levels, Chapter 62-777, F.A.C. and Groundwater Protection Standards.

**Contact_Info:**

**Comments:** FYI we have web site: www.dep.state.fl.us/legal/rules/main rule list.htm; click on rules under complete listing; Choose, Rules in numerical order or rule by proper area. If you need any further help, please let me know. FYI, no standards for VI and Sediment Standards. Thanks.

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- **RCRA_CA**
- **SolidWsteLndfill**
- **VoluntaryClnUp**
- **SafeDrinkingWaterAct**
- **UST**
- **AirQuality (Clean Air Act)**
- **WetlandsProgram**
- **Other**
### Soil

**GEORGIA**

<table>
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<tr>
<th>Name</th>
<th>David Brownlee</th>
<th>Contact_Title:</th>
<th>Unit Coordinator</th>
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<tr>
<td>Organization</td>
<td>Hazardous Site Response Program</td>
<td></td>
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<tr>
<td>Address / City</td>
<td>2 MLK Jr Drive, Suite 1462, Atlanta, 30334</td>
<td></td>
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</tr>
<tr>
<td>Email</td>
<td><a href="mailto:david_brownlee@dnr.state.ga.us">david_brownlee@dnr.state.ga.us</a></td>
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<tr>
<td>Contact_Phone</td>
<td>(404) 657-6800</td>
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**Regulatory**

#### Soil

**Direct Contact (Dermal)**

**Basis:**

Citation_Location: Rules for Hazardous Site Response does not factor in dermal contact in risk calculations.
Contact_Info: david_brownlee@dnr.state.ga.us
Comments:

**Ecological Risk**

**Basis:**

Citation_Location: If an ecological risk assessment is required it should follow the process described in ERAGS or the Georgia SWMU guidance document (see right for both).
Contact_Info: jim_brown@dnr.state.ga.us
Comments:

**Impact to Groundwater**

**Basis:**

Citation_Location: Soil cleanup values are calculated such that exceedances of groundwater remediation standards will not occur.
Contact_Info: david_brownlee@dnr.state.ga.us
Comments:

**Impact to Surface Water**

**Basis:**

Citation_Location: Site specific soil cleanup values are calculated such that exceedances of in-stream water quality standards will not occur.
Contact_Info: david_brownlee@dnr.state.ga.us
Comments:

**Ingestion**

**Basis:**

Citation_Location: Rules for Hazardous Site Response 391-3-19 can be found at http://www.gaepd.org/Documents/rules_exist.html
Contact_Info: david_brownlee@dnr.state.ga.us
Comments:

**Inhalation**

**Basis:**

Citation_Location: Rules for Hazardous Site Response 391-3-19 can be found at http://www.gaepd.org/Documents/rules_exist.html
Contact_Info: david_brownlee@dnr.state.ga.us
Comments:

- [ ] RCRA_CA
- [x] Brownfields
- [ ] DrinkingWater
- [ ] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [ ] SolidWasteLandfill
- [ ] VoluntaryCleanUp
- [ ] SafeDrinkingWaterAct
- [ ] UST
- [ ] WetlandsProgram
- [ ] Other
### Guidelines

#### Soil

**Ecological Risk**

| Basis | Determined on a site-specific basis. |
| Citation_Location | 1. Ecological Risk Assessment Guidance for Superfund (ERAGS), EPA 1997 (EPA 540-R-97-006); 2. Georgia EPD Guidance for Selecting Media Remediation Levels of RCRA Solid Waste Management Units. This can be found at http://www.gaepd.org/files_pdf/techguide/hwb/swmunrisk.pdf |
| Contact_Info | jim_brown@dnr.state.ga.us |
| Comments | |

#### Other

| Basis | Cleanup levels are established by a hierarchy that includes a comparison of default values to generic residential and non-residential risk based levels, or by using site-specific risk based levels. |
| Citation_Location | |
| Contact_Info | |
| Comments | |

- [ ] RCRA_CA
- [x] Brownfields
- [ ] DrinkingWater
- [ ] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [ ] SolidWasteLandfill
- [ ] VoluntaryCleanUp
- [ ] SafeDrinkingWaterAct
- [ ] UST
- [ ] WetlandsProgram
- [ ] Other
Soil

IOWA

Name: Bob Drustrup  Contact_Title: Environmental Engineer
Organization: Iowa Department of Natural Resources, Land Recycling Program (a VCP)
Address / City: 502 E. 9th Street, Des Moines, 503190034
Email: bob.drustrup@dnr.state.ia.us  Contact_Phone: (515) 281-8900

Regulatory

Soil

Direct Contact (Dermal)

Basis: Larger of 5E-06 or HI = 0.1 for Group C that have a slope factor
Citation_Location: Rule 567 IAC 137.5, http://www.iowadnr.com/land/consites/index.html
Contact_Info: Bob Drustrup, (515) 281-8900, bob.drustrup@dnr.state.ia.us
Comments: Regulations shown are for the voluntary cleanup program. Statewide (i.e., residential) soil standards are addressed above. Site-specific, non-residential soil standards are based on 1 E-04 cancer risk and HI = 1 and less exposure. Cumulative risk requirements (cancer = 1 E-04 and HQ = 1 by target organ) apply regardless of the standard. Soil standards are based on direct exposure to soil by ingestion and dermal contact. Standards do not address cross-media contamination from soil. Instead standards apply only to the medium in which exposure occurs. For example, if non-compliance of groundwater standards occurs due to contaminants in soil, soil must be addressed even if soil standards are attained. An on-line cumulative risk calculator will be available in April from the referenced Internet address.

Ingestion

Basis: Larger of 5E-06 or HI = 0.1 for Group C that have a slope factor
Citation_Location: Rule 567 IAC 137.5, http://www.iowadnr.com/land/consites/index.html
Contact_Info: Bob Drustrup, (515) 281-8900, bob.drustrup@dnr.state.ia.us
Comments: Regulations shown are for the voluntary cleanup program. Statewide (i.e., residential) soil standards are addressed above. Site-specific, non-residential soil standards are based on 1 E-04 cancer risk and HI = 1 and less exposure. Cumulative risk requirements (cancer = 1 E-04 and HQ = 1 by target organ) apply regardless of the standard. Soil standards are based on direct exposure to soil by ingestion and dermal contact. Standards do not address cross-media contamination from soil. Instead standards apply only to the medium in which exposure occurs. For example, if non-compliance of groundwater standards occurs due to contaminants in soil, soil must be addressed even if soil standards are attained. An on-line cumulative risk calculator will be available in April from the referenced Internet address.

☐ RCRA_CA ☐ Brownfields  ☐ DrinkingWater  ☐ SurfaceWater  ☐ AirQuality (Clean Air Act)
☐ SolidWsteLndfill  ☐ VoluntaryClnUp  ☐ SafeDrinkingWaterAct  ☐ UST  ☐ WetlandsProgram  ☐ Other
## Soil

### IOWA

<table>
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<tr>
<th>Name:</th>
<th>Bob Drustrup</th>
<th>Contact_Title: Environmental Engineer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization:</td>
<td>Iowa Department of Natural Resources, Land Recycling Program (a VCP)</td>
<td></td>
</tr>
<tr>
<td>Address / City:</td>
<td>502 E. 9th Street, Des Moines, 503190034</td>
<td></td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:bob.drustrup@dnr.state.ia.us">bob.drustrup@dnr.state.ia.us</a></td>
<td>Contact_Phone: (515) 281-8900</td>
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### Not Specified

#### Soil

**Basis:** Addressed on a site-specific basis

**Citation_Location:**

**Contact_Info:** Regulations shown are for the voluntary cleanup program. Statewide (i.e., residential) soil standards are addressed above. Site-specific, non-residential soil standards are based on 1 E-04 cancer risk and HI = 1 and less exposure. Cumulative risk requirements (cancer = 1 E-04 and HQ = 1 by target organ) apply regardless of the standard. Soil standards are based on direct exposure to soil by ingestion and dermal contact. Standards do not address cross-media contamination from soil. Instead standards apply only to the medium in which exposure occurs. For example, if non-compliance of groundwater standards occurs due to contaminants in soil, soil must be addressed even if soil standards are attained. An on-line cumulative risk calculator will be available in April from the referenced Internet address.

**Comments:**

#### Impact to Groundwater

**Basis:** Addressed as groundwater issue

**Citation_Location:**

**Contact_Info:** Regulations shown are for the voluntary cleanup program. Statewide (i.e., residential) soil standards are addressed above. Site-specific, non-residential soil standards are based on 1 E-04 cancer risk and HI = 1 and less exposure. Cumulative risk requirements (cancer = 1 E-04 and HQ = 1 by target organ) apply regardless of the standard. Soil standards are based on direct exposure to soil by ingestion and dermal contact. Standards do not address cross-media contamination from soil. Instead standards apply only to the medium in which exposure occurs. For example, if non-compliance of groundwater standards occurs due to contaminants in soil, soil must be addressed even if soil standards are attained. An on-line cumulative risk calculator will be available in April from the referenced Internet address.

**Comments:**

#### Impact to Surface Water

**Basis:** Addressed as a surface water issue

**Citation_Location:**

**Contact_Info:** Regulations shown are for the voluntary cleanup program. Statewide (i.e., residential) soil standards are addressed above. Site-specific, non-residential soil standards are based on 1 E-04 cancer risk and HI = 1 and less exposure. Cumulative risk requirements (cancer = 1 E-04 and HQ = 1 by target organ) apply regardless of the standard. Soil standards are based on direct exposure to soil by ingestion and dermal contact. Standards do not address cross-media contamination from soil. Instead standards apply only to the medium in which exposure occurs. For example, if non-compliance of groundwater standards occurs due to contaminants in soil, soil must be addressed even if soil standards are attained. An on-line cumulative risk calculator will be available in April from the referenced Internet address.

**Comments:**

#### Inhalation

**Basis:** Addressed as an inhalation issue.

**Citation_Location:**

**Contact_Info:** Regulations shown are for the voluntary cleanup program. Statewide (i.e., residential) soil standards are addressed above. Site-specific, non-residential soil standards are based on 1 E-04 cancer risk and HI = 1 and less exposure. Cumulative risk requirements (cancer = 1 E-04 and HQ = 1 by target organ) apply regardless of the standard. Soil standards are based on direct exposure to soil by ingestion and dermal contact. Standards do not address cross-media contamination from soil. Instead standards apply only to the medium in which exposure occurs. For example, if non-compliance of groundwater standards occurs due to contaminants in soil, soil must be addressed even if soil standards are attained. An on-line cumulative risk calculator will be available in April from the referenced Internet address.

**Comments:**
### Soil

#### ILLINOIS

Name: Heather Nifong  
Contact_Title: Programs Advisor  
Organization: Division of Remediation Management, Bureau of Land  
Address / City: 1021 North Grand Ave East, Springfield, 62794-9276  
Email: heather.nifong@epa.state.il.us  
Contact_Phone: (217) 785-4729

#### Regulatory

<table>
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<th>Basis</th>
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<td><strong>Direct Contact (Dermal)</strong></td>
<td>addressed in Tier 2 or 3 evaluations only</td>
<td>35 IAC Part 742 (TACO) <a href="http://www.epa.state.il.us/land/taco/">http://www.epa.state.il.us/land/taco/</a></td>
<td>IEPA Toxicity Assessment Unit 217-785-0830</td>
<td>Dermal exposure is addressed by the RBCA equations in Tiers 2 and 3, which depend on the use of site-specific parameters. Separate soil impact to groundwater remediation objectives based on pH for identified ionizable organics or inorganics are available. The mixture rule requires that effects of similar-acting chemicals on the same target organ must be taken into account.</td>
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<tr>
<td><strong>Impact to Groundwater</strong></td>
<td>allows pH specific remediation objectives</td>
<td>35 IAC Part 742 (TACO) <a href="http://www.epa.state.il.us/land/taco/">http://www.epa.state.il.us/land/taco/</a></td>
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</tr>
<tr>
<td><strong>Other</strong></td>
<td>health effects of similar-acting chemicals</td>
<td>35 IAC Part 742 (TACO) <a href="http://www.epa.state.il.us/land/taco/">http://www.epa.state.il.us/land/taco/</a></td>
<td></td>
<td>Dermal exposure is addressed by the RBCA equations in Tiers 2 and 3, which depend on the use of site-specific parameters. Separate soil impact to groundwater remediation objectives based on pH for identified ionizable organics or inorganics are available. The mixture rule requires that effects of similar-acting chemicals on the same target organ must be taken into account.</td>
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- RCRA_CA
- SolidWasteLndfill
- Brownfields
- DrinkingWater
- SurfaceWater
- AirQuality (Clean Air Act)
- UST
- WetlandsProgram
- Other
Soil

**ILLINOIS**

Name: Heather Nifong  
Contact_Title: Programs Advisor  
Organization: Division of Remediation Management, Bureau of Land  
Address / City: 1021 North Grand Ave East, Springfield, 62794-9276  
Email: heather.nifong@epa.state.il.us  
Contact_Phone: (217) 785-4729

**Not Specified**

**Soil**

**Ecological Risk**

**Basis:**

Citation_Location: None. Developed on site-specific basis.
Contact_Info: IEPA Toxicity Assessment Unit, 217-785-0830

Comments: Dermal exposure is addressed by the RBCA equations in Tiers 2 and 3, which depend on the use of site-specific parameters. Separate soil impact to groundwater remediation objectives based on pH for identified ionizable organics or inorganics are available. The mixture rule requires that effects of similar-acting chemicals on the same target organ must be taken into account.

**Impact to Surface Water**

**Basis:**

Citation_Location: None. Developed on site-specific basis.
Contact_Info: IEPA Toxicity Assessment Unit, 217-785-0830

Comments: Dermal exposure is addressed by the RBCA equations in Tiers 2 and 3, which depend on the use of site-specific parameters. Separate soil impact to groundwater remediation objectives based on pH for identified ionizable organics or inorganics are available. The mixture rule requires that effects of similar-acting chemicals on the same target organ must be taken into account.
### Soil

#### INDIANA

<table>
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<tr>
<th>Name</th>
<th>Megan Hamilton</th>
<th>Contact_Title: Environmental Manager</th>
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<tr>
<td>Organization</td>
<td>Applied Science Technologies</td>
<td></td>
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<tr>
<td>Address / City</td>
<td>100 N Senate Ave, IGCN RM1154N, Indianapolis, 46204</td>
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<tr>
<td>Email</td>
<td><a href="mailto:mhamilto@idem.in.gov">mhamilto@idem.in.gov</a></td>
<td></td>
</tr>
<tr>
<td>Contact_Phone</td>
<td>(317) 234-3928</td>
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<td>Citation_Location</td>
<td>Soil Cleanup Criteria available at: <a href="http://www.in.gov/idem/land/risc/tech_guide/index.html">http://www.in.gov/idem/land/risc/tech_guide/index.html</a></td>
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<td>Contact_Info</td>
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#### Ecological Risk

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<td><a href="http://www.epa.gov/oerrpage/superfund/programs/risk/ecorisk/ecorisk.htm">Ecological Risk Assessment Guidance for Superfund for Designing and Conducting Ecological Risk Assessments</a></td>
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</tr>
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#### Ingestion

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<td>Contact_Info</td>
<td>Contact person is Megan Hamilton, (317) 234-3928, <a href="mailto:mhamilto@idem.in.gov">mhamilto@idem.in.gov</a></td>
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#### Inhalation

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- RCRA_CA
- Brownfields
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- SurfaceWater
- AirQuality (Clean Air Act)
- SolidWasteLndfill
- VoluntaryClnUp
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other
### Soil

**KENTUCKY**

<table>
<thead>
<tr>
<th>Name</th>
<th>Wesley Turner, et.al.</th>
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<tbody>
<tr>
<td>Contact_Title</td>
<td>Supervisor Federal Section Superfund</td>
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<tr>
<td>Organization</td>
<td>Division of Waste Management Superfund</td>
</tr>
<tr>
<td>Address / City</td>
<td>14 Reilly Road, Frankfort, 40601</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:wesley.turner@ky.gov">wesley.turner@ky.gov</a></td>
</tr>
<tr>
<td>Contact_Phone</td>
<td>(502) 564-6716</td>
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#### Regulatory

**Direct Contact (Dermal)**

**Basis:** 401 KAR 100:030, Soil Levels based on Region 9 PRG Table and Users Guide

**Citation_Location:** [http://www.lrc.ky.gov/kar/401/100/030.htm](http://www.lrc.ky.gov/kar/401/100/030.htm)

**Contact_Info:** Larry Taylor

**Comments:**

**Impact to Groundwater**

**Basis:** 401 KAR 100:030, Soil Levels based on Region 9 PRG Table and Users Guide

**Citation_Location:** [http://www.lrc.ky.gov/kar/401/100/030.htm](http://www.lrc.ky.gov/kar/401/100/030.htm)

**Contact_Info:** Larry Taylor

**Comments:**

**Ingestion**

**Basis:** 401 KAR 100:030, Soil Levels based on Region 9 PRG Table and Users Guide

**Citation_Location:** [http://www.lrc.ky.gov/kar/401/100/030.htm](http://www.lrc.ky.gov/kar/401/100/030.htm)

**Contact_Info:** Larry Taylor

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**Inhalation**

**Basis:** 401 KAR 100:030, Soil Levels based on Region 9 PRG Table and Users Guide

**Citation_Location:** [http://www.lrc.ky.gov/kar/401/100/030.htm](http://www.lrc.ky.gov/kar/401/100/030.htm)

**Contact_Info:** Larry Taylor

**Comments:**

- [ RCRA_CA ]
- [ SolidWasteLndfill ]
- [ Brownfields ]
- [ DrinkingWater ]
- [ SafeDrinkingWaterAct ]
- [ UST ]
- [ WetlandsProgram ]
- [ Other ]

#### Guidelines

**Ecological Risk**


**Citation_Location:** [http://www.lrc.ky.gov/kar/401/100/030.htm](http://www.lrc.ky.gov/kar/401/100/030.htm)

**Contact_Info:** Larry Taylor

**Comments:**

- [ RCRA_CA ]
- [ SolidWasteLndfill ]
- [ Brownfields ]
- [ DrinkingWater ]
- [ SafeDrinkingWaterAct ]
- [ UST ]
- [ WetlandsProgram ]
- [ Other ]

---

10/16/2006 | Page 25 of 207
State Action Levels Report - CERCLA T3  Focus Group

Soil

**LOUISIANA**

Name: Patrick J. Lobos  
Contact_Title: Toxicologist

Organization: Louisiana Department of Environmental Quality

Address / City: Environmental Technology Division, PO Box 4314, Baton Rouge, 708214314

Email: patrick.lobos@la.gov

Contact_Phone: (225) 219-3425

**Regulatory**

**Soil**

**Direct Contact (Dermal)**

Basis:


Contact_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

Comments:

**Ecological Risk**

Basis:


Contact_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

Comments:

**Impact to Groundwater**

Basis:


Contact_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

Comments:

**Impact to Surface Water**

Basis:


Contact_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

Comments:

**Ingestion**

Basis:


Contact_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

Comments:

**Inhalation**

Basis:


Contact_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

Comments:

**Other**
### Soil

**LOUISIANA**

<table>
<thead>
<tr>
<th>Name:</th>
<th>Patrick J. Lobos</th>
<th>Contact_Title:</th>
<th>Toxicologist</th>
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<tbody>
<tr>
<td>Organization:</td>
<td>Louisiana Department of Environmental Quality</td>
<td></td>
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</tr>
<tr>
<td>Address / City</td>
<td>Environmental Technology Division, PO Box 4314, Baton Rouge, 708214314</td>
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<tr>
<td>Email:</td>
<td><a href="mailto:patrick.lobos@la.gov">patrick.lobos@la.gov</a></td>
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<td>Contact_Phone:</td>
<td>(225) 219-3425</td>
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#### Regulatory

**Basis:**

- Contact_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425
- Comments: Soil standards are based upon site-specific considerations for risk. As evaluation proceeds through management options (tiered evaluation) more site-specific parameters are considered.

- [ ] RCRA_CA
- [ ] Brownfields
- [ ] DrinkingWater
- [ ] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [ ] SolidWasteLandfill
- [ ] VoluntaryCleanUp
- [ ] SafeDrinkingWaterAct
- [ ] UST
- [ ] WetlandsProgram
- [ ] Other

#### Guidelines

**Soil**

**Direct Contact (Dermal)**

**Basis:**

- Citation_Location: 2003 RECAP online at: http://www.deq.state.la.us/technology/recap
- Contact_Info: Patrick J. Lobos patrick.lobos@la.gov
- Comments:

**Impact to Groundwater**

**Basis:**

- Citation_Location: 2003 RECAP online at: http://www.deq.state.la.us/technology/recap
- Contact_Info: Patrick J. Lobos patrick.lobos@la.gov
- Comments:

**Ingestion**

**Basis:**

- Citation_Location: 2003 RECAP online at: http://www.deq.state.la.us/technology/recap
- Contact_Info: Patrick J. Lobos patrick.lobos@la.gov
- Comments:

**Inhalation**

**Basis:**

- Citation_Location: 2003 RECAP online at: http://www.deq.state.la.us/technology/recap
- Contact_Info: Patrick J. Lobos patrick.lobos@la.gov
- Comments:

**Other**

**Basis:**

- Citation_Location: 2003 RECAP online at: http://www.deq.state.la.us/technology/recap
- Contact_Info: Patrick J. Lobos patrick.lobos@la.gov
- Comments:
## Soil

### MASSACHUSETTS

| Name: Paul Locke | Contact_Title: Division Director - Policy & Program Development |
| Organization: MA DEQ, Waste Site Cleanup | Address / City: |
| Email: Paul.Locke@state.ma.us | Contact_Phone: (617) 556-1160 |

### Regulatory

#### Soil

##### Direct Contact (Dermal)

- **Basis:** Hazard Index=0.2, Cancer Risk= 1E-06. Standards consider cumulative impact of inhalation of contaminated dust, dermal contact and ingestion of contaminated soil.
- **Citation_Location:** 310 CMR 40 - "The Massachusetts Contingency Plan", specifically standards published in Supart I, 310 CMR 40.0900 et. seq. See http://mass.gov/dep/cleanup/laws/regulati.htm
- **Contact_Info:** Nancy Bettinger, MassDEP Office of Research and Standards, Nancy.Bettinger@state.ma.us, 617-556-5560
- **Comments:**

##### Impact to Groundwater

- **Basis:** Soil standards set based on modeled leaching to meet a specified target groundwater concentration (one of three groundwater categories - see "Groundwater" responses).
- **Citation_Location:** 310 CMR 40 - "The Massachusetts Contingency Plan", specifically standards published in Supart I, 310 CMR 40.0900 et. seq. See http://mass.gov/dep/cleanup/laws/regulati.htm
- **Contact_Info:** Nancy Bettinger, MassDEP Office of Research and Standards, Nancy.Bettinger@state.ma.us, 617-556-5560
- **Comments:**

##### Ingestion

- **Basis:** Hazard Index=0.2, Cancer Risk= 1E-06. Standards consider cumulative impact of inhalation of contaminated dust, dermal contact and ingestion of contaminated soil.
- **Citation_Location:** 310 CMR 40 - "The Massachusetts Contingency Plan", specifically standards published in Supart I, 310 CMR 40.0900 et. seq. See http://mass.gov/dep/cleanup/laws/regulati.htm
- **Contact_Info:** Nancy Bettinger, MassDEP Office of Research and Standards, Nancy.Bettinger@state.ma.us, 617-556-5560
- **Comments:**

##### Inhalation

- **Basis:** Hazard Index=0.2, Cancer Risk= 1E-06. Standards consider cumulative impact of inhalation of contaminated dust, dermal contact and ingestion of contaminated soil.
- **Citation_Location:** 310 CMR 40 - "The Massachusetts Contingency Plan", specifically standards published in Supart I, 310 CMR 40.0900 et. seq. See http://mass.gov/dep/cleanup/laws/regulati.htm
- **Contact_Info:** Nancy Bettinger, MassDEP Office of Research and Standards, Nancy.Bettinger@state.ma.us, 617-556-5560
- **Comments:**

- **RCRA_CA**
- **SolidWasteLndfill**
- **VoluntaryClnUp**
- Checked:
  - RCRA_CA
  - SolidWasteLndfill

- **Unchecked:**
  - Brownfields
  - DrinkingWater
  - SurfaceWater
  - AirQuality (Clean Air Act)
  - SafeDrinkingWaterAct
  - UST
  - WetlandsProgram
  - Other
### Soil

**MARYLAND**

<table>
<thead>
<tr>
<th>Name</th>
<th>James Carroll</th>
<th>Contact_Title</th>
<th>Program Administrator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization</td>
<td>Maryland Department of the Environment, Waste Management Administration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address / City</td>
<td>1800 Washington Blvd., Ste.625, Baltimore, 21230</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:JCarroll@mde.state.md.us">JCarroll@mde.state.md.us</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact_Phone</td>
<td>(410) 537-3437</td>
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#### Regulatory

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- **RCRA_CA**
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- **SolidWasteLandfill**
- **VoluntaryCleanUp**
- **SafeDrinkingWaterAct**
- **UST**
- **WetlandsProgram**
- **Other**

10/16/2006  Page 29 of 207
# Soil

## MARYLAND

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## Guidelines

### Direct Contact (Dermal)

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<td>Risk Assessment Guidance for Superfund (EPA RAGS), U.S. EPA <a href="http://www.epa.gov/oswer/riskassessment/risk_superfund.htm">http://www.epa.gov/oswer/riskassessment/risk_superfund.htm</a></td>
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<td>Contact_Info</td>
<td>State of Maryland Department of the Environment Cleanup Standards for Soil and Groundwater (MDE Cleanup Standards) <a href="http://www.mde.state.md.us/Programs/LandPrograms/Hazardous_Waste/cleanup_standards/index.asp">http://www.mde.state.md.us/Programs/LandPrograms/Hazardous_Waste/cleanup_standards/index.asp</a></td>
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<td>Contact_Info</td>
<td>MDE Cleanup Standards, Ambient Water Quality COMAR 26.08.02.03-2 <a href="http://www.dsd.state.md.us/comar/26/26.08.02.03%2D2.htm">http://www.dsd.state.md.us/comar/26/26.08.02.03%2D2.htm</a></td>
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- RCRA_CA
- Brownfields
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- AirQuality (Clean Air Act)
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- VoluntaryClnUp
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other
**Soil**

**MICHIGAN**

<table>
<thead>
<tr>
<th>Name</th>
<th>Christine Flaga</th>
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<tbody>
<tr>
<td>Contact_Title</td>
<td>Chief, Toxicology Unit, Remediation and Redevelopment</td>
</tr>
<tr>
<td>Organization</td>
<td>Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Storage)</td>
</tr>
<tr>
<td>Address / City</td>
<td>Michigan Department of Environmental Quality, Remediation and Development Division, Constitution Hall, 525 West Allegan St.</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:flagac@michigan.gov">flagac@michigan.gov</a></td>
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<tr>
<td>Contact_Phone</td>
<td>(517) 373-0160</td>
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**Regulatory**

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<td>Direct Contact (Dermal)</td>
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</table>

**Basis:**

Generic cleanup criteria for soil were developed pursuant to Sections 20120a and 21304a of NREPA. The direct contact criteria represents a soil concentration that is protective against adverse health effects due to long-term ingestion of and dermal contact with contaminated soil. Details on the criteria applicability and algorithms can be found in the MDEQ Remediation and Redevelopment Division (RRD) Operational Memoranda.

**Citation_Location:** Part 201 (Environmental Remediation), Part 213 (LUSTs), and Part 201 Rules. Document available at http://www.michigan.gov/deq/0,1607,7-135-3311_4109_9846-58095--,00.html specifically R299.5720

**Contact_Info:** Christine Flaga, RRD Toxicology Unit (517) 373-0160, flagac@michigan.gov

**Comments:**

1) Site-specific criteria are developed for exposure pathways and scenarios for which generic methodology has not been developed. Concerns listed below are addressed on a site-specific basis:

   a) Recreational exposures
   b) Contaminated soil runoff to surface water (R299.5728)
   c) Ecological and aesthetic impacts - For screening level ecological risk assessment, the Ecological Screening Level Guidance of the U.S. EPA Reg. 5 RCRA Corrective Action Program (R299.5728 and R299.5732).

2) Statewide default soil background levels are substituted for the cleanup criterion for a hazardous substance whenever the applicable risk-based criterion is lower than the statewide background level for that particular hazardous substance.

Note: Drinking water and Safe Drinking Water Act use Rule 57 surface water quality values.

---

**Ecological Risk**

**Basis:**

No generic clean-up criteria available. Clean-up levels are determined on a site-specific basis.

**Citation_Location:** Part 201 (Environmental Remediation), Part 213 (LUSTs), and Part 201 Rules. Document available at http://www.michigan.gov/deq/0,1607,7-135-3311_4109_9846-58095--,00.html specifically R299.5728.

**Contact_Info:** Christine Flaga, RRD Toxicology Unit (517) 373-0160, flagac@michigan.gov

**Comments:**

1) Site-specific criteria are developed for exposure pathways and scenarios for which generic methodology has not been developed. Concerns listed below are addressed on a site-specific basis:

   a) Recreational exposures
   b) Contaminated soil runoff to surface water (R299.5728)
   c) Ecological and aesthetic impacts - For screening level ecological risk assessment, the Ecological Screening Level Guidance of the U.S. EPA Reg. 5 RCRA Corrective Action Program (R299.5728 and R299.5732).

2) Statewide default soil background levels are substituted for the cleanup criterion for a hazardous substance whenever the applicable risk-based criterion is lower than the statewide background level for that particular hazardous substance.

Note: Drinking water and Safe Drinking Water Act use Rule 57 surface water quality values.

---

**Impact to Groundwater**
Soil

MICHIGAN

Name: Christine Flaga
Organization: Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Storage)
Address / City: Michigan Department of Environmental Quality, Remediation and Development Division, Constitution Hall, 525 West Allegan St.
Email: flagac@michigan.gov

Regulatory

Basis:
*Generic cleanup criteria for soil for all land uses were developed pursuant to Sections 20120a and 21304a of NREPA. The soil criteria protective of drinking water (GWPC) identify concentrations of hazardous substances in soil that are not expected to leach to groundwater at concentrations greater than the applicable generic drinking water criteria. The soil criteria protective for groundwater contact (GCC) identify concentrations of hazardous substances in soil which are not expected to leach to groundwater at concentrations greater than the GCC. The GCC applies for all land uses where contaminated groundwater is, or could be encountered at a depth where subsurface activities (i.e. construction or maintenance of utilities) may result in persons coming into contact with the groundwater. The soil criteria protective of the groundwater surface water interface (GSI) represent concentrations of hazardous substances in soil that are not expected to leach to groundwater at concentrations greater than the corresponding GSI criterion. Details on the criteria applicability and algorithms can be found in the MDEQ Remediation and Redevelopment Division (RRD) Operational Memoranda.

Citation_Location: Part 201 (Environmental Remediation), Part 213 (LUSTs), and Part 201 Rules. Document available at http://www.michigan.gov/deq/0,1607,7-135-3311_4109_9846-101581--,00.html specifically R299.5720, and R299.5722
Contact_Info: Christine Flaga, RRD Toxicology Unit (517) 373-0160, flagac@michigan.gov
Comments: 1) Site-specific criteria are developed for exposure pathways and scenarios for which generic methodology has not been developed. Concerns listed below are addressed on a site-specific basis:
   a) Recreational exposures
   b) Contaminated soil runoff to surface water (R299.5728)
   c) Ecological and aesthetic impacts - For screening level ecological risk assessment, the Ecological Screening Level Guidance of the U.S. EPA Reg. 5 RCRA Corrective Action Program (R299.5728 and R299.5732).
   2) Statewide default soil background levels are substituted for the cleanup criterion for a hazardous substance whenever the applicable risk-based criterion is lower than the statewide background level for that particular hazardous substance.
   Note: Drinking water and Safe Drinking Water Act use Rule 57 surface water quality values.

Impact to Surface Water

Basis:
Citation_Location: http://www.michigan.gov/deq/0,1607,7-135-3311_4109_9846-101581--,00.html
Contact_Info: Christine Flaga, RRD Toxicology Unit (517) 373-0160, flagac@michigan.gov
Comments: 1) Site-specific criteria are developed for exposure pathways and scenarios for which generic methodology has not been developed. Concerns listed below are addressed on a site-specific basis:
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   2) Statewide default soil background levels are substituted for the cleanup criterion for a hazardous substance whenever the applicable risk-based criterion is lower than the statewide background level for that particular hazardous substance.
   Note: Drinking water and Safe Drinking Water Act use Rule 57 surface water quality values.
Soil

MICHIGAN

Name: Christine Flaga
Contact_Title: Chief, Toxicology Unit, Remediation and Redevelopment Division
Organization: Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Storage Tank) Remediation and Development Division, Constitution Hall, 525 West Allegan St.
Address / City: Michigan Department of Environmental Quality, Remediation and Development Division, Constitution Hall, 525 West Allegan St.
Email: flagac@michigan.gov
Contact_Phone: (517) 373-0160

Regulatory

Basis: Generic health-based cleanup criteria for soil for all land uses were developed pursuant to Sections 20120a and 21304a of NREPA. The soil volatilization to indoor air criteria (SVIIC) address migration of hazardous substance vapors from soil into indoor air spaces. SVIIC identify concentrations of volatile hazardous substances in soil that are not expected to impact indoor air above levels that may cause adverse human health effects. The particulate soil inhalation criteria (PSIC) address the emission and dispersion of contaminated soil particulates into the ambient air. The PSIC identify concentrations of hazardous substances in soil that, when bound to particulate matter in ambient air, are not expected to impact ambient air at levels that may cause adverse human health effects. The soil volatilization inhalation criteria (VSIC) address the migration of hazardous substance vapors from soil into the ambient air for situations where the vertical extent of contamination is finite (i.e., thickness is 2 meters or less) or infinite. The VSIC identify concentrations of volatile hazardous substances in soil that are not expected to impact ambient air at levels that may cause adverse human health effects. Details on the criteria applicability and algorithms can be found in the MDEQ Remediation and Redevelopment Division (RRD) Operational Memoranda.

Citation_Location: Part 201 (Environmental Remediation), Part 213 (LUSTs), and Part 201 Rules. Document available at http://www.michigan.gov/deq/0,1607,7-135-3311_4109_9846-58095--00.html specifically R299.5724 and R299.5726

Contact_Info: Christine Flaga, RRD Toxicology Unit (517) 373-0160, flagac@michigan.gov

Comments: 1) Site-specific criteria are developed for exposure pathways and scenarios for which generic methodology has not been developed. Concerns listed below are addressed on a site-specific basis:
   a) Recreational exposures
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   2) Statewide default soil background levels are substituted for the cleanup criterion for a hazardous substance whenever the applicable risk-based criterion is lower than the statewide background level for that particular hazardous substance.
   Note: Drinking water and Safe Drinking Water Act use Rule 57 surface water quality values.

Basis: Please refer to the Direct Contact Criteria cited above.

Citation_Location: See information under Direct Contact.

Contact_Info: Christine Flaga, RRD Toxicology Unit (517) 373-0160, flagac@michigan.gov

Comments: 1) Site-specific criteria are developed for exposure pathways and scenarios for which generic methodology has not been developed. Concerns listed below are addressed on a site-specific basis:
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   Note: Drinking water and Safe Drinking Water Act use Rule 57 surface water quality values.
Soil

MICHIGAN

Name: Christine Flaga
Contact_Title: Chief, Toxicology Unit, Remediation and Redevelopment
Organization: Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Storage Tank Program)
Address / City: Michigan Department of Environmental Quality, Remediation and Development Division, Constitution Hall, 525 West Allegan St., Lansing, MI 48909
Email: flagac@michigan.gov
Contact_Phone: (517) 373-0160

Guidelines

Soil

Direct Contact (Dermal)

Basis: Operational Memoranda 1 - Table 2 and 3. Soil: Residential, Industrial and Commercial I, II, III and IV Part 201 Generic Cleanup Criteria and Screening Levels; Part 213 Tier 1 RBSLs
Contact_Info: Christine Flaga, RRD Toxicology Unit (517) 373-0160, flagac@michigan.gov
Comments: 1) Site-specific criteria are developed for exposure pathways and scenarios for which generic methodology has not been developed. Concerns listed below are addressed on a site-specific basis:
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   Note: Drinking water and Safe Drinking Water Act use Rule 57 surface water quality values.

Impact to Groundwater

Basis: Operational Memoranda 1 - Table 2 and 3. Soil: Residential, Industrial and Commercial I, II, III and IV Part 201 Generic Cleanup Criteria and Screening Levels; Part 213 Tier 1 RBSLs; TSD-Attachment TSD-Attachment 9: Generic Groundwater Protection Criteria; TSD: Groundwater Contact Criteria; Operational Memoranda 5 - Groundwater Surface Water Interface Criteria
Contact_Info: Christine Flaga, RRD Toxicology Unit (517) 373-0160, flagac@michigan.gov
Comments: 1) Site-specific criteria are developed for exposure pathways and scenarios for which generic methodology has not been developed. Concerns listed below are addressed on a site-specific basis:
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Impact to Surface Water

Basis:
Citation_Location: Cleanup Criteria available at: http://www.deq.state.mi.us/documents/deq-rrd-OpMemo_1.pdf
Contact_Info: Christine Flaga, RRD Toxicology Unit (517) 373-0160, flagac@michigan.gov
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   c) Ecological and aesthetic impacts - For screening level ecological risk assessment, the Ecological Screening Level Guidance of the U.S. EPA Reg. 5 RCRA Corrective Action Program (R299.5728 and R299.5732).
   2) Statewide default soil background levels are substituted for the cleanup criterion for a hazardous substance whenever the applicable risk-based criterion is lower than the statewide background level for that particular hazardous substance.
   Note: Drinking water and Safe Drinking Water Act use Rule 57 surface water quality values.
<table>
<thead>
<tr>
<th>Guidelines</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inhalation</strong></td>
<td></td>
</tr>
<tr>
<td>Basis:</td>
<td>Please refer to the Direct Contact Criteria cited above.</td>
</tr>
<tr>
<td>Citation_Location:</td>
<td>See information under Direct Contact.</td>
</tr>
<tr>
<td>Contact_Info:</td>
<td>Christine Flaga, RRD Toxicology Unit (517) 373-0160, <a href="mailto:flagac@michigan.gov">flagac@michigan.gov</a></td>
</tr>
<tr>
<td>Comments:</td>
<td>1) Site-specific criteria are developed for exposure pathways and scenarios for which generic methodology has not been developed. Concerns listed below are addressed on a site-specific basis: a) Recreational exposures b) Contaminated soil runoff to surface water (R299.5728) c) Ecological and aesthetic impacts - For screening level ecological risk assessment, the Ecological Screening Level Guidance of the U.S. EPA Reg. 5 RCRA Corrective Action Program (R299.5728 and R299.5732). 2) Statewide default soil background levels are substituted for the cleanup criterion for a hazardous substance whenever the applicable risk-based criterion is lower than the statewide background level for that particular hazardous substance. Note: Drinking water and Safe Drinking Water Act use Rule 57 surface water quality values.</td>
</tr>
<tr>
<td>Basis:</td>
<td>Operational Memoranda 1 - Table 2 and 3. Soil: Residential, Industrial and Commercial I, II, III and IV Part 201 Generic Cleanup Criteria and Screening Levels; Part 213 Tier 1 RBSLs; Technical Support Document (TSD): Generic Groundwater and Soil Volatilization to Indoor Air Inhalation Criteria; TSD: Generic Soil Inhalation Criteria for Ambient Air.</td>
</tr>
<tr>
<td>Contact_Info:</td>
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## Soil

### MINNESOTA

<table>
<thead>
<tr>
<th>Name:</th>
<th>Doug Beckwith</th>
<th>Contact_Title:</th>
<th>Remediation Supervisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization:</td>
<td>Superfund</td>
<td>Email:</td>
<td><a href="mailto:doug.beckwith@pca.state.mn.us">doug.beckwith@pca.state.mn.us</a></td>
</tr>
<tr>
<td>Address / City:</td>
<td>525 South Lake Svenue Suite 400, Duluth, 55802</td>
<td>Contact_Phone:</td>
<td>(218) 529-6267</td>
</tr>
</tbody>
</table>

### Guidelines

#### Direct Contact (Dermal)

- **Basis:** U.S. EPA Risk Assessment Guidance for Superfund (EPA RAGS), U.S. EPA
  [http://www.epa.gov/oswer/riskassessment/risk_superfund.htm](http://www.epa.gov/oswer/riskassessment/risk_superfund.htm)
- **Citation_Location:** Risk-based guidance for the soil-human health pathway document vol.2 available at:
- **Contact_Info:** Laura Solem, 218-529-6254, laura.solem@pca.state.mn.us
- **Comments:**

#### Ecological Risk

- **Basis:** None, soil reference values concerning ecological issues are calculated on a site specific basis.
- **Contact_Info:** Steve Hennis, 651-296-7830, steven.hennes@pca.state.mn.us
- **Comments:**

#### Impact to Groundwater

- **Basis:** U.S. EPA Risk Assessment Guidance for Superfund (EPA RAGS), U.S. EPA
  [http://www.epa.gov/oswer/riskassessment/risk_superfund.htm](http://www.epa.gov/oswer/riskassessment/risk_superfund.htm)
- **Citation_Location:** Risk-based guidance for the soil leaching pathway available at:
  [http://www.pca.state.mn.us/cleanup/pubs/user0598.pdf](http://www.pca.state.mn.us/cleanup/pubs/user0598.pdf)
- **Contact_Info:** Rick Jolley, 651-297-5573, rick.jolley@pca.state.mn.us
- **Comments:**

#### Impact to Surface Water

- **Basis:** U.S. EPA Risk Assessment Guidance for Superfund (EPA RAGS), U.S. EPA
  [http://www.epa.gov/oswer/riskassessment/risk_superfund.htm](http://www.epa.gov/oswer/riskassessment/risk_superfund.htm)
- **Citation_Location:** Risk-based guidance for the soil leaching pathway available at:
  [http://www.pca.state.mn.us/cleanup/pubs/user0598.pdf](http://www.pca.state.mn.us/cleanup/pubs/user0598.pdf)
- **Contact_Info:** Rick Jolley, 651-297-5573, rick.jolley@pca.state.mn.us
- **Comments:**

#### Inhalation

- **Basis:** U.S. EPA Risk Assessment Guidance for Superfund (EPA RAGS), U.S. EPA
  [http://www.epa.gov/oswer/riskassessment/risk_superfund.htm](http://www.epa.gov/oswer/riskassessment/risk_superfund.htm)
- **Citation_Location:** Risk-based guidance for the soil-human health pathway document vol.2 available at:
- **Contact_Info:** Laura Solem, 218-529-6254, laura.solem@pca.state.mn.us
- **Comments:**

### Other Categories

- [RCRA_CA](#), [Brownfields](#), [DrinkingWater](#), [SurfaceWater](#), [AirQuality (Clean Air Act)](#)
- [SolidWasteLandfill](#), [VoluntaryCleanup](#), [SafeDrinkingWaterAct](#), [UST](#), [WetlandsProgram](#), [Other](#)
### Soil

**MISSOURI**

**Name:** Linda Vogt  
**Contact_Title:** Environmental Specialist  
**Organization:** Hazardous Waste Program/Superfund Section  
**Address / City:** P.O. Box 176, Jefferson City, 65102  
**Email:** linda.vogt@dnr.mo.gov  
**Contact_Phone:** (573) 751-6998

#### Regulatory

**Soil**

**Impact to Surface Water**

- **Basis:** Missouri State Water Quality Standards  
- **Citation_Location:** [http://www.sos.mo.gov/adrules/csr/current/10csr/10c20-7a.pdf](http://www.sos.mo.gov/adrules/csr/current/10csr/10c20-7a.pdf)  
- **Contact_Info:** Division of Environmental Quality, Water Protection Program

**Comments:**

- ✔️ RCRA_CA
- ✔️ Brownfields
- ✔️ VoluntaryClnUp
- ✔️ SafeDrinkingWaterAct  
- ✔️ UST
- ☐ SurfaceWater
- ☐ AirQuality (Clean Air Act)  
- ☐ SolidWsteLndfill
- ☐ VoluntaryClnUp
- ☐ SafeDrinkingWaterAct  
- ✔️ UST
- ☐ WetlandsProgram
- ☐ Other
Soil

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Contact_Title: Environmental Specialist

Organization: Hazardous Waste Program/Superfund Section

Address / City: P.O. Box 176, Jefferson City, 65102

Email: linda.vogt@dnr.mo.gov  
Contact_Phone: (573) 751-6998

Guidelines

Soil

Direct Contact (Dermal)

Citation_Location: http://www.epa.gov/region09/waste/sfund/prg/  
Contact_Info: Cancer risk 1x10^{-6}, non-cancer risk HQ=1

Citation_Location: Cancer risk 1x10^{-6}, non-cancer risk HQ=1

Citation_Location: http://www.dnr.mo.gov/env/hwp/mrbca/workgroup.htm.  
Contact_Info: Cancer risk 1x10^{-5}, non-cancer risk HQ=1

Ecological Risk

Basis: Tiered approach to qualitative and/or quantitative eco risk evaluation based on checklists.

Contact_Info: Chris Cady

Impact to Groundwater

Citation_Location: http://www.dnr.mo.gov/env/hwp/mrbca/workgroup.htm.  
Contact_Info: Cancer risk 1x10^{-5}, non-cancer risk HQ=1

Impact to Surface Water

Basis: Soil or sediment contam. levels protective of surface water would be determined based on surface water quality std. Regulations

Contact_Info: Chris Cady

Ingestion

Citation_Location: http://www.dnr.mo.gov/env/hwp/mrbca/workgroup.htm.  
Contact_Info: Cancer risk 1x10^{-5}, non-cancer risk HQ=1

Inhalation

Citation_Location: http://www.dnr.mo.gov/env/hwp/mrbca/workgroup.htm.  
Contact_Info: Cancer risk 1x10^{-5}, non-cancer risk HQ=1

10/16/2006
## Soil

### MISSOURI

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<tr>
<td>Email</td>
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<td>Contact Phone: (573) 751-6998</td>
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#### Guidelines

- RCRA_CA
- Brownfields
- UST
- AirQuality (Clean Air Act)
- VoluntaryClnUp
- SafeDrinkingWaterAct
- SurfaceWater
- Other

### MISSISSIPPI

<table>
<thead>
<tr>
<th>Name</th>
<th>Jere &quot;Trey&quot; Hess</th>
<th>Contact Title: Brownfields Program Coordinator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization</td>
<td>Groundwater Assessment and Remediation Division</td>
<td></td>
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</tr>
<tr>
<td>Email</td>
<td><a href="mailto:Trey_Hess@deq.state.ms.us">Trey_Hess@deq.state.ms.us</a></td>
<td>Contact Phone: (601) 961-5654</td>
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#### Regulatory

**Soil**

**Inhalation**

- Basis: Subpart II - Brownfield Risk Evaluation Procedures
- Citation_Location: [http://www.deq.state.ms.us/MDEQ.nsf/pdf/GARD_brownfieldrisk/$File/Proced.pdf?OpenElement](http://www.deq.state.ms.us/MDEQ.nsf/pdf/GARD_brownfieldrisk/$File/Proced.pdf?OpenElement)

**Guidelines**

**Soil**

**Ingestion**

- Basis: Subpart II - Brownfield Risk Evaluation Procedures
- Citation_Location: [http://www.deq.state.ms.us/MDEQ.nsf/pdf/GARD_brownfieldrisk/$File/Proced.pdf?OpenElement](http://www.deq.state.ms.us/MDEQ.nsf/pdf/GARD_brownfieldrisk/$File/Proced.pdf?OpenElement)

**Comments:**

- RCRA_CA
- Brownfields
- UST
- AirQuality (Clean Air Act)
- VoluntaryClnUp
- SafeDrinkingWaterAct
- SurfaceWater
- Other
- UST
- WetlandsProgram
- Other
### Soil

**MONTANA**

- **Name:** Aimee Reynolds  
  **Contact_Title:** Voluntary Cleanup Coordinator
- **Organization:** Hazardous Waste Site Cleanup Bureau
- **Address / City:**
- **Email:** areynolds@mt.gov  
  **Contact_Phone:** (406) 841-5065

## Regulatory

### Soil

#### Inhalation

- **Basis:**
- **Citation_Location:** Clean Air Act ambient air standards

**Contact_Info:**

**Comments:**

- [✓] RCRA_CA  
  - Brownfields
  - DrinkingWater
  - SurfaceWater
  - AirQuality (Clean Air Act)
- [✓] SolidWsteLndfill  
  - VoluntaryClnUp
  - SafeDrinkingWaterAct
  - UST
  - WetlandsProgram
  - Other
  - Groundwater Remediation
## Soil

### MONTANA

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<tr>
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<tr>
<td>Organization: Hazardous Waste Site Cleanup Bureau</td>
<td></td>
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<tr>
<td>Email: <a href="mailto:areynolds@mt.gov">areynolds@mt.gov</a></td>
<td>Contact_Phone: (406) 841-5065</td>
</tr>
</tbody>
</table>

### Guidelines

#### Direct Contact (Dermal)

| Basis: | 1 x10-6 & HQ of 1/10 |
| Citation_Location: | Region 9 Preliminary Remediation Goals |
| Contact_Info: | Aimee Reynolds |
| Comments: | |

| Basis: | 1 x 10-6 & HQ of 1/8 |
| Citation_Location: | Montana Risk-Based Corrective Action for Petroleum Releases - October 2003 |
| Contact_Info: | Aimee Reynolds |
| Comments: | |

#### Impact to Groundwater

| Basis: | DAF of 10 |
| Citation_Location: | EPA Soil Screening Levels for migration to groundwater |
| Contact_Info: | Aimee Reynolds |
| Comments: | |

| Basis: | 1 x 10-6 & HQ of 1/8 |
| Citation_Location: | Montana Risk-Based Corrective Action for Petroleum Releases - October 2003 |
| Contact_Info: | Aimee Reynolds |
| Comments: | |

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| Comments: | |

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| Contact_Info: | Aimee Reynolds |
| Comments: | |

| Basis: | 1 x10-6 & HQ of 1 |
| Citation_Location: | EPA Vapor Intrusion to Indoor Air Guidance |
| Contact_Info: | Aimee Reynolds |
| Comments: | |
### Soil

**MONTANA**

<table>
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<tr>
<td>Aimee Reynolds</td>
<td>Voluntary Cleanup Coordinator</td>
<td>Hazardous Waste Site Cleanup Bureau</td>
<td></td>
<td><a href="mailto:areynolds@mt.gov">areynolds@mt.gov</a></td>
<td>(406) 841-5065</td>
</tr>
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**Guidelines**

- **Basis:** $1 \times 10^{-6}$ & HQ of 1/10
- **Citation_Location:** Region 9 Preliminary Remediation Goals
- **Contact_Info:** Aimee Reynolds

**Comments:**

- [x] RCRA CA
- [x] Brownfields
- [ ] DrinkingWater
- [ ] SurfaceWater
- [x] AirQuality (Clean Air Act)
- [ ] SolidWasteLandfill
- [x] VoluntaryCleanup
- [ ] SafeDrinkingWaterAct
- [x] UST
- [ ] WetlandsProgram
- [x] Other
- [ ] Groundwater Remediation
## Soil

### NORTH DAKOTA

<table>
<thead>
<tr>
<th>Name: Curt Erickson</th>
<th>Contact Title: Program Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization: Hazardous Waste Program</td>
<td></td>
</tr>
<tr>
<td>Address / City: 918 East Divide Ave, Bismarck, 585011947</td>
<td></td>
</tr>
<tr>
<td>Email: <a href="mailto:cerickso@state.nd.us">cerickso@state.nd.us</a></td>
<td>Contact Phone: (701) 328-5166</td>
</tr>
</tbody>
</table>

#### Regulatory

##### Soil

**Ingestion**

| Basis: | 400 ppm residential; 1200 ppm non-residential. |
| Contact_Info: | Sandra Washek, (701) 328-5190, swashek@state.nd.us |
| Comments: | |

- ✔️ RCRA_CA
- ✔️ Brownfields
- ☐ DrinkingWater
- ✔️ SurfaceWater
- ☐ AirQuality (Clean Air Act)
- ☐ SolidWasteLandfill
- ☐ VoluntaryCleanUp
- ☐ SafeDrinkingWaterAct
- ✔️ UST
- ☐ WetlandsProgram
- ✔️ Other
- Groundwater Program

**Not Specified**

##### Soil

#### Ecological Risk

| Basis: | | |
| Citation_Location: | None. Where applicable, ecological risk-based soil remediation standards will be developed on a site-specific basis using US EPA Guidance for Developing Ecological Soil Screening Levels revised Feb 2005. Available at: www.epa.gov/oswer/riskassessment/ecorisk/ecossl.htm |
| Contact_Info: | | |
| Comments: | | |

#### Impact to Surface Water

| Basis: | | |
| Citation_Location: | No "generic" numeric standards. Where applicable, soil impact to surface waters are developed on a site-specific basis. |
| Contact_Info: | Gary Bracht, (701) 328-5227, gbracht@state.nd.us |
| Comments: | | |

- ✔️ RCRA_CA
- ☐ Brownfields
- ☐ DrinkingWater
- ✔️ SurfaceWater
- ☐ AirQuality (Clean Air Act)
- ☐ SolidWasteLandfill
- ☐ VoluntaryCleanUp
- ☐ SafeDrinkingWaterAct
- ✔️ UST
- ☐ WetlandsProgram
- ✔️ Other
- Groundwater Program
## Soil

### NORTH DAKOTA

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<th>Contact_Title: Program Manager</th>
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<td>Contact_Phone: (701) 328-5166</td>
</tr>
</tbody>
</table>

### Guidelines

#### Soil

**Direct Contact (Dermal)**

**Basis:**

Citation_Location: None. Where applicable, standards will be developed on a site-specific basis using US EPA Soil Screening Guidance July 1996. Available at: www.epa.gov/superfund/resources/soil/#user

Contact_Info: 

Comments: 

**Impact to Groundwater**

**Basis:** Action levels have been set for petroleum compounds and drinking water maximum contaminant levels may also be used as action levels. Final standards for cleanup are determined on a case-by-case basis, depending on the contaminant involved and potential for risk to human health and the environment.

Citation_Location: Guidelines For Cleanup Action Levels For Gasoline and Other Petroleum Hydrocarbons available at: www.ndhealth.gov/wm

Contact_Info: Gary Berreth, (701) 328-5167, gberreth@state.nd.us

Comments: 

**Inhalation**

**Basis:**

Citation_Location: None. Where applicable, standards will be developed on a site-specific basis using US EPA Soil Screening Guidance July 1996. Available at: www.epa.gov/superfund/resources/soil/#user

Contact_Info: 

Comments: 

- ✔ RCRA_CA
- ✔ Brownfields
- ✔ SurfaceWater
- ✔ UST
- ✔ SurfaceWater
- ✔ Other

- ✗ SolidWasteLndfill
- ✗ VoluntaryClnUp
- ✔ SafeDrinkingWaterAct
- ✔ WetlandsProgram
## NEBRASKA

**Name:** Jim Borovich  
**Contact Title:** Geologist  
**Organization:** Nebraska Department of Environmental Quality, Remediation Section/Voluntary Cl  
**Address / City:** P.O. Box 98922, Lincoln, 685098922  
**Email:** jim.borovich@ndeq.state.ne.us  
**Contact Phone:** (402) 471-2223

### Regulatory

#### Soil

**Impact to Groundwater**

**Basis:** Title 118 specifies standards for groundwater based on the Maximum Contaminant Level (MCL) (or a mechanism to determine appropriate groundwater cleanup levels in the absence of an MCL). It does not specify cleanup standards for soil, but includes overlying soils in defining a remedial action class (RAC). Any remediation goal (RG) determined for soils impacting groundwater would ultimately be derived from the groundwater MCL (see also "Guidelines" for this pathway).

**Citation Location:** Nebraska Title 118 - Ground Water Quality Standards and Use Classification, available at http://www.deq.state.ne.us

**Contact Info:** Marty Link, 402/471-4270, marty.link@ndeq.state.ne.us

**Comments:** NDEQ's Petroleum Remediation Section uses a Risk-Based Corrective Action (RBCA) process specific for petroleum releases that provides screening levels and site-specific target levels for several exposure pathways under different land use and groundwater use scenarios. These levels may differ significantly from the Remediation Goals (RGs) discussed above for individual chemicals of concern common to both programs.

- [ ] RCRA_CA
- [x] Brownfields
- [ ] DrinkingWater
- [ ] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [ ] SolidWasteLandfill
- [x] VoluntaryCleanUp
- [ ] SafeDrinkingWaterAct
- [ ] UST
- [ ] WetlandsProgram
- [ ] Other
Guidelines

Soil

Direct Contact (Dermal)

Basis: Remediation goals (RGs) are developed for residential and industrial land uses. For residential land use, the cancer risk basis is 1E-06 for individual chemical carcinogenic risks and 1E-05 for cumulative carcinogenic effects for multiple chemical risks; for noncarcinogenic hazards, a HQ=0.25 is used for individual chemical noncarcinogenic effects and a HI=1.0 for target organ-specific for multiple chemical noncarcinogenic hazards. For industrial land use scenarios, the cancer risk basis is 1E-05 for individual carcinogens and 1E-04 for cumulative carcinogenic hazards; for noncarcinogenic hazards, a HQ=1.0 is used for individual chemicals and a HI=1.0 is used for target organ-specific multiple chemical hazards.

Citation_Location: Nebraska Voluntary Cleanup Program Guidance & Protocol for VCP Remediation Goals Lookup Tables, available at: http://www.deq.state.ne.us

Contact_Info: Jim Borovich, 402/471-2223, jim.borovich@ndeq.state.ne.us

Comments: NDEQ's Petroleum Remediation Section uses a Risk-Based Corrective Action (RBCA) process specific for petroleum releases that provides screening levels and site-specific target levels for several exposure pathways under different land use and groundwater use scenarios. These levels may differ significantly from the Remediation Goals (RGs) discussed above for individual chemicals of concern common to both programs.

Ecological Risk

Basis: NDEQ's VCP guidance cited in #1 calls for the user to answer a series of questions to screen for ecological risk concerns. Should this screening indicate a potential ecological risk, the user would need to conduct an ecological risk assessment in accordance with EPA guidance.


Contact_Info: Jim Borovich, 402/471-2223, jim.borovich@ndeq.state.ne.us

Comments: NDEQ's Petroleum Remediation Section uses a Risk-Based Corrective Action (RBCA) process specific for petroleum releases that provides screening levels and site-specific target levels for several exposure pathways under different land use and groundwater use scenarios. These levels may differ significantly from the Remediation Goals (RGs) discussed above for individual chemicals of concern common to both programs.

Impact to Groundwater

Basis: RGs for soils related to this pathway would be derived from the groundwater MCL (or some other groundwater standard in the absence of an MCL), multiplied by an assumed dilution attenuation factor of 20x, and converted to a representative soil concentration.

Citation_Location: Nebraska Voluntary Cleanup Program Guidance & Protocol for VCP Remediation Goals Lookup Tables, available at: http://www.deq.state.ne.us

Contact_Info: Jim Borovich, 402/471-2223, jim.borovich@ndeq.state.ne.us

Comments: NDEQ's Petroleum Remediation Section uses a Risk-Based Corrective Action (RBCA) process specific for petroleum releases that provides screening levels and site-specific target levels for several exposure pathways under different land use and groundwater use scenarios. These levels may differ significantly from the Remediation Goals (RGs) discussed above for individual chemicals of concern common to both programs.

Ingestion
State Action Levels Report - CERCLA T3 Focus Group

Soil

NEBRASKA

Name: Jim Borovich  
Organization: Nebraska Department of Environmental Quality, Remediation Section/Voluntary Cl
Address / City: P.O. Box 98922, Lincoln, 685098922  
Email: jim.borovich@ndeq.state.ne.us

Guidelines

Basis: Remediation goals (RGs) are developed for residential and industrial land uses. For residential land use, the cancer risk basis is 1E-06 for individual chemical carcinogenic risks and 1E-05 for cumulative carcinogenic effects for multiple chemical risks; for noncancerous hazards, a HQ=0.25 is used for individual chemical noncancerous effects and a HI=1.0 for target organ-specific for multiple chemical noncancerous hazards. For industrial land use scenarios, the cancer risk basis is 1E-05 for individual carcinogens and 1E-04 for cumulative carcinogenic hazards; for noncancerous hazards, a HQ=1.0 is used for individual chemicals and a HI=1.0 is used for target organ-specific multiple chemical hazards.

Citation_Location: Nebraska Voluntary Cleanup Program Guidance & Protocol for VCP Remediation Goals Lookup Tables, available at: http://www.deq.state.ne.us

Contact_Info: Jim Borovich, 402/471-2223, jim.borovich@ndeq.state.ne.us
Comments: NDEQ's Petroleum Remediation Section uses a Risk-Based Corrective Action (RBCA) process specific for petroleum releases that provides screening levels and site-specific target levels for several exposure pathways under different land use and groundwater use scenarios. These levels may differ significantly from the Remediation Goals (RGs) discussed above for individual chemicals of concern common to both programs.

Inhalation

Basis: Remediation goals (RGs) are developed for residential and industrial land uses. For residential land use, the cancer risk basis is 1E-06 for individual chemical carcinogenic risks and 1E-05 for cumulative carcinogenic effects for multiple chemical risks; for noncancerous hazards, a HQ=0.25 is used for individual chemical noncancerous effects and a HI=1.0 for target organ-specific for multiple chemical noncancerous hazards. For industrial land use scenarios, the cancer risk basis is 1E-05 for individual carcinogens and 1E-04 for cumulative carcinogenic hazards; for noncancerous hazards, a HQ=1.0 is used for individual chemicals and a HI=1.0 is used for target organ-specific multiple chemical hazards.

Citation_Location: Nebraska Voluntary Cleanup Program Guidance & Protocol for VCP Remediation Goals Lookup Tables, available at: http://www.deq.state.ne.us

Contact_Info: Jim Borovich, 402/471-2223, jim.borovich@ndeq.state.ne.us
Comments: NDEQ's Petroleum Remediation Section uses a Risk-Based Corrective Action (RBCA) process specific for petroleum releases that provides screening levels and site-specific target levels for several exposure pathways under different land use and groundwater use scenarios. These levels may differ significantly from the Remediation Goals (RGs) discussed above for individual chemicals of concern common to both programs.
NEW HAMPSHIRE

Name: Robin Mongeon  
Organization: Waste Management Division, Site Remediation Programs  
Address / City: 29 Hazen Drive, PO Box 95, Concord, 033020095  
Email: rmongeon@des.state.nh.us

Soil

Direct Contact (Dermal)

Basis: Dermal contact and ingestion are combined to develop a risk based soil cleanup value  
Citation_Location: For Petroleum sites see Env-Wm 1600 "Standards for Reporting and Remediation Of Oil Discharges"  
http://www.des.state.nh.us/orcb/doclist/pdf/Env-Wm_1600.pdf  
Contact_Info: David Larson dlarson@des.state.nh.us  
Comments: The combined dermal/injection risk based value is compared to the leaching to groundwater based value and the lower more protective value is chosen as the soil cleanup value.

Ingestion

Basis: For petroleum sites Leaching based soil values are based on SESOIL and AT123D modeling  
Citation_Location: For Petroleum sites see Env-Wm 1600 "Standards for Reporting and Remediation Of Oil Discharges"  
http://www.des.state.nh.us/orcb/doclist/pdf/Env-Wm_1600.pdf  See also “Risk Characterization and Management Policy”  
Contact_Info: Lori Siegel lsiegel@des.state.nh.us  
Comments: The combined dermal/injection risk based value is compared to the leaching to groundwater based value and the lower more protective value is chosen as the soil cleanup value.

RCRA_CA  ✔ Brownfields  ❏ DrinkingWater  ❏ SurfaceWater  ❏ AirQuality (Clean Air Act)
SolidWasteLndfill  ✔ VoluntaryClnUp  ❏ SafeDrinkingWaterAct  ✔ UST  ❏ WetlandsProgram  ❏ Other
## Soil

### NEW HAMPSHIRE

<table>
<thead>
<tr>
<th>Name</th>
<th>Robin Mongeon</th>
<th>Contact Title</th>
<th>Engineer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization</td>
<td>Waste Management Division, Site Remediation Programs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address / City</td>
<td>29 Hazen Drive, PO Box 95, Concord, 033020095</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:rmongeon@des.state.nh.us">rmongeon@des.state.nh.us</a></td>
<td></td>
<td>(603) 271-7378</td>
</tr>
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### Guidelines

#### Soil

**Direct Contact (Dermal)**

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<th>Basis</th>
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<td>David Larson <a href="mailto:dlarson@des.state.nh.us">dlarson@des.state.nh.us</a></td>
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- [ ] RCRA_CA
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- [ ] DrinkingWater
- [ ] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [ ] SolidWsteLndfill
- [ ] VoluntaryClnUp
- [ ] SafeDrinkingWaterAct
- [ ] UST
- [ ] WetlandsProgram
- [ ] Other
# Soil

## NEW JERSEY

<table>
<thead>
<tr>
<th>Name:</th>
<th>Barry Frasco</th>
<th>Contact_Title: Assistant Director - Division of Remediation Manage</th>
</tr>
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<tbody>
<tr>
<td>Organization:</td>
<td>New Jersey DEP</td>
<td></td>
</tr>
<tr>
<td>Address / City:</td>
<td>401 East State Street PO Box 413, Trenton, 08625</td>
<td></td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:Barry.Frasco@dep.state.nj.us">Barry.Frasco@dep.state.nj.us</a></td>
<td>Contact_Phone: (609) 633-6801</td>
</tr>
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</table>

### Regulatory

#### Soil

**Direct Contact (Dermal)**

- **Basis:** Health-based: 1x10-6 for carcinogens; HQ = 1 for non-carcinogens
- **Citation_Location:** N.J.A.C. 7:26D (Pending Proposal)
- **Contact_Info:** Interested Party Review Document available at http://www.nj.gov/dep/srp/regs/srs/proposed/ - Estimated formal proposal in the New Jersey Register in 12/05. Contact person is Barry Frasco
- **Comments:**

**Impact to Groundwater**

- **Basis:** Soil standards developed such that soil contamination does not result in an exceedance of ground water remediation standards. The ground water remediation standards are health-based: 1x10-6 for carcinogens; HQ = 1 for non-carcinogens
- **Citation_Location:** N.J.A.C. 7:26D (Pending Proposal)
- **Contact_Info:** Interested Party Review Document available at http://www.nj.gov/dep/srp/regs/srs/proposed/ - Estimated formal proposal in the New Jersey Register in 12/05. Contact person is Barry Frasco
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**Inhalation**

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- **Comments:**

- ✔ RCRA_CA
- ✔ Brownfields
- ✔ DrinkingWater
- ✔ SurfaceWater
- ✔ AirQuality (Clean Air Act)
- ✔ SolidWasteLndfill
- ✔ VoluntaryClnUp
- ✔ SafeDrinkingWaterAct
- ✔ UST
- ✔ WetlandsProgram
- ✔ Other
Soil

NEW JERSEY

| Citation_Location: | None. Where applicable, ecological risk-based soil remediation standards will be developed on a site-specific basis. |
| Contact_Info: | |
| Comments: | |

Impact to Surface Water

| Basis: | Soil standards developed on a site-specific basis such that soil contamination does not result in an exceedance of surface water remediation standards. The surface water remediation standards are health-based: 1x10^-6 for carcinogens; HQ = 1 for non-carcinogens |
| Citation_Location: | None. Where applicable, soil impact to surface water will be developed on a site-specific basis. |
| Comments: | |

- **RCRA CA**
- **SolidWasteLndfill**
- **VoluntaryClnUp**
- **SafeDrinkingWaterAct**
- **UST**
- **WetlandsProgram**
- **SurfaceWater**
- **AirQuality (Clean Air Act)**
- **DrinkingWater**
- **Brownfields**
- **Other**
**New Jersey**

**Guidelines**

**Soil**

**Direct Contact (Dermal)**

| Basis | Standard based on prevention of allergic contact dermatitis. Discussion of the derivation of the standard can be found at: http://www.nj.gov/dep/srp/siteinfo/chrome/b_b_sum.htm |
| Citation_Location | Soil Cleanup Criteria (for Hexavalent chromium only) |
| Contact_Info | Soil Cleanup Criteria available at: http://www.nj.gov/dep/srp/regs/scc/ - Contact person is Barry Frasco |
| Comments |  |

**Impact to Groundwater**

| Basis | Soil Cleanup Criteria developed to minimize soil contamination impact on ground water quality (ground water quality standards). |
| Citation_Location | Soil Cleanup Criteria |
| Contact_Info | Soil Cleanup Criteria available at: http://www.nj.gov/dep/srp/regs/scc/ - Contact person is Barry Frasco |
| Comments |  |

**Ingestion**

| Basis | Health-based: 1x10-6 for carcinogens; HQ = 1 for non-carcinogens |
| Citation_Location | Soil Cleanup Criteria |
| Contact_Info | Soil Cleanup Criteria available at: http://www.nj.gov/dep/srp/regs/scc/ - Contact person is Barry Frasco |
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| Contact_Info | Soil Cleanup Criteria available at: http://www.nj.gov/dep/srp/regs/scc/ - Contact person is Barry Frasco |
| Comments |  |
### Soil

#### OHIO

<table>
<thead>
<tr>
<th>Name</th>
<th>Timothy Christman</th>
<th>Contact Title</th>
<th>Environmental Scientist 3</th>
</tr>
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<tbody>
<tr>
<td>Organization</td>
<td>Ohio Environmental Protection Agency</td>
<td>Address / City</td>
<td>122 South Front Street, Lazarus Government Center, Columbus, 43215</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:timothy.christman@epa.state.oh.us">timothy.christman@epa.state.oh.us</a></td>
<td>Contact Phone</td>
<td>614-644-2297</td>
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#### Guidelines

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<tr>
<td>Citation_Location: Use of USEPA Region 9 PRG's as Screening Values in Human Health Risk Assessment, Technical Decision Compendium</td>
</tr>
<tr>
<td>Contact_Info: Brian Tucker, Emergency and Remedial Response 614-644-3120</td>
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<tr>
<td>Comments:</td>
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<tr>
<td><strong>Ecological Risk</strong></td>
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<tr>
<td>Basis: Threshold effects</td>
</tr>
<tr>
<td>Citation_Location: Ecological Risk Assessment Guidance Document, RR-031</td>
</tr>
<tr>
<td>Contact_Info: Brian Tucker, Emergency and Remedial Response 614-644-3120</td>
</tr>
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<td>Comments:</td>
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<td><strong>Impact to Groundwater</strong></td>
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<tr>
<td>Basis: HI=1</td>
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<tr>
<td>Citation_Location: Soil Leaching to Ground Water, TPH, DERR Technical Decision Document RR-036</td>
</tr>
<tr>
<td>Contact_Info: Tim Christman, Emergency and Remedial Response 614-644-2297</td>
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- Brownfields
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- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other
# Soil

**OKLAHOMA**

<table>
<thead>
<tr>
<th>Name:</th>
<th>Catherine Sharp</th>
<th>Contact_Title:</th>
<th>Assistant Director</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization:</td>
<td>Browndields and Voluntary Cleanup</td>
<td>Address / City:</td>
<td></td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:catherine.sharp@deq.state.ok.us">catherine.sharp@deq.state.ok.us</a></td>
<td>Contact_Phone:</td>
<td>(405) 702-5151</td>
</tr>
</tbody>
</table>

## Guidelines

### Soil

#### Direct Contact (Dermal)

**Basis:**
Cleanups are reviewed on a site specific basis. Federal Guidance documents are used, specifically the EPA Soil Screening Levels, the EPA Region VI Medium Specific Screening Levels, and occasionally others.

**Contact Info:**
Further information is available in our Risk Based Cleanup Fact Sheet located at [http://www.deq.state.ok.us/lpdnew/FactSheets/RiskbasedDecisionGuidanceFinal.pdf](http://www.deq.state.ok.us/lpdnew/FactSheets/RiskbasedDecisionGuidanceFinal.pdf)

#### Ecological Risk

**Basis:**
In addition to other appropriate guidance documents, we use the EPA Ecological Soils Screening document, November 2003, [http://www.epa.gov/ecotox/ecoss](http://www.epa.gov/ecotox/ecoss).

#### Impact to Groundwater

**Basis:**
Cleanups are reviewed on a site specific basis. Federal Guidance documents are used, specifically the EPA Soil Screening Levels, the EPA Region VI Medium Specific Screening Levels, and occasionally others.

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### Soil

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<td>Contact_Phone:</td>
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#### Guidelines

**Other**

- Basis:
  - Citation_Location: Cleanups are reviewed on a site specific basis. Federal Guidance documents are used, specifically the EPA Soil Screening Levels, the EPA Region VI Medium Specific Screening Levels, and occasionally others.

- Contact_Info:

- Comments:
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  - Brownfields
  - SolidWsteLndfill
  - VoluntaryClnUp
  - SafeDrinkingWaterAct
  - SurfaceWater
  - UST
  - WetlandsProgram
  - Other

10/16/2006
## Soil

**OREGON**

<table>
<thead>
<tr>
<th>Name</th>
<th>Mike Poulsen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact_Title</td>
<td>Toxicologist</td>
</tr>
<tr>
<td>Organization</td>
<td>Oregon Dept. of Environmental Quality, Cleanup</td>
</tr>
<tr>
<td>Address / City</td>
<td>2020 SW 4th St., Portland, 97201</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:poulsen.mike@deq.state.or.us">poulsen.mike@deq.state.or.us</a></td>
</tr>
<tr>
<td>Contact_Phone</td>
<td>(503) 229-6773</td>
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### Regulatory

#### Soil

##### Direct Contact (Dermal)

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</tr>
<tr>
<td>Contact_Info</td>
<td>Mike Poulsen 503 229-6773 <a href="mailto:poulsen.mike@deq.state.or.us">poulsen.mike@deq.state.or.us</a></td>
</tr>
<tr>
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##### Ecological Risk

<table>
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<th>Basis</th>
<th>T&amp;E species: hazard index of 1 for individuals. Non-T&amp;E species: a 10% chance or less that more than 20% of the total local population will be exposed to a concentration greater than the ecological benchmark value for each chemical of concern, and no other observed significant adverse effects on the health or viability of the local population.</th>
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##### Impact to Groundwater

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<tr>
<td>Contact_Info</td>
<td>Mike Poulsen 503 229-6773 <a href="mailto:poulsen.mike@deq.state.or.us">poulsen.mike@deq.state.or.us</a></td>
</tr>
<tr>
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</tr>
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##### Inhalation

10/16/2006 Page 56 of 207
## Soil

### Oregon

<table>
<thead>
<tr>
<th>Name:</th>
<th>Mike Poulsen</th>
<th>Contact Title:</th>
<th>Toxicologist</th>
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<tr>
<td>Organization:</td>
<td>Oregon Dept. of Environmental Quality, Cleanup</td>
<td></td>
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<tr>
<td>Address / City:</td>
<td>2020 SW 4th St., Portland, 97201</td>
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<td>Email:</td>
<td><a href="mailto:poulsen.mike@deq.state.or.us">poulsen.mike@deq.state.or.us</a></td>
<td>Contact Phone:</td>
<td>(503) 229-6773</td>
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### Regulatory

- Basis: 1.E-06 for individual carcinogens, 1.E0-5 for multiple carcinogens.
- Citation Location: OAR 340-122-0115 http://arcweb.sos.state.or.us/rules/OARs_300/OAR_340/340_122.html
- Contact Info: Mike Poulsen 503 229-6773 poulsen.mike@deq.state.or.us
- Comments: RCRA corrective action is done by the state environmental cleanup program in Oregon. SW land fill contamination that extends off-site is cleaned up under cleanup program authority. UST, Brownfield, and VCP all operate under the same statute, and therefore the same definition of acceptable risk.

- [x] RCRA_CA
- [x] Brownfields
- [ ] DrinkingWater
- [ ] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [x] SolidWasteLndfill
- [ ] VoluntaryClnUp
- [ ] SafeDrinkingWaterAct
- [x] UST
- [ ] WetlandsProgram
- [ ] Other
## Soil

**OREGON**

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### Guidelines

#### Soil

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**Ecological Risk**

| **Basis:** | T&E species: hazard index of 1 for individuals. Non-T&E species: a 10% chance or less that more than 20% of the total local population will be exposed to a concentration greater than the ecological benchmark value for each chemical of concern, and no other observed significant adverse effects on the health or viability of the local population. |
| **Citation_Location:** | Ecological risk assessment guidance available at: [http://www.deq.state.or.us/wmc/cleanup/ecocover.htm](http://www.deq.state.or.us/wmc/cleanup/ecocover.htm) |
| **Contact_Info:** | Mike Poulsen 503 229-6773 poulsen.mike@deq.state.or.us |
| **Comments:** | RCRA corrective action is done by the state environmental cleanup program in Oregon. SW land fill contamination that extends off-site is cleaned up under cleanup program authority. UST, Brownfield, and VCP all operate under the same statute, and therefor the same definition of acceptable risk. |

**Impact to Groundwater**

| **Basis:** | 1.E-06 for individual carcinogens, 1.E0-5 for multiple carcinogens. |
| **Citation_Location:** | Human health risk assessment guidance available at: [http://www.deq.state.or.us/wmc/cleanup/hh-intro.htm](http://www.deq.state.or.us/wmc/cleanup/hh-intro.htm) and [http://www.deq.state.or.us/wmc/tank/rbdm.htm](http://www.deq.state.or.us/wmc/tank/rbdm.htm) |
| **Contact_Info:** | Mike Poulsen 503 229-6773 poulsen.mike@deq.state.or.us |
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**Impact to Surface Water**

| **Basis:** | 1.E-06 for individual carcinogens, 1.E0-5 for multiple carcinogens. |
| **Citation_Location:** | Human health risk assessment guidance available at: [http://www.deq.state.or.us/wmc/cleanup/hh-intro.htm](http://www.deq.state.or.us/wmc/cleanup/hh-intro.htm) and [http://www.deq.state.or.us/wmc/tank/rbdm.htm](http://www.deq.state.or.us/wmc/tank/rbdm.htm) |
| **Contact_Info:** | Mike Poulsen 503 229-6773 poulsen.mike@deq.state.or.us |
| **Comments:** | RCRA corrective action is done by the state environmental cleanup program in Oregon. SW land fill contamination that extends off-site is cleaned up under cleanup program authority. UST, Brownfield, and VCP all operate under the same statute, and therefor the same definition of acceptable risk. |

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**Inhalation**

10/16/2006
## Soil

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**Basis:** 1.E-06 for individual carcinogens, 1.E0-5 for multiple carcinogens.

**Citation_Location:** Human health risk assessment guidance available at: [http://www.deq.state.or.us/wmc/cleanup/hh-intro.htm](http://www.deq.state.or.us/wmc/cleanup/hh-intro.htm) and [http://www.deq.state.or.us/wmc/tank/rdm.htm](http://www.deq.state.or.us/wmc/tank/rdm.htm)

**Contact_Info:** Mike Poulsen 503 229-6773 poulsen.mike@deq.state.or.us

**Comments:** RCRA corrective action is done by the state environmental cleanup program in Oregon. SW land fill contamination that extends off-site is cleaned up under cleanup program authority. UST, Brownfield, and VCP all operate under the same statute, and therefore the same definition of acceptable risk.

- [✓] RCRA_Ca
- [✓] Brownfields
- [✓] UST
- [✓] SolidWasteLndfill
- [✓] VoluntaryClnUp
- [✓] SafeDrinkingWaterAct
- [✓] AirQuality (Clean Air Act)
- [✓] DrinkingWater
- [✓] SurfaceWater
- [✓] WetlandsProgram
- [✓] Other
### Soil

#### RHODE ISLAND

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<tr>
<th>Name</th>
<th>Michael D. Andrews</th>
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<tr>
<td>Contact Title</td>
<td>Sanitary Engineer</td>
</tr>
<tr>
<td>Organization</td>
<td>Office of Waste Management, Site Remediation</td>
</tr>
<tr>
<td>Address / City</td>
<td>235 Promenade Street, Providence, 02871</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:michael.andrews@dem.ri.gov">michael.andrews@dem.ri.gov</a></td>
</tr>
<tr>
<td>Contact_Phone</td>
<td>(401) 862-5250</td>
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#### Regulatory

**Soil**

**Direct Contact (Dermal)**

- **Basis:**
  - **Citation_Location:** Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (as amended February 2004)
  - **Contact_Info:** Contact person is Michael Andrews, (401) 222-2797 ext. 7140, michael.andrews@dem.ri.gov
  - **Comments:** A complete list of RIDEM Regulations is available at: http://www.dem.ri.gov/pubs/regs/index.htm#WM

**Impact to Groundwater**

- **Basis:**
  - **Citation_Location:** Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (as amended February 2004)
  - **Contact_Info:** Contact person is Michael Andrews, (401) 222-2797 ext. 7140, michael.andrews@dem.ri.gov
  - **Comments:** A complete list of RIDEM Regulations is available at: http://www.dem.ri.gov/pubs/regs/index.htm#WM

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  - **Comments:** A complete list of RIDEM Regulations is available at: http://www.dem.ri.gov/pubs/regs/index.htm#WM

- **RCRA_CA** ✔
- **Brownfields** ✔
- **DrinkingWater** □
- **SurfaceWater** □
- **AirQuality (Clean Air Act)** □
- **SolidWasteLndfill** □
- **VoluntaryClnUp** □
- **SafeDrinkingWaterAct** ✔
- **UST** □
- **WetlandsProgram** □
- **Other** □

10/16/2006
### Soil

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<td>Name: Michael D. Andrews</td>
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<td>Organization: Office of Waste Management, Site Remediation</td>
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<td>Address / City: 235 Promenade Street, Providence, 02871</td>
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<td>Email: <a href="mailto:michael.andrews@dem.ri.gov">michael.andrews@dem.ri.gov</a></td>
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<tr>
<td>An Ecological Risk Assessment may be conducted in accordance with EPA/630/R-92/001, February 1992, Framework For Ecological Risk Assessment, or functional equivalent. Site Specific remedial objectives may be demonstrated through an Ecological Risk Assessment and are considered Method 3 Soil Objectives. For additional guidance see Section 8.0, Risk Management of the Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases. These regulations are available at: <a href="http://www.dem.ri.gov/pubs/regs/regs/waste/remreg04.pdf">http://www.dem.ri.gov/pubs/regs/regs/waste/remreg04.pdf</a></td>
</tr>
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</table>

**Citation_Location:** None. Where applicable ecological risk based soil remediation standards will be developed on a site specific basis.

**Contact_Info:** Contact person is Richard Enander, (401) 222-6822 ext. 4411, richard.enander@dem.ri.gov

**Comments:** A complete list of RIDEM Regulations is available at: [http://www.dem.ri.gov/pubs/regs/index.htm#WM](http://www.dem.ri.gov/pubs/regs/index.htm#WM)

#### Impact to Surface Water

**Basis:**

None. Where applicable, soil remediation standards for impacts to surface water will be developed on a site specific basis.

**Contact_Info:** Contact person is Michael Andrews, (401) 222-2797 ext. 7140, michael.andrews@dem.ri.gov

**Comments:** A complete list of RIDEM Regulations is available at: [http://www.dem.ri.gov/pubs/regs/index.htm#WM](http://www.dem.ri.gov/pubs/regs/index.htm#WM)

- [✓] RCRA_CA
- [✓] Brownfields
- [ ] DrinkingWater
- [ ] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [ ] SolidWasteLandfill
- [✓] VoluntaryCleanUp
- [ ] SafeDrinkingWaterAct
- [✓] UST
- [ ] WetlandsProgram
- [ ] Other
## Soil

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### Guidelines

#### Soil

**Direct Contact (Dermal)**

- **Basis:**
- **Citation_LOCATION:** Method 1 Soil Direct Exposure Criteria available in Table 1 at: [http://www.dem.ri.gov/pubs/regs/regs/waste/remreg04.pdf](http://www.dem.ri.gov/pubs/regs/regs/waste/remreg04.pdf)
- **Contact_Info:** Contact person is Michael Andrews, (401) 222-2797 ext. 7140, michael.andrews@dem.ri.gov
- **Comments:** A complete list of RIDEM Regulations is available at: [http://www.dem.ri.gov/pubs/regs/index.htm#WM](http://www.dem.ri.gov/pubs/regs/index.htm#WM)

**Impact to Groundwater**

- **Basis:**
- **Citation_LOCATION:** Soil Leachability Criteria for GA and GB Groundwater Classification Areas available in Table 2 at: [http://www.dem.ri.gov/pubs/regs/regs/waste/remreg04.pdf](http://www.dem.ri.gov/pubs/regs/regs/waste/remreg04.pdf)
- **Contact_Info:** Contact person is Michael Andrews, (401) 222-2797 ext. 7140, michael.andrews@dem.ri.gov
- **Comments:** A complete list of RIDEM Regulations is available at: [http://www.dem.ri.gov/pubs/regs/index.htm#WM](http://www.dem.ri.gov/pubs/regs/index.htm#WM)

**Ingestion**

- **Basis:** Additional resources regarding the ingestion components of the Direct Exposure Criteria are available in Appendix D of the above-referenced regulations.
- **Citation_LOCATION:** Method 1 Soil Direct Exposure Criteria available in Table 1 at: [http://www.dem.ri.gov/pubs/regs/regs/waste/remreg04.pdf](http://www.dem.ri.gov/pubs/regs/regs/waste/remreg04.pdf)
- **Contact_Info:** Contact person is Michael Andrews, (401) 222-2797 ext. 7140, michael.andrews@dem.ri.gov
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- **Basis:** Additional resources regarding the inhalation components of the Direct Exposure Criteria are available in Appendix D of the above-referenced regulations.
- **Citation_LOCATION:** Method 1 Soil Direct Exposure Criteria available in Table 1 at: [http://www.dem.ri.gov/pubs/regs/regs/waste/remreg04.pdf](http://www.dem.ri.gov/pubs/regs/regs/waste/remreg04.pdf)
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- **RCRA_CA**
- **SolidWasteLandfill**
- **Brownfields**
- **DrinkingWater**
- **SurfaceWater**
- **AirQuality (Clean Air Act)**
- **SafeDrinkingWaterAct**
- **UST**
- **WetlandsProgram**
- **Other**
## Soil

**SOUTH DAKOTA**

- **Name:** Mark Lawrensen  
  **Contact_Title:** Superfund Program Manager
- **Organization:** Ground Water Quality Program
- **Address / City:** 523 East Capitol Avenue, Pierre, 57501
- **Email:** mark.lawrensen@state.sd.us  
  **Contact_Phone:** (605) 773-3296

### Regulatory

**Soil**

#### Impact to Groundwater

- **Basis:**
  - **Contact_Info:** Joane Lineburg, SDDENR 773-3296
- **Comments:**
  - **RCRA_CAA**  
  - **SolidWasteLandfill**  
  - **VoluntaryCleanup**  
  - **SafeDrinkingWaterAct**  
  - **AirQuality(CleanAirAct)**  
  - **UST**  
  - **WetlandsProgram**  
  - **Other**

#### Not Specified

**Soil**

- **Direct Contact (Dermal)**
  - **Basis:**
    - No specific regulations, site-specific cleanup criteria will be developed as necessary.
  - **Contact_Info:** Joane Lineburg, SDDENR 773-3296
  - **Comments:**
  - **Ecological Risk**
    - **Basis:**
      - No specific regulations, site-specific cleanup criteria will be developed as necessary.
    - **Contact_Info:** Joane Lineburg, SDDENR 773-3296
    - **Comments:**
  - **Impact to Surface Water**
    - **Basis:**
      - No specific regulations, site-specific cleanup criteria will be developed as necessary.
    - **Contact_Info:** Joane Lineburg, SDDENR 773-3296
    - **Comments:**
  - **Ingestion**
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    - **Contact_Info:** Joane Lineburg, SDDENR 773-3296
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    - **Contact_Info:** Joane Lineburg, SDDENR 773-3296
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10/16/2006  
Page 63 of 207
## Soil

### SOUTH DAKOTA

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<tr>
<td>Mark Lawrensen</td>
<td>Superfund Program Manager</td>
<td>Ground Water Quality Program</td>
<td>523 East Capitol Avenue, Pierre, 57501</td>
<td><a href="mailto:mark.lawrensen@state.sd.us">mark.lawrensen@state.sd.us</a></td>
<td>(605) 773-3296</td>
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### Guidelines

**Soil**

**Impact to Groundwater**

- **Basis:**
  - Citation_Location: [http://www.state.sd.us/denr/DES/Ground/Spills/Handbook.htm](http://www.state.sd.us/denr/DES/Ground/Spills/Handbook.htm)
  - Contact_Info: Joane Lineburg, SDDENR 773-3296
  - Comments:

    | RCRA_CA | Brownfields | DrinkingWater | SurfaceWater | AirQuality (Clean Air Act) | SolidWsteLndfill | VoluntaryClnUp | SafeDrinkingWaterAct | UST | WetlandsProgram | Other |
    |---------|-------------|---------------|--------------|---------------------------|-------------------|----------------|----------------------|-----|-----------------|-------|
## Soil

### TEXAS

<table>
<thead>
<tr>
<th>Name</th>
<th>Contact Title</th>
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<tbody>
<tr>
<td>Chet Clarke</td>
<td>Manager, Technical Support Section</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Organization</th>
<th>Remediation Division (Superfund, RCRA, LUST, Voluntary Cleanup)</th>
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<tr>
<th>Address / City</th>
<th>TCEQ MC-225, P.O. Box 13087, Austin, 787113087</th>
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<tr>
<th>Email</th>
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<table>
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<th>Contact Phone</th>
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### Regulatory Soil

#### Direct Contact (Dermal)

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<tr>
<td>Contact Info</td>
<td>Larry Champagne or Vickie Reat</td>
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#### Impact to Groundwater

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<td>Chet Clarke, Paul Lewis, or Kip Haney</td>
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<td>Comments</td>
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### Other
## Soil

### TEXAS

<table>
<thead>
<tr>
<th>Name</th>
<th>Chet Clarke</th>
<th>Contact_Title</th>
<th>Manager, Technical Support Section</th>
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<tr>
<td>Organization</td>
<td>Remediation Division (Superfund, RCRA, LUST, Voluntary Cleanup)</td>
<td></td>
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<tr>
<td>Address / City</td>
<td>TCEQ MC-225, P.O. Box 13087, Austin, 787113087</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:cclarke@tceq.state.tx.us">cclarke@tceq.state.tx.us</a></td>
<td>Contact_Phone</td>
<td>(512) 239-2268</td>
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### Regulatory

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</tr>
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<td>Kip Haney</td>
</tr>
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<td>Comments</td>
<td>&quot;Other&quot; denotes the vegetable consumption pathway. Cumulative risk for multiple chemicals acting through a single pathway is $1 \times 10^{-4}$. The hazard quotient is 1. Soil ingestion, dermal contact, inhalation of volatiles and particulates, and consumption of aboveground and below ground vegetables are combined for surface soil (residential: soils 0-15 feet, Com/Ind: soils 0-5 feet. For groundwater ingestion, risk-based values are derived for only chemicals that lack a federal MCL.</td>
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- [x] RCRA_CA
- [x] Brownfields
- [ ] DrinkingWater
- [ ] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [x] SolidWasteLandfill
- [x] VoluntaryCleanup
- [ ] SafeDrinkingWaterAct
- [x] UST
- [ ] WetlandsProgram
- [ ] Other
## Soil

### TEXAS

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<td>(512) 239-2268</td>
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### Guidelines

#### Soil

**Direct Contact (Dermal)**

- **Basis:**
- **Citation_Location:** TRRP-18, TRRP-22, [http://www.tceq.state.tx.us/remediation/trrp/guidance.html](http://www.tceq.state.tx.us/remediation/trrp/guidance.html)
- **Contact_Info:** Chet Clarke, Paul Lewis, or Kip Haney
- **Comments:**

**Ecological Risk**

- **Basis:**
- **Citation_Location:** RG-263 and associated guidance, [http://www.tceq.state.tx.us/remediation/eco/eco.html](http://www.tceq.state.tx.us/remediation/eco/eco.html)
- **Contact_Info:** Larry Champagne or Vickie Reat
- **Comments:**

**Impact to Groundwater**

- **Basis:**
- **Citation_Location:** TRRP-18, TRRP-22, [http://www.tceq.state.tx.us/remediation/trrp/guidance.html](http://www.tceq.state.tx.us/remediation/trrp/guidance.html)
- **Contact_Info:** Chet Clarke, Paul Lewis, or Kip Haney
- **Comments:**

**Impact to Surface Water**

- **Basis:**
- **Citation_Location:** TRRP-18, TRRP-24, [http://www.tceq.state.tx.us/remediation/trrp/guidance.html](http://www.tceq.state.tx.us/remediation/trrp/guidance.html)
- **Contact_Info:** Vickie Reat
- **Comments:**

**Ingestion**

- **Basis:**
- **Citation_Location:** TRRP-18, TRRP-22, [http://www.tceq.state.tx.us/remediation/trrp/guidance.html](http://www.tceq.state.tx.us/remediation/trrp/guidance.html)
- **Contact_Info:** Chet Clarke, Paul Lewis, or Kip Haney
- **Comments:**

**Inhalation**

- **Basis:**
- **Citation_Location:** TRRP-18, TRRP-22, [http://www.tceq.state.tx.us/remediation/trrp/guidance.html](http://www.tceq.state.tx.us/remediation/trrp/guidance.html)
- **Contact_Info:** Chet Clarke, Paul Lewis, or Kip Haney
- **Comments:**

**Other**

- **Basis:**
- **Citation_Location:** TRRP-18, TRRP-22, [http://www.tceq.state.tx.us/remediation/trrp/guidance.html](http://www.tceq.state.tx.us/remediation/trrp/guidance.html)
- **Contact_Info:** Chet Clarke, Paul Lewis, or Kip Haney
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### Guidelines

- **RCRA_CA**
- **SolidWsteLndfill**
- **Brownfields**
- **SafeDrinkingWaterAct**
- **UST**
- **AirQuality (Clean Air Act)**
- **SurfaceWater**
- **WetlandsProgram**
- **Other**

## UTAH

<table>
<thead>
<tr>
<th>Name</th>
<th>Scott Everett</th>
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<tbody>
<tr>
<td>Contact Title</td>
<td>Toxicologist</td>
</tr>
<tr>
<td>Organization</td>
<td>Voluntary Cleanup Program</td>
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<td>Address / City</td>
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<td>Email</td>
<td><a href="mailto:Severett@utah.gov">Severett@utah.gov</a></td>
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<td>Contact Phone</td>
<td>(801) 536-4117</td>
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### Guidelines

- **RCRA_CA**
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- **Brownfields**
- **SafeDrinkingWaterAct**
- **UST**
- **AirQuality (Clean Air Act)**
- **SurfaceWater**
- **WetlandsProgram**
- **Other**

## Not Specified

### Soil

#### Impact to Groundwater

**Basis:**

Citation Location: Regulations currently being drafted for Brownfields/VCP. For UST program, R311-211 Utah Admin. Code (Pending Approval). Interested party may review document at http://www.undergroundtanks.utah.gov/prop_rules.htm. Rule is estimated to be final in the summer of 2006.

Contact Info: Contact person is Scott Everett, (801) 536-4117, Severett@utah.gov

Comments: Ingestion

**Basis:**

Citation Location: Regulations currently being drafted

Contact Info: Contact person is Scott Everett, (801) 536-4117, Severett@utah.gov

Comments:

### Guidelines

#### Soil

**Ecological Risk**

**Basis:**

Citation Location: Guidelines currently under review

Contact Info: Contact person is Scott Everett, (801) 536-4117, Severett@utah.gov

Comments:
## Soil

### VIRGINIA

<table>
<thead>
<tr>
<th>Name</th>
<th>Pat McMurray</th>
<th>Contact Title: Toxicologist</th>
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<tr>
<td>Organization</td>
<td>Department of Environmental Quality</td>
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<td>Email</td>
<td><a href="mailto:pamcmurray@deq.virginia.gov">pamcmurray@deq.virginia.gov</a></td>
<td>Contact Phone: (804) 698-4186</td>
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### Regulatory

#### Soil

**Direct Contact (Dermal)**

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<tr>
<td>Comments</td>
<td>The above applies to the Voluntary Remediation Program only. In Virginia, there are no statewide numerical standards established by regulation or by guidance for the above media. Specific criteria or performance standards are implemented on a program specific basis. For UST see the DEQ Storage Tank Program Technical Manual at <a href="http://www.deq.state.va.us/tanks/dwnllib.html#techmanfiles">http://www.deq.state.va.us/tanks/dwnllib.html#techmanfiles</a>. Contact <a href="mailto:jsbarnett@deq.virginia.gov">jsbarnett@deq.virginia.gov</a>. For RCRA Subtitle C, the federal regulations are adopted by reference. For Solid Waste DEQ uses Subtitle D federal criteria and guidance. Contact <a href="mailto:skthirunagari@deq.virginia.gov">skthirunagari@deq.virginia.gov</a>. For program specific basis.</td>
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#### Ingestion

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#### Inhalation

Page 69 of 207
Soil

VIRGINIA

Name: Pat McMurray
Contact_Title: Toxicologist
Organization: Department of Environmental Quality
Address / City:
Email: pamcmurray@deq.virginia.gov
Contact_Phone: (804) 698-4186

Regulatory

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Citation_Location: 9VAC20-160-90
Contact_Info: kgreene@deq.virginia.gov
Comments: In Virginia, there are no statewide numerical standards established by regulation or by guidance for the above media. Specific criteria or performance standards are implemented on a program specific basis.

Other

Basis: * see note below
Citation_Location: N/A
Contact_Info:
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Guidelines

Soil

Impact to Groundwater

Basis: MCL supercedes risk-based
Citation_Location: www.deq.virginia.gov/vrprisk/tables.html
Contact_Info: pamcmurray@deq.virginia.gov
Comments:

Ingestion

Basis: (HQ for screening =0.1)
Citation_Location: www.deq.virginia.gov/vrprisk/tables.html
Contact_Info: pamcmurray@deq.virginia.gov
Comments:

Inhalation

Basis: (HQ for screening =0.1)
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Contact_Info: pamcmurray@deq.virginia.gov
Comments:
## Soil

### WISCONSIN

<table>
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<tr>
<th>Name</th>
<th>Aristeo M. Pelayo</th>
<th>Contact_Title</th>
<th>Hydrogeologist</th>
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<tbody>
<tr>
<td>Organization</td>
<td>Remediation and Redevelopment</td>
<td>Address / City</td>
<td>WDNR, RR/3, PO Box 7921, Madison, 53707</td>
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<tr>
<td>Email</td>
<td><a href="mailto:Aristeo.Pelayo@dnr.state.wi.us">Aristeo.Pelayo@dnr.state.wi.us</a></td>
<td>Contact_Phone</td>
<td>(608) 267-3539</td>
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#### Regulatory

##### Ecological Risk

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<td>Contact_Info</td>
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<tr>
<td>Comments</td>
<td>The administrative code on soil cleanup in WI is available at: <a href="http://www.legis.state.wi.us/rsb/code/nr/nr720.pdf">http://www.legis.state.wi.us/rsb/code/nr/nr720.pdf</a>. WI sites are classified either as: non-industrial or industrial. In determining generic non-industrial direct-contact soil cleanup levels that require almost no review on the part of the WDNR, default values of 1.e-07 TCR and 0.2 THQ are used. The generic direct-contact soil cleanup level that applies at a site will be the least of the levels determined from the different d-c pathways. However, site-specific (i.e., requiring WDNR review) cleanup levels can use up to 1.e-06 TCR, and the hazard index (sum of THQs) must not exceed 1. These latter direct-contact constraints of 1.e-06 TCR and 1.0 HI apply to soil cleanup at industrial sites as well. To determine groundwater-protective soil levels, the basis is the regulatory PAL concentrations in groundwater, and this basis is the same for non-industrial and industrial sites.</td>
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##### Impact to Groundwater

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<th>Basis</th>
<th>Regulatory basis is Preventive Action Limits (PALs) in groundwater tabulated in NR 140, Wis. Adm. Code. PALs are based on 1.e-07 TCR or 0.2 THQ.</th>
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<tr>
<td>Citation_Location</td>
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### Ingestion
# Soil

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<td>Contact_Phone:</td>
<td>(608) 267-3539</td>
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### Regulatory

**Basis:** HI (= sum of target hazard quotients) must not exceed 1.

**Citation_Location:** NR 720.19(5), Wis. Adm. Code

**Contact_Info:** Aristeo.Pelayo@dnr.state.wi.us

**Comments:** The administrative code on soil cleanup in WI is available at: http://www.legis.state.wi.us/rsb/code/nr/nr720.pdf. WI sites are classified either as: non-industrial or industrial. In determining generic non-industrial direct-contact soil cleanup levels that require almost no review on the part of the WDNR, default values of 1.e-07 TCR and 0.2 THQ are used. The generic direct-contact soil cleanup level that applies at a site will be the least of the levels determined from the different d-c pathways. However, site-specific (i.e., requiring WDNR review) cleanup levels can use up to 1.e-06 TCR, and the hazard index (sum of THQs) must not exceed 1. These latter direct-contact constraints of 1.e-06 TCR and 1.0 HI apply to soil cleanup at industrial sites as well. To determine groundwater-protective soil levels, the basis is the regulatory PAL concentrations in groundwater, and this basis is the same for non-industrial and industrial sites.

### Inhalation

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**Citation_Location:** NR 720.19(5), Wis. Adm. Code

**Contact_Info:** Aristeo.Pelayo@dnr.state.wi.us

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### Other

**Basis:** Particulate Inhalation

**Citation_Location:** NR 720.19(5), Wis. Adm. Code

**Contact_Info:** Aristeo.Pelayo@dnr.state.wi.us

**Comments:** The administrative code on soil cleanup in WI is available at: http://www.legis.state.wi.us/rsb/code/nr/nr720.pdf. WI sites are classified either as: non-industrial or industrial. In determining generic non-industrial direct-contact soil cleanup levels that require almost no review on the part of the WDNR, default values of 1.e-07 TCR and 0.2 THQ are used. The generic direct-contact soil cleanup level that applies at a site will be the least of the levels determined from the different d-c pathways. However, site-specific (i.e., requiring WDNR review) cleanup levels can use up to 1.e-06 TCR, and the hazard index (sum of THQs) must not exceed 1. These latter direct-contact constraints of 1.e-06 TCR and 1.0 HI apply to soil cleanup at industrial sites as well. To determine groundwater-protective soil levels, the basis is the regulatory PAL concentrations in groundwater, and this basis is the same for non-industrial and industrial sites.

- [ ] RCRA_CA
- [ ] Brownfields
- [ ] DrinkingWater
- [ ] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [x] SolidWasteLndfill
- [ ] VoluntaryClnUp
- [ ] SafeDrinkingWaterAct
- [x] UST
- [ ] WetlandsProgram
- [ ] Other
**Soil**

**Guidelines**

**Direct Contact (Dermal)**

| Basis: | Direct dermal contact levels should not exceed the ingestion-pathway levels. |
| Citation_Location: | http://www.dnr.wi.gov/org/aw/rr/archives/pubs/RR682.pdf |
| Contact_Info: | Aristeo.Pelayo@dnr.state.wi.us |
| Comments: | The administrative code on soil cleanup in WI is available at: http://www.legis.state.wi.us/rsb/code/nr/nr720.pdf. WI sites are classified either as: non-industrial or industrial. In determining generic non-industrial direct-contact soil cleanup levels that require almost no review on the part of the WDNR, default values of 1.e-07 TCR and 0.2 THQ are used. The generic direct-contact soil cleanup level that applies at a site will be the least of the levels determined from the different d-c pathways. However, site-specific (i.e., requiring WDNR review) cleanup levels can use up to 1.e-06 TCR, and the hazard index (sum of THQs) must not exceed 1. These latter direct-contact constraints of 1.e-06 TCR and 1.0 HI apply to soil cleanup at industrial sites as well. To determine groundwater-protective soil levels, the basis is the regulatory PAL concentrations in groundwater, and this basis is the same for non-industrial and industrial sites. |

**Impact to Groundwater**

| Basis: | SPLP may be used to determine soil levels protective of groundwater-quality. |
| Citation_Location: | http://www.dnr.wi.gov/org/aw/rr/archives/pubs/RR523.pdf |
| Contact_Info: | Aristeo.Pelayo@dnr.state.wi.us |
| Comments: | The administrative code on soil cleanup in WI is available at: http://www.legis.state.wi.us/rsb/code/nr/nr720.pdf. WI sites are classified either as: non-industrial or industrial. In determining generic non-industrial direct-contact soil cleanup levels that require almost no review on the part of the WDNR, default values of 1.e-07 TCR and 0.2 THQ are used. The generic direct-contact soil cleanup level that applies at a site will be the least of the levels determined from the different d-c pathways. However, site-specific (i.e., requiring WDNR review) cleanup levels can use up to 1.e-06 TCR, and the hazard index (sum of THQs) must not exceed 1. These latter direct-contact constraints of 1.e-06 TCR and 1.0 HI apply to soil cleanup at industrial sites as well. To determine groundwater-protective soil levels, the basis is the regulatory PAL concentrations in groundwater, and this basis is the same for non-industrial and industrial sites. |

**Ingestion**

| Basis: | If the resulting direct-contact level exceeds the soil saturation concentration (Csat), then Csat will become the basis for cleanup |
| Citation_Location: | http://www.dnr.wi.gov/org/aw/rr/archives/pubs/RR682.pdf |
| Contact_Info: | Aristeo.Pelayo@dnr.state.wi.us |
| Comments: | The administrative code on soil cleanup in WI is available at: http://www.legis.state.wi.us/rsb/code/nr/nr720.pdf. WI sites are classified either as: non-industrial or industrial. In determining generic non-industrial direct-contact soil cleanup levels that require almost no review on the part of the WDNR, default values of 1.e-07 TCR and 0.2 THQ are used. The generic direct-contact soil cleanup level that applies at a site will be the least of the levels determined from the different d-c pathways. However, site-specific (i.e., requiring WDNR review) cleanup levels can use up to 1.e-06 TCR, and the hazard index (sum of THQs) must not exceed 1. These latter direct-contact constraints of 1.e-06 TCR and 1.0 HI apply to soil cleanup at industrial sites as well. To determine groundwater-protective soil levels, the basis is the regulatory PAL concentrations in groundwater, and this basis is the same for non-industrial and industrial sites. |

**Inhalation**
State Action Levels Report - CERCLA T3  Focus Group

Soil

WISCONSIN

Name: Aristeo M. Pelayo  Organization: Remediation and Redevelopment
Name: Aristeo M. Pelayo  Organization: Remediation and Redevelopment
Contact_Title: Hydrogeologist  Address / City: WDNR, RR/3, PO Box 7921, Madison, 53707
Contact_Price: (608) 267-3539
Email: Aristeo.Pelayo@dnr.state.wi.us
Email: Aristeo.Pelayo@dnr.state.wi.us
Comments: The administrative code on soil cleanup in WI is available at: http://www.legis.state.wi.us/rsb/code/nr/nr720.pdf. WI sites are classified either as: non-industrial or industrial. In determining generic non-industrial direct-contact soil cleanup levels that require almost no review on the part of the WDNR, default values of 1.e-07 TCR and 0.2 THQ are used. The generic direct-contact soil cleanup level that applies at a site will be the least of the levels determined from the different d-c pathways. However, site-specific (i.e., requiring WDNR review) cleanup levels can use up to 1.e-06 TCR, and the hazard index (sum of THQs) must not exceed 1. These latter direct-contact constraints of 1.e-06 TCR and 1.0 HI apply to soil cleanup at industrial sites as well. To determine groundwater-protective soil levels, the basis is the regulatory PAL concentrations in groundwater, and this basis is the same for non-industrial and industrial sites.

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Contact_Info: Aristeo.Pelayo@dnr.state.wi.us
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Other

Basis: If the resulting direct-contact level exceeds the soil saturation concentration (Csat), then Csat will become the basis for cleanup
Citation_Location: http://www.dnr.wi.gov/org/aw/rr/archives/pubs/RR682.pdf
Contact_Info: Aristeo.Pelayo@dnr.state.wi.us
Comments: The administrative code on soil cleanup in WI is available at: http://www.legis.state.wi.us/rsb/code/nr/nr720.pdf. WI sites are classified either as: non-industrial or industrial. In determining generic non-industrial direct-contact soil cleanup levels that require almost no review on the part of the WDNR, default values of 1.e-07 TCR and 0.2 THQ are used. The generic direct-contact soil cleanup level that applies at a site will be the least of the levels determined from the different d-c pathways. However, site-specific (i.e., requiring WDNR review) cleanup levels can use up to 1.e-06 TCR, and the hazard index (sum of THQs) must not exceed 1. These latter direct-contact constraints of 1.e-06 TCR and 1.0 HI apply to soil cleanup at industrial sites as well. To determine groundwater-protective soil levels, the basis is the regulatory PAL concentrations in groundwater, and this basis is the same for non-industrial and industrial sites.

☑ RCRA_CA  ☑ Brownfields  ☐ DrinkingWater  ☐ SurfaceWater  ☐ AirQuality (Clean Air Act)
☐ SolidWsteLndfill  ☑ VoluntaryClnUp  ☐ SafeDrinkingWaterAct  ☑ UST  ☐ WetlandsProgram  ☐ Other
Groundwater

ALASKA

Name: Jill Taylor  Contact_Title: Environmental Program Specialist III
Organization: Alaska DEC Contaminated Sites Program
Address / City: 410 Willoughby Avenue, Suite 303, Juneau, 99801
Email: Jill_Taylor@dec.state.ak.us  Contact_Phone: (907) 465-5209

Regulatory

Groundwater

Direct Contact (Dermal)

Basis:
Citation_Location: "18 AAC 75.325 (g) and (h) for Cumulative Risk. Cleanup levels are based on drinking water MCL's. Not necessarily risk based. Cleanup Levels Guidance - Method 2 Standard Tables"

Contact_Info: Jill_Taylor@dec.state.ak.us  Comments:

Discharge to Surface Water

Basis:
Citation_Location: Groundwater must meet surface water standards at point of compliance adjacent to surface water body.
Contact_Info:  Comments:

Drinking (Ingestion)

Basis:
Citation_Location: "18 AAC 75.325 (g) and (h) for Cumulative Risk. Cleanup levels are based on drinking water MCL's. Not necessarily risk based. Cleanup Levels Guidance - Method 2 Standard Tables"

Contact_Info: Jill_Taylor@dec.state.ak.us  Comments:

☐ RCRA_CA  ☑ Brownfields  ☐ DrinkingWater  ☐ SurfaceWater  ☐ AirQuality (Clean Air Act)
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# Groundwater

**ARKANSAS**

<table>
<thead>
<tr>
<th>Name</th>
<th>Ashley Whitlow</th>
<th>Contact Title: Senior Epidemiologist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization</td>
<td>Arkansas Department of Environmental Quality - Hazardous Waste Division</td>
<td></td>
</tr>
<tr>
<td>Address / City</td>
<td>8001 National Drive, Little Rock, 722198913</td>
<td>Contact Phone: (501) 682-0689</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:whitlow@adeq.state.ar.us">whitlow@adeq.state.ar.us</a></td>
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## Regulatory

### Groundwater

#### Direct Contact (Dermal)

<table>
<thead>
<tr>
<th>Basis:</th>
<th>Citation Location: Arkansas Pollution Control and Ecology Commission (APC&amp;EC) Regulation 2 and ADEQ Ground Water Remediation Level Interim Policy and Technical Guidance</th>
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<tbody>
<tr>
<td>Contact Info:</td>
<td>Ashley Whitlow; 501-682-0869; <a href="mailto:whitlow@adeq.state.ar.us">whitlow@adeq.state.ar.us</a></td>
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<td>Comments:</td>
<td>The Arkansas Voluntary Cleanup Act at A.C.A. § 8-7-1104 (<a href="http://170.94.58.9/NXT/gateway.dll?f=templates&amp;fn=default.htm&amp;vid=blr:code">http://170.94.58.9/NXT/gateway.dll?f=templates&amp;fn=default.htm&amp;vid=blr:code</a>), sets up the performance-based concept of eliminating “unacceptable risk” in contaminated groundwater. A remedial action pursuant to subdivision (e)(3) of this section shall eliminate unacceptable risks and prevent degradation of groundwaters and surface waters.</td>
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# Groundwater

## ARKANSAS

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## Guidelines

### Groundwater

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<td>EPA MCLs, MCLGs, or risk-based tap water screening values (presented in the EPA Region 6 HHMSSLs table: <a href="http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screenvalues.pdf">http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screenvalues.pdf</a>) are used as baseline remediation goals for groundwater contamination. However, on a site-specific basis, risk-based remediation goals may be calculated based on groundwater use(s) and exposure(s) at and near the site.</td>
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#### Discharge to Surface Water

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<td>Citation_Location:</td>
<td>EPA Maximum Contaminant Levels (MCLs), Maximum Contaminant Level Goals (MCLGs), or risk-based tap water screening values (presented in the EPA Region 6 Human Health Medium Specific Screening Levels (HHMSSLs) table: <a href="http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screenvalues.pdf">http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screenvalues.pdf</a>) are typically used as baseline remediation goals for groundwater contamination. However, on a site-specific basis, risk-based remediation goals may be calculated based on groundwater use(s) and exposure(s) at and near the site.</td>
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- [ ] VoluntaryCleanup
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- [ ] UST
- [ ] WetlandsProgram
- [ ] Other

10/16/2006
### Groundwater

**ARIZONA**

<table>
<thead>
<tr>
<th>Name:</th>
<th>Richard Olm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact_Title:</td>
<td>Senior Environmental Engineer</td>
</tr>
<tr>
<td>Organization:</td>
<td>Arizona Dept. of Environmental Quality, Remedial Projects</td>
</tr>
<tr>
<td>Address / City:</td>
<td>1110 West Washington Street, , AZ, Phoenix, 850072952</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:rco@azdeq.gov">rco@azdeq.gov</a></td>
</tr>
<tr>
<td>Contact_Phone:</td>
<td>(480) 367-0249</td>
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#### Regulatory

**Groundwater**

**Direct Contact (Dermal)**

- **Basis:**
- **Citation_Location:** [http://www.azleg.state.az.us/ArizonaRevisedStatutes.asp?Title=49](http://www.azleg.state.az.us/ArizonaRevisedStatutes.asp?Title=49)
- **Contact_Info:**
- **Comments:** All groundwater in the state is protected for drinking water purposes. The standards are the aquifer water quality standards which are equivalent to maximum contaminant levels (MCLs).

**Discharge to Surface Water**

- **Basis:** [http://www.azsos.gov/public_services/Title_18/18-11.htm](http://www.azsos.gov/public_services/Title_18/18-11.htm)
- **Citation_Location:** [http://www.azleg.state.az.us/ArizonaRevisedStatutes.asp?Title=49](http://www.azleg.state.az.us/ArizonaRevisedStatutes.asp?Title=49)
- **Contact_Info:** Chris Varga, crv@azdeq.gov
- **Comments:** All groundwater in the state is protected for drinking water purposes. The standards are the aquifer water quality standards which are equivalent to maximum contaminant levels (MCLs).

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</table>
Groundwater

CALIFORNIA

Name: Mike Sorensen  Contact_Title: Branch Chief
Organization: Site Mitigation and Brownfields Reuse Program
Address / City: 
Email: msorense@dtsc.ca.gov  Contact_Phone: (916) 255-6660

Regulatory

Groundwater

Direct Contact (Dermal)

Basis:
Citation_Location: CA Health and Safety Code, Div 20, Chapter 6.5 and 6.8. (see http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=hsc&codebody=&hits=20) requires cleanups be consistent with the NCP. Risk range of 1.E-06 to 1.E-04 is utilized to establish cleanup levels and considers 9 criteria analysis.
Contact_Info: Deputy Director, Site Mitigation and Brownfields Reuse Program, (916) 322-0504. (see http://www.dtsc.ca.gov/index.cfm)
Comments:

Discharge to Surface Water

Basis:
Citation_Location: "Cleanup criteria can established based on human health risk, ecological impact, or beneficial use of the resource. Statute relating to human health risk or ecological impact is CA Health and Safety Code, Div 20, Chapter 6.5 and 6.8. (see http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=hsc&codebody=&hits=20) requires cleanups be consistent with the NCP. Risk range of 1.E-06 to 1.E-04 is utilized to establish cleanup levels and considers 9 criteria analysis. Statute relating to beneficial use is California Water Code, Division 7. Water Quality. (see http://www.waterboards.ca.gov/water_laws/docs/portercologne.pdf) Section 13050(f) defines “Beneficial uses” of the waters of the state that may be protected against water quality degradation include, but are not necessarily limited to, domestic, municipal, agricultural, and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. Water quality goals are established in regional basin plans; for examples see http://www.waterboards.ca.gov/plnspol/index.html. "
Contact_Info: "For human health risk, contact: Deputy Director, Site Mitigation and Brownfields Reuse Program, (916) 322-0504. (see http://www.dtsc.ca.gov/index.cfm) For beneficial use, contact: State Water Resources Control Board, Division of Water Quality (916) 341-5250 (http://www.waterboards.ca.gov/quality.html?counter=85)"
Comments:

Drinking (Ingestion)

Basis:
Citation_Location: "Cleanup criteria can established based on human health risk or utilize MCLs depending on whether the groundwater is being utilized as a public water supply. For human health risk, CA Health and Safety Code, Div 20, Chapter 6.5 and 6.8. (see http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=hsc&codebody=&hits=20) requires cleanups be consistent with the NCP. Risk range of 1.E-06 to 1.E-04 is utilized to establish cleanup levels and considers 9 criteria analysis. For public water supply, cleanup levels are maximum contaminant levels (MCLs) which take into account not only chemicals’ health risks but also factors such as their detectability and treatability, as well as the costs of treatment. Statute: CA Health and Safety Code, Div 104, Part 4, Chapter 12 (see http://www.dhs.ca.gov/ps/ddwem/publications/lawbook/dwregulations-06-01-04.pdf) Regulations: Title 22 of the California Code of Regulations, Division 4, Chapters 15, 16 and 17. (see http://www.dhs.ca.gov/ps/ddwem/publications/lawbook/dwregulations-02-27-06.pdf) See http://www.dhs.ca.gov/ps/ddwem/chemicals/chemindex.htm for more information on California MCLs and the process to establish these levels. "
Contact_Info: "For human health risk, contact: Deputy Director, Site Mitigation and Brownfields Reuse Program, (916) 322-0504. (see http://www.dtsc.ca.gov/index.cfm) For Drinking Water Supply, contact: California Department of Health Services, Division of Drinking Water and Environmental Management, (916) 341-5615. (see http://www.dhs.ca.gov/ps/ddwem/chemicals/chemindex.htm)"
Comments:

☑️ RCRA_CA  ☑️ Brownfields  ☑️ DrinkingWater  ☑️ SurfaceWater  ☐️ AirQuality (Clean Air Act)
☐️ SolidWsteLndfill  ☑️ VoluntaryClnUp  ☐️ SafeDrinkingWaterAct  ☐️ UST  ☐️ WetlandsProgram  ☐️ Other
Groundwater

CALIFORNIA

Name: Mike Sorensen  Contact_Title: Branch Chief
Organization: Site Mitigation and Brownfields Reuse Program
Address / City: 
Email: msorensen@dtsc.ca.gov  Contact_Phone: (916) 255-6660

Guidelines

Groundwater

Direct Contact (Dermal)

Basis:

Citation_Location: Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities (see http://www.dtsc.ca.gov/AssessingRisk/Supplemental_Guidance.cfm). This DTSC guidance manual supplements the U.S. Environmental Protection Agency manual for performing human health risk assessments (Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A), Interim Final (EPA/540/1-89/002, December 1989)) and OSWER directives by providing recommendations on specific technical or scientific issues that may be encountered when preparing multimedia risk assessment reports for submittal and review by the DTSC.

Contact_Info:
Comments:

Discharge to Surface Water

Basis:

Citation_Location: "1. Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities (see http://www.dtsc.ca.gov/AssessingRisk/Supplemental_Guidance.cfm). This DTSC guidance manual supplements the U.S. Environmental Protection Agency manual for performing human health risk assessments (Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A), Interim Final (EPA/540/1-89/002, December 1989)) and OSWER directives by providing recommendations on specific technical or scientific issues that may be encountered when preparing multimedia risk assessment reports for submittal and review by the DTSC. 2. Compilation Of Existing Guidance For The Development Of Site-Specific Water Quality Objectives In The State Of California (see http://www.waterboards.ca.gov/docs/sitespec/sitespecificwqo.pdf ) This document provides the State of California, United States Environmental Protection Agency (USEPA) Region 9, other stakeholders and the general public with a compilation of existing guidance and information on the development of site-specific water quality objectives (SSOs). The document presents background information on default national aquatic life criteria, including their strengths and limitations. Published and unpublished methodologies for the derivation of site-specific objectives are described with links, references and case examples provided for greater detail."

Contact_Info:
Comments:

Drinking (Ingestion)
Groundwater

CALIFORNIA

Name: Mike Sorensen  
Contact_Title: Branch Chief
Organization: Site Mitigation and Brownfields Reuse Program
Address / City:
Email: msorense@dtsc.ca.gov  
Contact_Phone: (916) 255-6660

GUIDELINES

Basis:

Citation_Location: 1. Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities (see http://www.dtsc.ca.gov/AssessingRisk/Supplemental_Guidance.cfm). This DTSC guidance manual supplements the U.S. Environmental Protection Agency manual for performing human health risk assessments (Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A), Interim Final (EPA/540/1-89/002, December 1989)) and OSWER directives by providing recommendations on specific technical or scientific issues that may be encountered when preparing multimedia risk assessment reports for submittal and review by the DTSC. 2. For information on public health goals (PHGs), see http://www.oehha.ca.gov/water/phg/allphgs.html. PHGs are developed for chemical contaminants based on the best available toxicological data in the scientific literature. These documents and the analyses contained in them provide estimates of the levels of contaminants in drinking water that would pose no significant health risk to individuals consuming the water on a daily basis over a lifetime. See http://www.oehha.ca.gov/risk/ChemicalDB/index.asp for OEHHA Toxicity Criteria Database, searchable by chemical. 3. For California MCLs see "Maximum Contaminant Levels And Regulation Dates For Drinking Water Contaminants, USEPA Vs CDHS, September 2003" (see http://www.dhs.ca.gov/ps/ddwem/chemicals/MCL/EPAandDHS.pdf) 4. For risk assessment of lead exposures, see LeadSpread. (see http://www.dtsc.ca.gov/AssessingRisk/leadspread.cfm). LeadSpread is a tool that can be used to estimate blood lead concentrations resulting from exposure to lead via dietary intake, drinking water, soil and dust ingestion, inhalation, and dermal contact. 5. Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater (Interim Final - February 2005) (see http://www.waterboards.ca.gov/sanfranciscobay/esl.htm) The document Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater (4th edition, February 2005) is a technical report prepared by staff of the California Regional Water Quality Board, San Francisco Bay Region. Information provided in the document is not intended to establish policy or regulation. Volume 1 of the document presents lookup tables of conservative Environmental Screening Levels ("ESLs") for over 100 chemicals commonly found at sites with contaminated soil and groundwater. Volume 2 describes how the ESLs were developed and provides detailed tables and appendices in support of the summary lookup tables. 6. USEPA Region 9 Preliminary Remediation Goals (PRGs). PRGs are tools for evaluating and cleaning up contaminated sites. They are risk-based concentrations that are intended to assist risk assessors and others in initial screening-level evaluations of environmental measurements. The PRGs contained in the Region 9 PRG Table are generic; they are calculated without site specific information. However, they may be re-calculated using site specific data. PRGs should be viewed as Agency guidelines, not legally enforceable standards. They are used for site "screening" and as initial cleanup goals if applicable. PRGs are not de facto cleanup standards and should not be applied as such. However, they are helpful in providing long-term targets to use during the analysis of different remedial alternatives. By developing PRGs early in the decision-making process, design staff may be able to streamline the consideration of remedial alternatives. (see http://www.epa.gov/region09/waste/sfund/prg/index.html)

Contact_Info:

Comments:

Other
# Groundwater

**CALIFORNIA**

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<thead>
<tr>
<th>Name</th>
<th>Contact_Title</th>
<th>Organization</th>
</tr>
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<tbody>
<tr>
<td>Mike Sorensen</td>
<td>Branch Chief</td>
<td>Site Mitigation and Brownfields Reuse Program</td>
</tr>
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<tr>
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<tr>
<td></td>
<td><a href="mailto:msorense@dtsc.ca.gov">msorense@dtsc.ca.gov</a></td>
<td>(916) 255-6660</td>
</tr>
</tbody>
</table>

## Guidelines

**Basis:**

1. For risk assessment of lead exposures, see LeadSpread. (see http://www.dtsc.ca.gov/AssessingRisk/leadspread.cfm).

   LeadSpread is a tool that can be used to estimate blood lead concentrations resulting from exposure to lead via dietary intake, drinking water, soil and dust ingestion, inhalation, and dermal contact.

2. Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater (Interim Final - February 2005) (see http://www.waterboards.ca.gov/sanfranciscobay/esl.htm)

   The document Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater (4th edition, February 2005) is a technical report prepared by staff of the California Regional Water Quality Board, San Francisco Bay Region. Information provided in the document is not intended to establish policy or regulation. Volume 1 of the document presents lookup tables of conservative Environmental Screening Levels (“ESLs”) for over 100 chemicals commonly found at sites with contaminated soil and groundwater. Volume 2 describes how the ESLs were developed and provides detailed tables and appendices in support of the summary lookup tables.

3. USEPA Region 9 Preliminary Remediation Goals (PRGs). PRGs are tools for evaluating and cleaning up contaminated sites. They are risk-based concentrations that are intended to assist risk assessors and others in initial screening-level evaluations of environmental measurements. The PRGs contained in the Region 9 PRG Table are generic; they are calculated without site specific information. However, they may be re-calculated using site specific data. PRGs should be viewed as Agency guidelines, not legally enforceable standards. They are used for site “screening” and as initial cleanup goals if applicable. PRGs are not de facto cleanup standards and should not be applied as such. However, they are helpful in providing long-term targets to use during the analysis of different remedial alternatives. By developing PRGs early in the decision-making process, design staff may be able to streamline the consideration of remedial alternatives. (see http://www.epa.gov/region09/waste/sfund/prg/index.html)
## Groundwater

**COLORADO**

<table>
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<tr>
<th>Name</th>
<th>Barbara O'Grady</th>
<th>Contact_Title</th>
<th>Environmental Protection Specialist III</th>
</tr>
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<tbody>
<tr>
<td>Organization</td>
<td>Remedial Programs/Hazardous Materials and Waste Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address / City</td>
<td>4300 Cherry Creek Drive South, Denver, 80246</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:barbara.ogrady@state.co.us">barbara.ogrady@state.co.us</a></td>
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</tr>
<tr>
<td>Contact_Phone</td>
<td>(303) 692-3395</td>
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### Regulatory

#### Groundwater

**Direct Contact (Dermal)**

**Basis:**

**Citation_Location:**
- [http://www.cdphe.state.co.us/op/regs/waterregs/100241basicstandardsforgroundwater.pdf](http://www.cdphe.state.co.us/op/regs/waterregs/100241basicstandardsforgroundwater.pdf)
- [http://www.cdphe.state.co.us/op/regs/waterregs/100242sitespecificclassgroundwater.pdf](http://www.cdphe.state.co.us/op/regs/waterregs/100242sitespecificclassgroundwater.pdf)

**Contact_Info:** Division Staff at (303) 692-3500 or cdphe.wqcc@state.co.us

**Comments:**

**Discharge to Surface Water**

**Basis:**

**Citation_Location:**
- [http://www.cdphe.state.co.us/op/regs/waterregs/100241basicstandardsforgroundwater.pdf](http://www.cdphe.state.co.us/op/regs/waterregs/100241basicstandardsforgroundwater.pdf)
- [http://www.cdphe.state.co.us/op/regs/waterregs/100242sitespecificclassgroundwater.pdf](http://www.cdphe.state.co.us/op/regs/waterregs/100242sitespecificclassgroundwater.pdf)

**Contact_Info:** Division Staff at (303) 692-3500 or cdphe.wqcc@state.co.us

**Comments:**

**Drinking (Ingestion)**

**Basis:**

**Citation_Location:**
- [http://www.cdphe.state.co.us/op/regs/waterqualitycontroldivision/100301primarydrinkingwater.pdf](http://www.cdphe.state.co.us/op/regs/waterqualitycontroldivision/100301primarydrinkingwater.pdf)
- [http://www.cdphe.state.co.us/op/regs/waterregs/100241basicstandardsforgroundwater.pdf](http://www.cdphe.state.co.us/op/regs/waterregs/100241basicstandardsforgroundwater.pdf)
- [http://www.cdphe.state.co.us/op/regs/waterregs/100242sitespecificclassgroundwater.pdf](http://www.cdphe.state.co.us/op/regs/waterregs/100242sitespecificclassgroundwater.pdf)

**Contact_Info:** Division Staff at (303) 692-3500 or cdphe.wqcc@state.co.us

**Comments:**

- [RCRA_CA](#)
- [Brownfields](#)
- [DrinkingWater](#)
- [SurfaceWater](#)
- [AirQuality (Clean Air Act)](#)
- [SolidWsteLndfill](#)
- [VoluntaryClnUp](#)
- [SafeDrinkingWaterAct](#)
- [UST](#)
- [WetlandsProgram](#)
- [Other](#)
## Groundwater

### CONNECTICUT

- **Name:** Traci Lott
- **Contact Title:** Environmental Analyst III
- **Organization:** CT DEP/Remediation
- **Address / City:** 79 Elm St., Hartford, 06106
- **Email:** traci.iott@po.state.ct.us
- **Contact Phone:** (860) 424-3082

### Regulatory

#### Groundwater

### Discharge to Surface Water

**Basis:** The Surface Water Protection Criteria are based on the Connecticut Water Quality Standards ([http://www.dep.state.ct.us/wtr/wq/wqs.pdf](http://www.dep.state.ct.us/wtr/wq/wqs.pdf)). The Regulations provide for special consideration of wetlands and intermittant waterbodies as well as the ability to develop site-specific criteria. The Surface Water Protection Criteria will be updated in the revised regulations and additional guidance on implementation will be provided. Look to the CTDEP web site ([http://www.dep.state.ct.us/wtr/remediation/index.htm](http://www.dep.state.ct.us/wtr/remediation/index.htm)) in the future for proposed revisions to the Regulations.

**Citation Location:** 22a-133k-3 RCSA Ground-water Remediation Standards See (b) Surface Water Protection Criteria and (f) Applying the Criteria for Groundwater

**Contact Info:** Traci Iott at traci.iott@po.state.ct.us

**Comments:**

### Drinking (Ingestion)

**Basis:** The Ground-water Protection Criteria are based on either risk calculations or State/Federal Drinking Water values (MCLs etc). The criteria will be updated during the revisions to the regulations. Look to the CTDEP web site ([http://www.dep.state.ct.us/wtr/remediation/index.htm](http://www.dep.state.ct.us/wtr/remediation/index.htm)) in the future for proposed revisions to the Regulations.

**Citation Location:** 22a-133k-3 RCSA Ground-water Remediation Standards See (d) Applicability of Ground-water Protection Criteria, (f) Applying the Criteria for Ground Water and (h) Additional Polluting Substances

**Contact Info:** Traci Iott at traci.iott@po.state.ct.us

**Comments:**

- [✓] RCRA_CA
- [✓] Brownfields
- [✓] DrinkingWater
- [✓] SurfaceWater
- [✓] UST
- [✓] WetlandsProgram
- [✓] Other

### Not Specified

#### Groundwater

**Basis:** No additional guidance has been developed. However, future guidance is expected as the regulations are revised.

**Contact Info:** Traci Iott at traci.iott@po.state.ct.us

**Comments:**

- [✓] RCRA_CA
- [✓] Brownfields
- [✓] DrinkingWater
- [✓] SurfaceWater
- [✓] UST
- [✓] WetlandsProgram
- [✓] Other
# Groundwater

## CONNECTICUT

<table>
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<tr>
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<th>Organization</th>
<th>Address / City</th>
<th>Email</th>
<th>Contact_Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traci Lott</td>
<td>Environmental Analyst III</td>
<td>CT DEP/Remediation</td>
<td>79 Elm St., Hartford, 06106</td>
<td><a href="mailto:traci.iott@po.state.ct.us">traci.iott@po.state.ct.us</a></td>
<td>(860) 424-3082</td>
</tr>
</tbody>
</table>

### Guidelines

#### Groundwater

**Drinking (Ingestion)**

**Basis:**

Citation_Location: See the Comprehensive List of Approved Additional and Alternative Criteria (http://www.dep.state.ct.us/wtr/regs/remediation/alternative_and_approved_criteria.pdf). These values will be updated during the revisions to the regulations. No additional guidance has been developed.

Contact_Info: Traci Lott at traci.iott@po.state.ct.us

Comments:

- [x] RCRA_CA
- [ ] Brownfields
- [x] DrinkingWater
- [x] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [x] SolidWasteLandfill
- [ ] VoluntaryCleanUp
- [x] SafeDrinkingWaterAct
- [x] UST
- [x] WetlandsProgram
- [ ] Other

10/16/2006
### Groundwater

#### Delaware

**Name:** Stephen Johnson  
**Contact Title:** Environmental Engineer  
**Organization:** Site Investigation and Restoration Branch  
**Address / City:**  
**Email:**  
**Contact Phone:** (302) 395-2600

#### Regulatory

**Groundwater**

**Discharge to Surface Water**

**Basis:** Surface Water Quality Standards  
**Citation Location:** DE Regulations Gov Haz Substance Cleanup Section 9.2  
**Contact Info:** Qazi Salahudin  
**Comments:**

**Drinking (Ingestion)**

**Basis:** Uniform Riskbased Standards  
**Citation Location:** DE Regulations Gov Haz Substance Cleanup Section 9.2  
**Contact Info:** Qazi Salahudin  
**Comments:**

#### Guidelines

**Groundwater**

**Discharge to Surface Water**

**Basis:** Uniform Riskbased Standards  
**Citation Location:** Uniform Riskbased Standards  
**Contact Info:** Qazi Salahudin  
**Comments:**

**Drinking (Ingestion)**

**Basis:** Uniform Riskbased Standards  
**Citation Location:** Uniform Riskbased Standards  
**Contact Info:** Uniform Riskbased Standards  
**Comments:**
# Groundwater

## GEORGIA

<table>
<thead>
<tr>
<th>Name:</th>
<th>David Brownlee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact_Title:</td>
<td>Unit Coordinator</td>
</tr>
<tr>
<td>Organization:</td>
<td>Hazardous Site Response Program</td>
</tr>
<tr>
<td>Address / City:</td>
<td>2 MLK Jr Drive, Suite 1462, Atlanta, 30334</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:david_brownlee@dnr.state.ga.us">david_brownlee@dnr.state.ga.us</a></td>
</tr>
<tr>
<td>Contact_Phone:</td>
<td>(404) 657-6800</td>
</tr>
</tbody>
</table>

### Regulatory

#### Groundwater

##### Direct Contact (Dermal)

**Basis:**
- Rules for Hazardous Site Response does not factor in dermal contact in risk calculations.
- Contact_Info: david_brownlee@dnr.state.ga.us
- Comments:

##### Discharge to Surface Water

**Basis:**
- Site specific groundwater cleanup values are calculated such that exceedances of in-stream water quality standards will not occur.
- Citation_Location: Rules for Hazardous Site Response 391-3-19 and Rules for Water Quality Control 391-3-6 can be found at http://www.gaepd.org/Documents/rules_exist.html
- Contact_Info: david_brownlee@dnr.state.ga.us
- Comments:

##### Drinking (Ingestion)

**Basis:**
- Default groundwater values equivalent to MCLs may be used or site specific risk based levels based on ingestion and inhalation (for volatiles) using an ICLR of 1.E-05 or HI=1.
- Citation_Location: Rules for Hazardous Site Response 391-3-19 can be found at http://www.gaepd.org/Documents/rules_exist.html
- Contact_Info: david_brownlee@dnr.state.ga.us
- Comments:

- [ ] RCRA_CA
- [ ] Brownfields
- [ ] DrinkingWater
- [ ] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [ ] SolidWasteLndfill
- [ ] VoluntaryClnUp
- [ ] SafeDrinkingWaterAct
- [ ] UST
- [ ] WetlandsProgram
- [ ] Other
### Groundwater

**IOWA**

<table>
<thead>
<tr>
<th>Name</th>
<th>Bob Drstrup</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact_Title</td>
<td>Environmental Engineer</td>
</tr>
<tr>
<td>Organization</td>
<td>Iowa Department of Natural Resources, Land Recycling Program (a VCP)</td>
</tr>
<tr>
<td>Address / City</td>
<td>502 E. 9th Street, Des Moines, 503190034</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:bob.drustrup@dnr.state.ia.us">bob.drustrup@dnr.state.ia.us</a></td>
</tr>
<tr>
<td>Contact_Phone</td>
<td>(515) 281-8900</td>
</tr>
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</table>

**Regulatory**

**Groundwater**

**Drinking (Ingestion)**

- **Basis:** HI = 0.02 for Group C
- **Citation_Location:** Rule 567 IAC 137.5, [http://www.iowadnr.com/land/consites/index.html](http://www.iowadnr.com/land/consites/index.html)
- **Contact_Info:** Bob Drstrup, (515) 281-8900, bob.drustrup@dnr.state.ia.us
- **Comments:** Regulations shown are for the voluntary cleanup program. Statewide groundwater standards are set for protected and nonprotected groundwater source. (K < 0.44m/day or TDS > 2,500 for nonprotected) Protected groundwater standards are MCLs, HAL, or risk-based if no MCL or HAL exists. Nonprotected standards based on cancer = 1 E-04 and HQ = 1, or the larger of HI = 0.1 or cancer = 1 E-04 for Group C that have a slope factor. Cumulative risk requirements (cancer = 1 E-04 and HQ = 1 by target organ) apply regardless of the standard. Groundwater standards are based on direct exposure to groundwater by ingestion only, comparable to drinking water standards. As with soil, standards apply only to the medium in which exposure occurs. An on-line cumulative risk calculator will be available in April from the referenced Internet address.

- [ ] RCRA_CA
- [ ] SolidWsteLndfill
- [ ] Brownfields
- [ ] DrinkingWater
- [ ] UST
- [ ] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [x] VoluntaryClnUp
- [x] SafeDrinkingWaterAct
- [ ] WetlandsProgram
- [ ] Other

**Not Specified**

**Groundwater**

**Discharge to Surface Water**

- **Basis:** Addressed as surface water issue
- **Citation_Location:**
- **Contact_Info:**
- **Comments:** Regulations shown are for the voluntary cleanup program. Statewide groundwater standards are set for protected and nonprotected groundwater source. (K < 0.44m/day or TDS > 2,500 for nonprotected) Protected groundwater standards are MCLs, HAL, or risk-based if no MCL or HAL exists. Nonprotected standards based on cancer = 1 E-04 and HQ = 1, or the larger of HI = 0.1 or cancer = 1 E-04 for Group C that have a slope factor. Cumulative risk requirements (cancer = 1 E-04 and HQ = 1 by target organ) apply regardless of the standard. Groundwater standards are based on direct exposure to groundwater by ingestion only, comparable to drinking water standards. As with soil, standards apply only to the medium in which exposure occurs. An on-line cumulative risk calculator will be available in April from the referenced Internet address.
### Groundwater

**ILLINOIS**

<table>
<thead>
<tr>
<th>Name</th>
<th>Heather Nifong</th>
</tr>
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<tbody>
<tr>
<td>Contact_Title</td>
<td>Programs Advisor</td>
</tr>
<tr>
<td>Organization</td>
<td>Division of Remediation Management, Bureau of Land</td>
</tr>
<tr>
<td>Address / City</td>
<td>1021 North Grand Ave East, Springfield, 627949276</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:heather.nifong@epa.state.il.us">heather.nifong@epa.state.il.us</a></td>
</tr>
<tr>
<td>Contact_Phone</td>
<td>(217) 785-4729</td>
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**Regulatory**

**Groundwater**

**Direct Contact (Dermal)**

- **Basis:** addressed in Tier 2 or 3 evaluations only
- **Citation_Location:** 35 IAC Part 742 (TACO) http://www.epa.state.il.us/land/taco
- **Contact_Info:** IEPA Toxicity Assessment Unit, 217-785-0830
- **Comments:**

**Drinking (Ingestion)**

- **Basis:**
- **Citation_Location:** 35 IAC Part 742 (TACO) http://www.epa.state.il.us/land/taco
- **Contact_Info:** IEPA Toxicity Assessment Unit, 217-785-0830
- **Comments:**

**Other**

- **Basis:** health effects of similar acting chemicals
- **Citation_Location:** 35 IAC Part 742 (TACO) http://www.epa.state.il.us/land/taco
- **Contact_Info:**
- **Comments:**

- ✔️ RCRA_CA
- ✔️ Brownfields
- ✗ DrinkingWater
- ✗ SurfaceWater
- ✗ AirQuality (Clean Air Act)
- ✗ SolidWasteLndfill
- ✔️ VoluntaryClnUp
- ✗ SafeDrinkingWaterAct
- ✔️ UST
- ✗ WetlandsProgram
- ✗ Other

**Not Specified**

**Groundwater**

**Discharge to Surface Water**

- **Basis:** None. Developed on site-specific basis.
- **Citation_Location:**
- **Contact_Info:** IEPA Toxicity Assessment Unit, 217-785-0830
- **Comments:**

- ✔️ RCRA_CA
- ✔️ Brownfields
- ✗ DrinkingWater
- ✗ SurfaceWater
- ✗ AirQuality (Clean Air Act)
- ✗ SolidWasteLndfill
- ✔️ VoluntaryClnUp
- ✗ SafeDrinkingWaterAct
- ✔️ UST
- ✗ WetlandsProgram
- ✗ Other
### Groundwater

#### INDIANA

<table>
<thead>
<tr>
<th>Name:</th>
<th>Megan Hamilton</th>
<th>Contact_Title:</th>
<th>Environmental Manager</th>
</tr>
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<tbody>
<tr>
<td>Organization:</td>
<td>Applied Science Technologies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address / City:</td>
<td>100 N Senate Ave, IGCN RM1154N, Indianapolis, 46204</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:mhamilto@idem.in.gov">mhamilto@idem.in.gov</a></td>
<td>Contact_Phone:</td>
<td>(317) 234-3928</td>
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#### Guidelines

**Groundwater**

##### Direct Contact (Dermal)

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<td>Ground water Cleanup Criteria available at: <a href="http://www.in.gov/idem/land/risc/tech_guide/index.html">http://www.in.gov/idem/land/risc/tech_guide/index.html</a></td>
</tr>
<tr>
<td>Comments:</td>
<td>Contact person is Megan Hamilton, (317) 234-3928, <a href="mailto:mhamilto@idem.in.gov">mhamilto@idem.in.gov</a></td>
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##### Discharge to Surface Water

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<td>Citation_Location:</td>
<td><a href="http://www.epa.gov/oswer/riskassessment/risk_superfund.htm">http://www.epa.gov/oswer/riskassessment/risk_superfund.htm</a></td>
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<td>Contact_Info:</td>
<td>Ground water Cleanup Criteria available at: <a href="http://www.in.gov/idem/land/risc/tech_guide/index.html">http://www.in.gov/idem/land/risc/tech_guide/index.html</a></td>
</tr>
<tr>
<td>Comments:</td>
<td>Contact person is Megan Hamilton, (317) 234-3928, <a href="mailto:mhamilto@idem.in.gov">mhamilto@idem.in.gov</a></td>
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##### Drinking (Ingestion)

<table>
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<tr>
<td>Comments:</td>
<td>Contact person is Megan Hamilton, (317) 234-3928, <a href="mailto:mhamilto@idem.in.gov">mhamilto@idem.in.gov</a></td>
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- ☑ RCRA_CA
- ☑ Brownfields
- ☐ DrinkingWater
- ☐ SurfaceWater
- ☐ AirQuality (Clean Air Act)
- ☐ SolidWsteLndfill
- ☑ VoluntaryClnUp
- ☐ SafeDrinkingWaterAct
- ☑ UST
- ☐ WetlandsProgram
- ☐ Other
### Groundwater

**KENTUCKY**

<table>
<thead>
<tr>
<th>Name</th>
<th>Wesley Turner, et.al.</th>
</tr>
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<tbody>
<tr>
<td>Organization</td>
<td>Division of Waste Mangement Superfund</td>
</tr>
<tr>
<td>Address / City</td>
<td>14 Reilly Road, Frankfort, 40601</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:wesley.turner@ky.gov">wesley.turner@ky.gov</a></td>
</tr>
<tr>
<td>Contact_Title</td>
<td>Supervisor Federal Section Superfund</td>
</tr>
<tr>
<td>Contact_Phone</td>
<td>(502) 564-6716</td>
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#### Regulatory

**Groundwater**

**Drinking (Ingestion)**

- **Basis:** 401 KAR 100:030, Based on Region 9 PRG Table and Users Guide
- **Citation_Location:** [http://www.lrc.ky.gov/kar/401/100/030.htm](http://www.lrc.ky.gov/kar/401/100/030.htm)
- **Contact_Info:** Larry Taylor
- **Comments:**
  - RCRA_CA
  - Brownfields
  - DrinkingWater
  - SurfaceWater
  - AirQuality (Clean Air Act)
  - SolidWsteLndfill
  - VoluntaryClnUp
  - SafeDrinkingWaterAct
  - UST
  - WetlandsProgram
  - Other

#### Guidelines

**Groundwater**

**Direct Contact (Dermal)**

- **Basis:** 401 KAR 100:030  and USEPA Region 9 PRG Table and Users Guide
- **Citation_Location:** [http://www.lrc.ky.gov/kar/401/100/030.htm](http://www.lrc.ky.gov/kar/401/100/030.htm)
- **Contact_Info:** Larry Taylor
- **Comments:**
  - RCRA_CA
  - Brownfields
  - DrinkingWater
  - SurfaceWater
  - AirQuality (Clean Air Act)
  - SolidWsteLndfill
  - VoluntaryClnUp
  - SafeDrinkingWaterAct
  - UST
  - WetlandsProgram
  - Other
# Groundwater

## LOUISIANA

<table>
<thead>
<tr>
<th>Name</th>
<th>Patrick J. Lobos</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact_Title</td>
<td>Toxicologist</td>
</tr>
<tr>
<td>Organization</td>
<td>Louisiana Department of Environmental Quality</td>
</tr>
<tr>
<td>Address / City</td>
<td>Environmental Technology Division, PO Box 4314, Baton Rouge, 70821 4314</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:patrick.lobos@la.gov">patrick.lobos@la.gov</a></td>
</tr>
<tr>
<td>Contact_Phone</td>
<td>(225) 219-3425</td>
</tr>
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## Regulatory

### Groundwater

#### Direct Contact (Dermal)

**Basis:**


Contact_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

Comments:

#### Discharge to Surface Water

**Basis:**

Based upon surface water criteria regulation or drinking resource depending on use.


Contact_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

Comments:

#### Drinking (Ingestion)

**Basis:**


Contact_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

Comments:

#### Other

**Basis:**


Contact_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

Comments:

- ✔ RCRA_CA
- ✔ Brownfields
- ✔ DrinkingWater
- ✔ SurfaceWater
- ✔ SurfaceWater
- ✔ Other
- ✔ UST
- ✔ WetlandsProgram
- ✔ WetlandsProgram

## Guidelines

### Groundwater

#### Discharge to Surface Water

**Basis:**


Contact_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

Comments:

- ✔ RCRA_CA
- ✔ Brownfields
- ✔ DrinkingWater
- ✔ SurfaceWater
- ✔ SurfaceWater
- ✔ Other
- ✔ UST
- ✔ WetlandsProgram
- ✔ WetlandsProgram

10/16/2006
### Groundwater

#### Massachusetts

**Name:** Paul Locke  
**Contact Title:** Division Director - Policy & Program Development  
**Organization:** MA DEQ, Waste Site Cleanup  
**Address / City:**  
**Email:** Paul.Locke@state.ma.us  
**Contact Phone:** (617) 556-1160

#### Regulatory

**Groundwater**

**Direct Contact (Dermal)**

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<th>Basis</th>
<th>Hazard Index=0.2, Cancer Risk=1E-06. Standards consider cumulative impact of inhalation of volatilized contaminant during shower, dermal contact during shower and ingestion of contaminated water. The standards also consider quantitation limits, background levels and &quot;ceiling limits&quot;.</th>
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<tr>
<td>Citation_Location</td>
<td>310 CMR 40 - &quot;The Massachusetts Contingency Plan&quot;, specifically standards published in Supart I, 310 CMR 40.0900 et. seq. See <a href="http://mass.gov/dep/cleanup/laws/Regulations.htm">http://mass.gov/dep/cleanup/laws/Regulations.htm</a></td>
</tr>
<tr>
<td>Contact_Info</td>
<td>Nancy Bettinger, MassDEP Office of Research and Standards, <a href="mailto:Nancy.Bettinger@state.ma.us">Nancy.Bettinger@state.ma.us</a>, 617-556-1160</td>
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<tr>
<td>Comments</td>
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**Discharge to Surface Water**

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Citation_Location</td>
<td>Ecological Hazard Index = 1, using USEPA National Recommended Water Quality Criteria or similar value as target level and considering fate/transport factors. The standards also consider quantitation limits, background levels and &quot;ceiling limits&quot;.</td>
</tr>
<tr>
<td>Contact_Info</td>
<td>Nancy Bettinger, MassDEP Office of Research and Standards, <a href="mailto:Nancy.Bettinger@state.ma.us">Nancy.Bettinger@state.ma.us</a>, 617-556-1160</td>
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**RCRA_CA**  
**SolidWasteLandfill**  
**Brownfields**  
**DrinkingWater**  
**SurfaceWater**  
**AirQuality (Clean Air Act)**  
**UST**  
**SafeDrinkingWaterAct**  
**WetlandsProgram**  
**Other**
# Groundwater

## MARYLAND

<table>
<thead>
<tr>
<th>Name</th>
<th>James Carroll</th>
<th>Contact_Title</th>
<th>Program Administrator</th>
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<tr>
<td>Organization</td>
<td>Maryland Department of the Environment, Waste Management Administration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address / City</td>
<td>1800 Washington Blvd., Ste.625, Baltimore, 21230</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:JCarroll@mde.state.md.us">JCarroll@mde.state.md.us</a></td>
<td>Contact_Phone</td>
<td>(410) 537-3437</td>
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### Regulatory

#### Groundwater

**Direct Contact (Dermal)**

- **Basis:** 10-5 cancer risk, HI=1
- **Citation_Location:** Sections 7-208 & 7-508 of the Environmental Article, Annotated Code of Maryland
- **Contact_Info:** ERRP (410) 537-3493
- **Comments:**

**Drinking (Ingestion)**

- **Basis:** 10-5 cancer risk, HI=1
- **Citation_Location:** Sections 7-208 & 7-508 of the Environmental Article, Annotated Code of Maryland, COMAR 26.08.02.03-2
- **Contact_Info:** ERRP (410) 537-3493
- **Comments:**

### Guidelines

#### Groundwater

**Direct Contact (Dermal)**

- **Basis:** EPA RBC,
- **Citation_Location:** EPA RAGS
- **Contact_Info:** MDE Cleanup Standards
- **Comments:**

**Discharge to Surface Water**

- **Basis:** EPA RBC
- **Citation_Location:** EPA RAGS
- **Contact_Info:** MDE Cleanup Standards, Ambient Water Quality COMAR 26.08.02.03-2
  - http://www.dsd.state.md.us/comar/26/26.08.02.03%2D2.htm
- **Comments:**

**Drinking (Ingestion)**

- **Basis:** EPA RAGS, EPA RBC
- **Citation_Location:** Drinking Water Standards and Health Advisories, U.S. EPA http://www.epa.gov/waterscience/criteria/drinking/
- **Contact_Info:** MDE Cleanup Standards, Maximum Contaminant Level COMAR 26.04.01.06-7
  - http://www.dsd.state.md.us/comar/26/26.04.01.06.htm http://www.dsd.state.md.us/comar/26/26.04.01.07.htm
- **Comments:**
**Groundwater**

**MICHIGAN**

Name: Christine Flaga  
Contact_Title: Chief, Toxicology Unit, Remediation and Redevelopment Division  
Organization: Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Storage Tank)  
Address / City: Michigan Department of Environmental Quality, Remediation and Development Division, Constitution Hall, 525 West Allegan St.,  
Email: flagac@michigan.gov  
Contact_Phone: (517) 373-0160

**Regulatory**

**Groundwater**

**Direct Contact (Dermal)**

**Basis:** Generic health-based cleanup criteria for groundwater were developed pursuant to Sections 20120a and 21304a of NREPA. The groundwater contact criteria (GCC) represent groundwater concentrations which are protective against adverse health effects resulting from dermal exposures to hazardous substances in groundwater such as could be experienced by workers in subsurface excavations performing short duration, intermittent activity amounting to less than 28 hours per year. Criteria algorithms can be found in the MDEQ Remediation and Redevelopment Division (RRD) Operational Memoranda.

**Citation_Location:** Part 201 (Environmental Remediation), Part 213 (LUSTs), and Part 201 Rules. Document available at http://www.michigan.gov/deq/0,1607,7-135-3311_4109_9846-58095--,00.html specifically R299.5712

**Contact_Info:** Christine Flaga, RRD Toxicology Unit (517) 373-0160, flagac@michigan.gov

**Comments:** 1) Where a Safe Drinking Water Standard (SDWS) has been established pursuant to Act No. 399 of the Public Acts of 1976, the SDWS becomes the health-based DWC. 2) Aesthetic DWC have been developed for a limited number of hazardous substances and will be developed for additional hazardous substances, as needed. If the aesthetic DWC is lower than the health-based DWC, then the aesthetic DWC becomes the generic DWC (R299.5706(a)(12)). 3) Flammability/explosivity and acute inhalation screening levels (FESLs and AISLs) are available for a number of hazardous substances to address acute inhalation toxicity and flammability or explosivity hazards (R299.5728(1)(d) and (e)).

**Notes:** ** The RCRA program uses the Part 201 criteria in addition to their _______; *** Surface Water uses Rule 57 water quality values

**Discharge to Surface Water**

**Basis:** "Refer to the Soil Standards sheet for the groundwater venting to surface water criteria (GSI)."

**Citation_Location:** Part 201 (Environmental Remediation), Part 213 (LUSTs), and Part 201 Rules. Document available at http://www.michigan.gov/deq/0,1607,7-135-3311_4109_9846-58095--,00.html specifically R299.5722

**Contact_Info:** Christine Flaga, RRD Toxicology Unit (517) 373-0160, flagac@michigan.gov

**Comments:** 1) Where a Safe Drinking Water Standard (SDWS) has been established pursuant to Act No. 399 of the Public Acts of 1976, the SDWS becomes the health-based DWC. 2) Aesthetic DWC have been developed for a limited number of hazardous substances and will be developed for additional hazardous substances, as needed. If the aesthetic DWC is lower than the health-based DWC, then the aesthetic DWC becomes the generic DWC (R299.5706(a)(12)). 3) Flammability/explosivity and acute inhalation screening levels (FESLs and AISLs) are available for a number of hazardous substances to address acute inhalation toxicity and flammability or explosivity hazards (R299.5728(1)(d) and (e)).

**Notes:** ** The RCRA program uses the Part 201 criteria in addition to their _______; *** Surface Water uses Rule 57 water quality values

**Drinking (Ingestion)**

**Basis:** "Generic health-based cleanup criteria for groundwater were developed pursuant to Sections 20120a and 21304a of NREPA. The drinking water criteria represent groundwater concentrations of hazardous substances in drinking water that are safe for long-term, daily residential consumption and, where information is available, protective against adverse aesthetic impacts. Criteria algorithms can be found in the MDEQ Remediation and Redevelopment Division (RRD) Operational Memoranda."

**Citation_Location:** Part 201 (Environmental Remediation), Part 213 (LUSTs), and Part 201 Rules. Document available at http://www.michigan.gov/deq/0,1607,7-135-3311_4109_9846-58095--,00.html specifically R299.5710

**Contact_Info:** Christine Flaga, RRD Toxicology Unit (517) 373-0160, flagac@michigan.gov

**Comments:** 1) Where a Safe Drinking Water Standard (SDWS) has been established pursuant to Act No. 399 of the Public Acts of 1976, the SDWS becomes the health-based DWC. 2) Aesthetic DWC have been developed for a limited number of hazardous substances and will be developed for additional hazardous substances, as needed. If the aesthetic DWC is lower than the health-based DWC, then the aesthetic DWC becomes the generic DWC (R299.5706(a)(12)). 3) Flammability/explosivity and acute inhalation screening levels (FESLs and AISLs) are available for a number of hazardous substances to address acute inhalation toxicity and flammability or explosivity hazards (R299.5728(1)(d) and (e)).

**Notes:** ** The RCRA program uses the Part 201 criteria in addition to their _______; *** Surface Water uses Rule 57 water quality values

**Other**

10/16/2006
## Groundwater

### MICHIGAN

<table>
<thead>
<tr>
<th>Name</th>
<th>Contact_Title</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christine Flaga</td>
<td>Chief, Toxicology Unit, Remediation and Redevelopment</td>
<td>Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Storage)</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:flagac@michigan.gov">flagac@michigan.gov</a></td>
<td>Michigan Department of Environmental Quality, Remediation and Development Division, Constitution Hall, 525 West Allegan St.</td>
</tr>
<tr>
<td>Contact_Phone</td>
<td>(517) 373-0160</td>
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</table>

### Regulatory

- **Basis:** Vapor Migration to Indoor Air Criteria: The groundwater volatilization to indoor air criteria (GVIIC) address the migration of hazardous substance vapors from groundwater through soil into workplace indoor air spaces. The GVIIC identifies concentrations of a volatile hazardous substance in groundwater that is not expected to impact indoor air above levels that may cause adverse human health effects. Criteria algorithms can be found in the Part 201 Rules (Rule 299.5714)

- **Citation_Location:** Part 201 (Environmental Remediation), Part 213 (LUSTs), and Part 201 Rules. Document available at [http://www.michigan.gov/deq/0,1607,7-135-3311_4109_9846-58095--,00.html](http://www.michigan.gov/deq/0,1607,7-135-3311_4109_9846-58095--,00.html) specifically R299.5714

- **Contact_Info:** Christine Flaga, RRD Toxicology Unit (517) 373-0160, flagac@michigan.gov

- **Comments:**
  1. Where a Safe Drinking Water Standard (SDWS) has been established pursuant to Act No. 399 of the Public Acts of 1976, the SDWS becomes the health-based DWC.  
  2. Aesthetic DWC have been developed for a limited number of hazardous substances and will be developed for additional hazardous substances, as needed. If the aesthetic DWC is lower than the health-based DWC, then the aesthetic DWC becomes the generic DWC (R299.5706(a)(12)).  
  3. Flammability/explosivity and acute inhalation screening levels (FESLs and AISLs) are available for a number of hazardous substances to address acute inhalation toxicity and flammability or explosivity hazards (R299.5728(1)(d) and (e)).

Notes:
- **RCRA program uses the Part 201 criteria in addition to their __________:** **Surface Water uses Rule 57 water quality values**

- **RCRA CA**
- **Brownfields**
- **DrinkingWater**
- **SurfaceWater**
- **AirQuality (Clean Air Act)**
- **SolidWasteLndfill**
- **VoluntaryClnUp**
- **SafeDrinkingWaterAct**
- **UST**
- **WetlandsProgram**
- **Other**

10/16/2006
Page 96 of 207
Groundwater

MICHIGAN

Name: Christine Flaga
Contact_Title: Chief, Toxicology Unit, Remediation and Redevelopment
Organization: Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Storage Tank) Remediation
Address / City: Michigan Department of Environmental Quality, Remediation and Development Division, Constitution Hall, 525 West Allegan St., Lansing, MI 48907
Email: flagac@michigan.gov
Contact_Phone: (517) 373-0160

Guidelines

Groundwater

Direct Contact (Dermal)

Basis: Operational Memoranda 1 - Table1. Groundwater: Residential, Industrial and Commercial I, II, III and IV Part 201 Generic Cleanup Criteria and Screening Levels; Part 213 Tier 1 RBSSLs; TSD: Groundwater Contact Criteria


Contact_Info: Christine Flaga, RRD Toxicology Unit (517) 373-0160, flagac@michigan.gov

Comments: *1) Where a Safe Drinking Water Standard (SDWS) has been established pursuant to Act No. 399 of the Public Acts of 1976, the SDWS becomes the health-based DWC.  2) Aesthetic DWC have been developed for a limited number of hazardous substances and will be developed for additional hazardous substances, as needed. If the aesthetic DWC is lower than the health-based DWC, then the aesthetic DWC becomes the generic DWC (R299.5706(a)(12).  3) Flammability/explosivity and acute inhalation screening levels (FESLs and AISLs) are available for a number of hazardous substances to address acute inhalation toxicity and flammability or explosivity hazards (R299.5728(1)(d) and (e).

Notes: ** The RCRA program uses the Part 201 criteria in addition to their _______; *** Surface Water uses Rule 57 water quality values

Discharge to Surface Water

Basis: Operational Memoranda 1 - Table1. Groundwater: Residential, Industrial and Commercial I, II, III and IV Part 201 Generic Cleanup Criteria and Screening Levels; Part 213 Tier 1 RBSSLs; TSD:GSI


Contact_Info: Christine Flaga, RRD Toxicology Unit (517) 373-0160, flagac@michigan.gov

Comments: *1) Where a Safe Drinking Water Standard (SDWS) has been established pursuant to Act No. 399 of the Public Acts of 1976, the SDWS becomes the health-based DWC.  2) Aesthetic DWC have been developed for a limited number of hazardous substances and will be developed for additional hazardous substances, as needed. If the aesthetic DWC is lower than the health-based DWC, then the aesthetic DWC becomes the generic DWC (R299.5706(a)(12).  3) Flammability/explosivity and acute inhalation screening levels (FESLs and AISLs) are available for a number of hazardous substances to address acute inhalation toxicity and flammability or explosivity hazards (R299.5728(1)(d) and (e).

Notes: ** The RCRA program uses the Part 201 criteria in addition to their _______; *** Surface Water uses Rule 57 water quality values

Drinking (Ingestion)

Basis: Operational Memoranda 1 - Table1. Groundwater: Residential, Industrial and Commercial I, II, III and IV Part 201 Generic Cleanup Criteria and Screening Levels; Part 213 Tier 1 RBSSLs; TSD - Attachment 3: Drinking Water Criteria (DWC)


Contact_Info: Christine Flaga, RRD Toxicology Unit (517) 373-0160, flagac@michigan.gov

Comments: *1) Where a Safe Drinking Water Standard (SDWS) has been established pursuant to Act No. 399 of the Public Acts of 1976, the SDWS becomes the health-based DWC.  2) Aesthetic DWC have been developed for a limited number of hazardous substances and will be developed for additional hazardous substances, as needed. If the aesthetic DWC is lower than the health-based DWC, then the aesthetic DWC becomes the generic DWC (R299.5706(a)(12).  3) Flammability/explosivity and acute inhalation screening levels (FESLs and AISLs) are available for a number of hazardous substances to address acute inhalation toxicity and flammability or explosivity hazards (R299.5728(1)(d) and (e).

Notes: ** The RCRA program uses the Part 201 criteria in addition to their _______; *** Surface Water uses Rule 57 water quality values

Other
Groundwater

MICHIGAN

Name: Christine Flaga  Contact_Title: Chief, Toxicology Unit, Remediation and Redevelopment
Organization: Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Storage Tank) Regulations
Address / City: Michigan Department of Environmental Quality, Remediation and Development Division, Constitution Hall, 525 West Allegan St., Lansing, MI 48913
Email: flagac@michigan.gov  Contact_Phone: (517) 373-0160

Guidelines

Basis: Operational Memoranda 1 - Table 1. Groundwater: Residential, Industrial and Commercial I, II, III and IV Part 201 Generic Cleanup Criteria and Screening Levels; Part 213 Tier 1 RBSLs; TSD: Groundwater and Soil Volatilization to Indoor Air Inhalation Criteria


Contact_Info: Christine Flaga, RRD Toxicology Unit (517) 373-0160, flagac@michigan.gov

Comments: *1) Where a Safe Drinking Water Standard (SDWS) has been established pursuant to Act No. 399 of the Public Acts of 1976, the SDWS becomes the health-based DWC. 2) Aesthetic DWC have been developed for a limited number of hazardous substances and will be developed for additional hazardous substances, as needed. If the aesthetic DWC is lower than the health-based DWC, then the aesthetic DWC becomes the generic DWC (R299.5706(a)(12). 3) Flammability/explosivity and acute inhalation screening levels (FESLs and AISLs) are available for a number of hazardous substances to address acute inhalation toxicity and flammability or explosivity hazards (R299.5728(1)(d) and (e). Notes: ** The RCRA program uses the Part 201 criteria in addition to their _____. *** Surface Water uses Rule 57 water quality values

- [ ] RCRA_CA
- [ ] Brownfields
- [ ] DrinkingWater
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- [ ] AirQuality (Clean Air Act)
- [ ] SolidWasteLandfill
- [ ] VoluntaryCleanUp
- [ ] SafeDrinkingWaterAct
- [ ] UST
- [ ] WetlandsProgram
- [ ] Other
# Groundwater

## MINNESOTA

<table>
<thead>
<tr>
<th>Name</th>
<th>Doug Beckwith</th>
</tr>
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<tbody>
<tr>
<td>Contact Title</td>
<td>Remediation Supervisor</td>
</tr>
<tr>
<td>Organization</td>
<td>Superfund</td>
</tr>
<tr>
<td>Address / City</td>
<td>525 South Lake Svenue Suite 400, Duluth, 55802</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:doug.beckwith@pca.state.mn.us">doug.beckwith@pca.state.mn.us</a></td>
</tr>
<tr>
<td>Contact Phone</td>
<td>(218) 529-6267</td>
</tr>
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</table>

### Regulatory

#### Groundwater

**Discharge to Surface Water**

**Basis:**

Citation Location: Minnesota Rule Chapter 7050, Which is accessed through: http://www.leg.state.mn.us/leg/statutes.asp

Contact Info: Dan White, 651-296-7237, dan.white@pca.state.mn.us

Comments:

**Drinking (Ingestion)**

Basis:

Citation Location: Minnesota's Rules: Parts 4717.7100 to 4717.7800. Which is accessed through: http://www.leg.state.mn.us/leg/statutes.asp

Contact Info: Helen Goeden, 651-201-4904, helen.goeden@health.state.mn.us

Comments:

- ✔️ RCRA_CA
- ✔️ Brownfields
- ✔️ DrinkingWater
- ✔️ SurfaceWater
- ✔️ AirQuality (Clean Air Act)
- ☐ SolidWasteLandfill
- ☐ VoluntaryCleanUp
- ☐ SafeDrinkingWaterAct
- ☐ UST
- ☐ WetlandsProgram
- ☐ Other

#### Guidelines

#### Groundwater

**Discharge to Surface Water**

Basis:

Citation Location: http://www.pca.state.mn.us/water/standards/index.html

Contact Info: Dan White, 651-296-7237, dan.white@pca.state.mn.us

Comments:

**Drinking (Ingestion)**

Basis:

Citation Location: http://www.health.state.mn.us/divs/eh/groundwater/index.html

Contact Info: Helen Goeden, 651-201-4904, helen.goeden@health.state.mn.us

Comments:

- ✔️ RCRA_CA
- ✔️ Brownfields
- ✔️ DrinkingWater
- ✔️ SurfaceWater
- ✔️ AirQuality (Clean Air Act)
- ☐ SolidWasteLandfill
- ☐ VoluntaryCleanUp
- ☐ SafeDrinkingWaterAct
- ☐ UST
- ☐ WetlandsProgram
- ☐ Other
## Groundwater

### MISSOURI

<table>
<thead>
<tr>
<th>Name</th>
<th>Linda Vogt</th>
<th>Contact_Title: Environmental Specialist</th>
</tr>
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<tbody>
<tr>
<td>Organization</td>
<td>Hazardous Waste Program/Superfund Section</td>
<td></td>
</tr>
<tr>
<td>Address / City</td>
<td>P.O. Box 176, Jefferson City, 65102</td>
<td></td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:linda.vogt@dnr.mo.gov">linda.vogt@dnr.mo.gov</a></td>
<td>Contact_Phone: (573) 751-6998</td>
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</table>

### Regulatory

#### Groundwater

**Discharge to Surface Water**

- **Basis:** Missouri State Water Quality Standards
- **Citation_Location:** http://www.sos.mo.gov/adrules/csr/current/10csr/10c20-7a.pdf
- **Contact_Info:** Division of Environmental Quality, Water Protection Program
- **Comments:**

**Drinking (Ingestion)**

- **Basis:** Clean Water Act, Missouri Water Quality Standards
- **Citation_Location:**
- **Contact_Info:** Public Drinking Water Program
- **Comments:**

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</table>
# Groundwater

**MISSOURI**

Name: Linda Vogt  
Contact_Title: Environmental Specialist  
Organization: Hazardous Waste Program/Superfund Section  
Address / City: P.O. Box 176, Jefferson City, 65102  
Email: linda.vogt@dnr.mo.gov  
Contact_Phone: (573) 751-6998

## Guidelines

### Groundwater

#### Direct Contact (Dermal)

**Basis:** Missouri Risk-Based Corrective Action (MRBCA) Technical Guidance (2005 Draft).  

**Citation_Location:** EPA Region 9 Preliminary Remediation Goals (PRGs), October 2004.  
http://www.epa.gov/region09/waste/sfund/prg/.  Cancer risk 1x10-6, non-cancer risk HQ=1

**Contact_Info:**

**Comments:**

#### Discharge to Surface Water

**Basis:** Guidance requires adherence to regs for any site being cleaned up under MRBCA

**Citation_Location:** MRBCA

**Contact_Info:**

**Comments:**

#### Drinking (Ingestion)

**Basis:** EPA Region 9 Preliminary Remediation Goals (PRGs), October 2004.  
http://www.epa.gov/region09/waste/sfund/prg/.  Cancer risk 1x10-6, non-cancer risk HQ=1

**Citation_Location:** Superfund Chemical Data Matrix (SCDM) http://www.epa.gov/superfund/sites/npl/hrsres/tools/scdm.htm.  Cancer risk 1x10-6, non-cancer risk HQ=1

**Contact_Info:** Missouri Risk-Based Corrective Action (MRBCA) Technical Guidance (2005 Draft).  

**Comments:**

#### Other

**Basis:** Missouri Risk-Based Corrective Action (MRBCA) Technical Guidance (2005 Draft).  

**Citation_Location:** EPA Region 9 Preliminary Remediation Goals (PRGs), October 2004.  
http://www.epa.gov/region09/waste/sfund/prg/.  Cancer risk 1x10-6, non-cancer risk HQ=1

**Contact_Info:**

**Comments:**

- RCRA_CA
- SolidWsteLndfill
- Brownfields
- VoluntaryClnUp
- DrinkingWater
- SafeDrinkingWaterAct
- SurfaceWater
- UST
- WetlandsProgram
- AirQuality (Clean Air Act)
- Other
# Groundwater

## MISSISSIPPI

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<thead>
<tr>
<th>Name</th>
<th>Jere &quot;Trey&quot; Hess</th>
<th>Contact_Title: Brownfields Program Coordinator</th>
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<tbody>
<tr>
<td>Organization</td>
<td>Groundwater Assessment and Remediation Division</td>
<td></td>
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<td>Address / City</td>
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<tr>
<td>Email</td>
<td><a href="mailto:Trey_Hess@deq.state.ms.us">Trey_Hess@deq.state.ms.us</a></td>
<td>Contact_Phone: (601) 961-5654</td>
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## Regulatory

### Groundwater

**Discharge to Surface Water**

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- RCRA_CA
- Brownfields
- DrinkingWater
- SurfaceWater
- AirQuality (Clean Air Act)
- SolidWasteLndfill
- VoluntaryClnUp
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other
## Groundwater

### MONTANA

<table>
<thead>
<tr>
<th>Name</th>
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<tr>
<td>Aimee Reynolds</td>
<td>Voluntary Cleanup Coordinator</td>
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<tr>
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<tr>
<td><a href="mailto:areynolds@mt.gov">areynolds@mt.gov</a></td>
<td>(406) 841-5065</td>
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### Regulatory

#### Groundwater

**Discharge to Surface Water**

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<td>$1 \times 10^{-5}$ except Arsenic $1 \times 10^{-3}$ &amp; HQ of 1</td>
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<td>Chris Levine</td>
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**Drinking (Ingestion)**

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### Guidelines

#### Groundwater

**Drinking (Ingestion)**

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<td>Aimee Reynolds</td>
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Groundwater

NORTH DAKOTA

Name: Curt Erickson  Contact_Title: Program Manager
Organization: Hazardous Waste Program
Address / City: 918 East Divide Ave, Bismarck, 58501-1947
Email: cerickso@state.nd.us  Contact_Phone: (701) 328-5166

Regulatory

Groundwater

Drinking (Ingestion)

Basis:

Citation_Location: The drinking water maximum contaminant levels are found in Chapter 33-17-01 NDAC Public Water Supply Systems in North Dakota and are available at: www.legis.nd.gov/information/acdata/pdf/33-17-01.pdf

Contact_Info: Kris Roberts, (701) 328-5236, kroberts@state.nd.us

Guidelines

Groundwater

Discharge to Surface Water

Basis:

Citation_Location: Action levels have been set for petroleum compounds, drinking water maximum contaminant levels and maximum limits for substances or characteristics of class I streams as well as water quality criteria priority pollutants levels may also be used as action levels. Final standards for cleanup are determined on a case-by-case basis, depending on the contaminant involved and potential for risk to human health and the environment.

Contact_Info: Kris Roberts, (701) 328-5236, kroberts@state.nd.us

Comments:

Drinking (Ingestion)

Basis:

Citation_Location: Drinking water maximum contaminant levels may be used as action levels. Final standards for cleanup are determined on a case-by-case basis, depending on the contaminant involved and potential for risk to human health and the environment.

Contact_Info: Kris Roberts, (701) 328-5236, kroberts@state.nd.us

Comments:
## Groundwater

### NEBRASKA

<table>
<thead>
<tr>
<th>Name</th>
<th>Contact Title</th>
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<tbody>
<tr>
<td>Jim Borovich</td>
<td>Geologist</td>
<td>Nebraska Department of Environmental Quality, Remediation Section/Voluntary Cl</td>
</tr>
</tbody>
</table>

**Address / City:** P.O. Box 98922, Lincoln, 685098922

**Email:** jim.borovich@ndeq.state.ne.us

**Contact_Phone:** (402) 471-2223

### NEBRASKA: Discharge to Surface Water

#### Basis:

- **Citation_Location:** Nebraska Title 117 - Nebraska Surface Water Quality Standards, available at: [http://www.deq.state.ne.us](http://www.deq.state.ne.us)
- **Contact_Info:** John Bender, 402/471-4201, john.bender@ndeq.state.ne.us
- **Comments:** "Other" exposure pathway provided for groundwater is inhalation of vapors from contaminated groundwater via a showering-type scenario. In terms of overall exposure pathways involving groundwater, in the absence of an MCL, a final RG for a particular chemical will be based on the most conservative RG calculated for the ingestion, inhalation and dermal individual exposure pathways.

### NEBRASKA: Drinking (Ingestion)

#### Basis:

- **Title 118** specifies standards for groundwater based on the Maximum Contaminant Level (MCL) or a mechanism to determine appropriate groundwater cleanup levels in the absence of an MCL.
- **Citation_Location:** Nebraska Title 118 - Ground Water Quality Standards and Use Classification, available at [http://www.deq.state.ne.us](http://www.deq.state.ne.us)
- **Contact_Info:** Marty Link, 402/471-4270, marty.link@ndeq.state.ne.us
- **Comments:** "Other" exposure pathway provided for groundwater is inhalation of vapors from contaminated groundwater via a showering-type scenario. In terms of overall exposure pathways involving groundwater, in the absence of an MCL, a final RG for a particular chemical will be based on the most conservative RG calculated for the ingestion, inhalation and dermal individual exposure pathways.

---

- **RCRA_CA**
- **SolidWasteLndfill**
- **Brownfields**
- **DrinkingWater**
- **SurfaceWater**
- **AirQuality (Clean Air Act)**
- **VoluntaryClnUp**
- **SafeDrinkingWaterAct**
- **UST**
- **WetlandsProgram**
- **Other**
Groundwater

NEBRASKA

Name: Jim Borovich  Contact_Title: Geologist
Organization: Nebraska Department of Environmental Quality, Remediation Section/Voluntary CI
Address / City: P.O. Box 98922, Lincoln, 685098922
Email: jim.borovich@ndeq.state.ne.us  Contact_Phone: (402) 471-2223

Guidelines

Groundwater

Direct Contact (Dermal)

Basis: RGs for dermal exposure to groundwater have been calculated for contaminants identified in EPA's Risk Assessment for Superfund (RAGS), Part E Supplemental Guidance for Dermal Risk Assessment having a dermal dose contributing >10% of the dose from the groundwater ingestion pathway (Exhibits B-3 & B-4 of Part E).

Citation_Location: Nebraska Voluntary Cleanup Program Guidance & Protocol for VCP Remediation Goals Lookup Tables, available at: http://www.deq.state.ne.us
Contact_Info: Jim Borovich, 402/471-2223, jim.borovich@ndeq.state.ne.us
Comments: *Other* exposure pathway provided for groundwater is inhalation of vapors from contaminated groundwater via a showering-type scenario. In terms of overall exposure pathways involving groundwater, in the absence of an MCL, a final RG for a particular chemical will be based on the most conservative RG calculated for the ingestion, inhalation and dermal individual exposure pathways.

Discharge to Surface Water

Basis: NDEQ's VCP guidance simply states that the VCP RGs should be consistent with Nebraska Title 117.

Citation_Location: Nebraska Voluntary Cleanup Program Guidance & Protocol for VCP Remediation Goals Lookup Tables, available at: http://www.deq.state.ne.us
Contact_Info: Jim Borovich, 402/471-2223, jim.borovich@ndeq.state.ne.us
Comments: *Other* exposure pathway provided for groundwater is inhalation of vapors from contaminated groundwater via a showering-type scenario. In terms of overall exposure pathways involving groundwater, in the absence of an MCL, a final RG for a particular chemical will be based on the most conservative RG calculated for the ingestion, inhalation and dermal individual exposure pathways.

Drinking (Ingestion)

Basis: RGs specified or derived from regulatory authority provided in Nebraska Title 118 -Ground Water Quality Standards and Use Classification.

Citation_Location: Nebraska Voluntary Cleanup Program Guidance & Protocol for VCP Remediation Goals Lookup Tables, available at: http://www.deq.state.ne.us
Contact_Info: Jim Borovich, 402/471-2223, jim.borovich@ndeq.state.ne.us
Comments: *Other* exposure pathway provided for groundwater is inhalation of vapors from contaminated groundwater via a showering-type scenario. In terms of overall exposure pathways involving groundwater, in the absence of an MCL, a final RG for a particular chemical will be based on the most conservative RG calculated for the ingestion, inhalation and dermal individual exposure pathways.

Other

Basis: RGs for inhalation of vapors from contaminated groundwater (i.e., a "showering scenario") have been calculated for volatile chemicals as defined in the above referenced guidance (Section 4.5 of Protocol).

Citation_Location: Nebraska Voluntary Cleanup Program Guidance & Protocol for VCP Remediation Goals Lookup Tables, available at: http://www.deq.state.ne.us
Contact_Info: Jim Borovich, 402/471-2223, jim.borovich@ndeq.state.ne.us
Comments: *Other* exposure pathway provided for groundwater is inhalation of vapors from contaminated groundwater via a showering-type scenario. In terms of overall exposure pathways involving groundwater, in the absence of an MCL, a final RG for a particular chemical will be based on the most conservative RG calculated for the ingestion, inhalation and dermal individual exposure pathways.

RCRA_CA  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)
SolidWsteLndfill  VoluntaryClnUp  SafeDrinkingWaterAct  UST  WetlandsProgram  Other
## Groundwater

### NEW HAMPSHIRE

<table>
<thead>
<tr>
<th>Name</th>
<th>Robin Mongeon</th>
</tr>
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<tbody>
<tr>
<td>Contact_Title</td>
<td>Engineer</td>
</tr>
<tr>
<td>Organization</td>
<td>Waste Management Division, Site Remediation Programs</td>
</tr>
<tr>
<td>Address / City</td>
<td>29 Hazen Drive, PO Box 95, Concord, 033020095</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:rmongeon@des.state.nh.us">rmongeon@des.state.nh.us</a></td>
</tr>
<tr>
<td>Contact_Phone</td>
<td>(603) 271-7378</td>
</tr>
</tbody>
</table>

### Discharge to Surface Water

**Basis:** No numerical values - see comment (1) below

**Citation_Location:** Env-Wm 1403 "Groundwater Management and Groundwater Release Detection Permits"  
http://www.des.state.nh.us/orcb/doclist/wm1403.pdf

**Contact_Info:** Robin Mongeon rmongeon@des.state.nh.us

**Comments:** (1) Groundwater shall not contain any contaminant such that the natural discharge of the groundwater will cause a violation of a surface water quality standard

### Drinking (Ingestion)

**Basis:** Ambient Groundwater Quality Standards are risk based.

**Citation_Location:** Env-Wm 1403 "Groundwater Management and Groundwater Release Detection Permits"  
http://www.des.state.nh.us/orcb/doclist/wm1403.pdf

**Contact_Info:** Dave Gordon dgordon@des.state.nh.us

**Comments:** (1) Groundwater shall not contain any contaminant such that the natural discharge of the groundwater will cause a violation of a surface water quality standard

- [ ] RCRA_CA
- [ ] Brownfields
- [ ] DrinkingWater
- [ ] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [X] SolidWsteLndfill
- [X] VoluntaryClnUp
- [X] SafeDrinkingWaterAct
- [X] UST
- [X] WetlandsProgram
- [ ] Other

10/16/2006


**Groundwater**

### NEW JERSEY

**Name:** Barry Frasco  
**Contact_Title:** Assistant Director - Division of Remediation Management  
**Organization:** New Jersey DEP  
**Address / City:** 401 East State Street, PO Box 413, Trenton, 08625  
**Email:** Barry.Frasco@dep.state.nj.us  
**Contact_Phone:** (609) 633-6801

#### Regulatory

**Groundwater**

**Discharge to Surface Water**

**Basis:**

**Citation_Location:** There are no specific ground water discharge to surface water standards. NJPDES discharge limits are established on a permit specific basis.

**Contact_Info:** Contact person is Tracey Grabiak.

**Comments:**

- Drinking (Ingestion)

  **Basis:**

  For Class I groundwater, the standards are based on natural background. For Class II ground water, the standards are health-based: 1x10-6 for carcinogens; HQ = 1 for non-carcinogens assuming the water is used for potable purposes. For Class III ground water, the standards are derived on a site specific basis.

  **Citation_Location:** Ground water remediation standards - N.J.A.C. 7:26E -1.13. These standards are identical to the Ground Water Quality Standards N.J.A.C. 7:9C but are different than the New Jersey Drinking Water Standards NJAC 7:10.

  **Contact_Info:** Technical Requirements for Site Remediation are available at [http://www.nj.gov/dep/srp/regs/techrule/](http://www.nj.gov/dep/srp/regs/techrule/)  
  **Contact person is Barry Frasco.**

#### OHIO

**Name:** Timothy Christman  
**Contact_Title:** Environmental Scientist 3  
**Organization:** Ohio Environmental Protection Agency  
**Address / City:** 122 South Front Street, Lazarus Government Center, Columbus, 43215  
**Email:** timothy.christman@epa.state.oh.us  
**Contact_Phone:** 614-644-2297

#### Regulatory

**Groundwater**

**Drinking (Ingestion)**

**Basis:**

**Citation_Location:** OAC 3745-81-11,12  
**Contact_Info:** Tim Christman, OEPA/Emergency and Remedial Response 614-644-2297

**Comments:**

- RCRA_CA  
- Brownfields  
- DrinkingWater  
- SurfaceWater  
- AirQuality (Clean Air Act)  
- SolidWasteLndfill  
- VoluntaryClnUp  
- SafeDrinkingWaterAct  
- UST  
- WetlandsProgram  
- Other
Groundwater

OKLAHOMA

Name: Catherine Sharp  Contact_Title: Assistant Director
Organization: Browndields and Voluntary Cleanup
Address / City:  
Email: catherine.sharp@deq.state.ok.us  Contact_Phone: (405) 702-5151

Guidelines

Groundwater

Direct Contact (Dermal)

Basis:
Citation_Location: Cleanups are reviewed on a site specific basis. Federal Guidance documents are used, specifically the EPA Soil Screening Levels, the EPA Region VI Medium Specific Screening Levels, and occasionally others.
Contact_Info: Further information is available in our Risk Based Cleanup Fact Sheet located at http://www.deq.state.ok.us/lpdnew/FactSheets/RiskbasedDecisionGuidanceFinal.pdf
Comments: Guidance is used, and other than the Safe Drinking Water Act there are no laws or rules that are directly used. ODEQ allows a 10-6 or 10-5 risk level but nothing lower than that.

Discharge to Surface Water

Basis:
Citation_Location: Cleanups are reviewed on a site specific basis. Federal Guidance documents are used, specifically the EPA Soil Screening Levels, the EPA Region VI Medium Specific Screening Levels, and occasionally others.
Contact_Info: Further information is available in our Risk Based Cleanup Fact Sheet located at http://www.deq.state.ok.us/lpdnew/FactSheets/RiskbasedDecisionGuidanceFinal.pdf
Comments: Guidance is used, and other than the Safe Drinking Water Act there are no laws or rules that are directly used. ODEQ allows a 10-6 or 10-5 risk level but nothing lower than that.

Drinking (Ingestion)

Basis:
Citation_Location: Cleanups are reviewed on a site specific basis. Federal Guidance documents are used, specifically the EPA Soil Screening Levels, the EPA Region VI Medium Specific Screening Levels, and occasionally others.
Contact_Info: Further information is available in our Risk Based Cleanup Fact Sheet located at http://www.deq.state.ok.us/lpdnew/FactSheets/RiskbasedDecisionGuidanceFinal.pdf
Comments: Guidance is used, and other than the Safe Drinking Water Act there are no laws or rules that are directly used. ODEQ allows a 10-6 or 10-5 risk level but nothing lower than that.

RCRA_CA  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)
SolidWasteLndfill  VoluntaryClnUp  SafeDrinkingWaterAct  UST  WetlandsProgram  Other
# Groundwater

## Regulatory

### Groundwater

#### Direct Contact (Dermal)

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<td>OAR 340-122-0115 <a href="http://arcweb.sos.state.or.us/rules/OARs_300/OAR_340/340_122.html">http://arcweb.sos.state.or.us/rules/OARs_300/OAR_340/340_122.html</a></td>
</tr>
<tr>
<td>Contact_Info</td>
<td>Mike Poulsen 503 229-6773 <a href="mailto:poulsen.mike@deq.state.or.us">poulsen.mike@deq.state.or.us</a></td>
</tr>
<tr>
<td>Comments</td>
<td>RCRA corrective action is done by the state environmental cleanup program in Oregon. SW land fill contamination that extends off-site is cleaned up under cleanup program authority. UST, Brownfield, and VCP all operate under the same statute, and therefor the same definition of acceptable risk.</td>
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#### Discharge to Surface Water

<table>
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<th>Basis</th>
<th>1.E-06 for individual carcinogens, 1.E0-5 for multiple carcinogens.</th>
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<tr>
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<tr>
<td>Comments</td>
<td>RCRA corrective action is done by the state environmental cleanup program in Oregon. SW land fill contamination that extends off-site is cleaned up under cleanup program authority. UST, Brownfield, and VCP all operate under the same statute, and therefor the same definition of acceptable risk.</td>
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#### Drinking (Ingestion)

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- RCRA_CA
- Brownfields
- SolidWasteLandfill
- VoluntaryCleanUp
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- AirQuality (Clean Air Act)
- SurfaceWater
- DrinkingWater
- Other
**Groundwater**

**OREGON**

- **Name:** Mike Poulsen
- **Contact Title:** Toxicologist
- **Organization:** Oregon Dept. of Environmental Quality, Cleanup
- **Address / City:** 2020 SW 4th St., Portland, 97201
- **Email:** poulsen.mike@deq.state.or.us
- **Contact Phone:** (503) 229-6773

**Guidelines**

**Groundwater**

**Direct Contact (Dermal)**

- **Basis:** 1.E-06 for individual carcinogens, 1.E0-5 for multiple carcinogens.
- **Citation Location:** Human health risk assessment guidance available at: [http://www.deq.state.or.us/wmc/cleanup/hh-intro.htm](http://www.deq.state.or.us/wmc/cleanup/hh-intro.htm) and [http://www.deq.state.or.us/wmc/tank/rbdm.htm](http://www.deq.state.or.us/wmc/tank/rbdm.htm)
- **Contact Info:** Mike Poulsen 503 229-6773 poulsen.mike@deq.state.or.us
- **Comments:** RCRA corrective action is done by the state environmental cleanup program in Oregon. SW land fill contamination that extends off-site is cleaned up under cleanup program authority. UST, Brownfield, and VCP all operate under the same statute, and therefore the same definition of acceptable risk.

**Discharge to Surface Water**

- **Basis:** 1.E-06 for individual carcinogens, 1.E0-5 for multiple carcinogens.
- **Citation Location:** Human health risk assessment guidance available at: [http://www.deq.state.or.us/wmc/cleanup/hh-intro.htm](http://www.deq.state.or.us/wmc/cleanup/hh-intro.htm) and [http://www.deq.state.or.us/wmc/tank/rbdm.htm](http://www.deq.state.or.us/wmc/tank/rbdm.htm)
- **Contact Info:** Mike Poulsen 503 229-6773 poulsen.mike@deq.state.or.us
- **Comments:** RCRA corrective action is done by the state environmental cleanup program in Oregon. SW land fill contamination that extends off-site is cleaned up under cleanup program authority. UST, Brownfield, and VCP all operate under the same statute, and therefore the same definition of acceptable risk.

**Drinking (Ingestion)**

- **Basis:** 1.E-06 for individual carcinogens, 1.E0-5 for multiple carcinogens.
- **Citation Location:** Human health risk assessment guidance available at: [http://www.deq.state.or.us/wmc/cleanup/hh-intro.htm](http://www.deq.state.or.us/wmc/cleanup/hh-intro.htm) and [http://www.deq.state.or.us/wmc/tank/rbdm.htm](http://www.deq.state.or.us/wmc/tank/rbdm.htm)
- **Contact Info:** Mike Poulsen 503 229-6773 poulsen.mike@deq.state.or.us
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**Other**

- **Basis:** Beneficial uses are protected.
- **Citation Location:** Guidance for identification of hot spots: [http://www.deq.state.or.us/wmc/documents/hotspot2.pdf](http://www.deq.state.or.us/wmc/documents/hotspot2.pdf)
- **Contact Info:** Mike Poulsen 503 229-6773 poulsen.mike@deq.state.or.us
- **Comments:** RCRA corrective action is done by the state environmental cleanup program in Oregon. SW land fill contamination that extends off-site is cleaned up under cleanup program authority. UST, Brownfield, and VCP all operate under the same statute, and therefore the same definition of acceptable risk.

- **RCRA_CA**
- **SolidWasteLandfill**
- **VoluntaryClnUp**
- **SafeDrinkingWaterAct**
- **UST**
- **SafeDrinkingWater**
- **SurfaceWater**
- **AirQuality (Clean Air Act)**
- **WetlandsProgram**
- **Other**
Groundwater

RHODE ISLAND

Name: Michael D. Andrews  Contact_Title: Sanitary Engineer
Organization: Office of Waste Management, Site Remediation
Address / City: 235 Promenade Street, Providence, 02871
Email: michael.andrews@dem.ri.gov  Contact_Phone: (401) 862-5250

Regulatory

Groundwater

Direct Contact (Dermal)

Basis:

Citation_Location: Remediation standards specific to direct contact with groundwater have not been established. Refer to the GA and GB Groundwater Objectives as specified in the Rules and Regulation for the Investigation and Remediation of Hazardous Material Releases (as amended February 2004). For a detailed explanation see the "Comments" section of this spreadsheet.

Contact_Info:

Comments: A complete list of RIDEM Regulations is available at: http://www.dem.ri.gov/pubs/regs/index.htm#WM

Discharge to Surface Water

Basis:

Citation_Location: Remediation standards specific to groundwater discharge to surface water have not been established. Refer to the GA and GB Groundwater Objectives as specified in the Rules and Regulation for the Investigation and Remediation of Hazardous Material Releases (as amended February 2004). For a detailed explanation of the basis for the GA and GB Groundwater Objectives see the "Other" section of this spreadsheet.

Contact_Info: Contact person is Michael Andrews, (401) 222-2797 ext. 7140, michael.andrews@dem.ri.gov

Comments: A complete list of RIDEM Regulations is available at: http://www.dem.ri.gov/pubs/regs/index.htm#WM

Drinking (Ingestion)

Basis:

Citation_Location: Remediation standards specific to drinking groundwater have not been established by RIDEM. Refer to the GA and GB Groundwater Objectives as specified in the Rules and Regulation for the Investigation and Remediation of Hazardous Material Releases (as amended February 2004). For a detailed explanation see the "Other" section of this spreadsheet.

Contact_Info: Contact person is Michael Andrews, (401) 222-2797 ext. 7140, michael.andrews@dem.ri.gov

Comments: A complete list of RIDEM Regulations is available at: http://www.dem.ri.gov/pubs/regs/index.htm#WM

Other

Basis:

Citation_Location: The RIDEM Office of Waste Management applies the GA and GB Groundwater Objectives (remediation standards) as specified in the Rules and Regulation for the Investigation and Remediation of Hazardous Material Releases (as amended February 2004) to all sites. The GA Groundwater Objectives are based on the maximum contaminant levels (MCL) found in the US EPA 2004 Edition of the Drinking Water Standards and Health Advisories. This document may be found at: http://www.epa.gov/ost/drinking/standards/dwstandards.pdf.

Contact_Info:

Comments: A complete list of RIDEM Regulations is available at: http://www.dem.ri.gov/pubs/regs/index.htm#WM

☑ RCR_ACA  ☑ Brownfields  ☐ DrinkingWater  ☐ SurfaceWater  ☐ AirQuality (Clean Air Act)
☑ SolidWasteLndfill  ☑ VoluntaryClnUp  ☐ SafeDrinkingWaterAct  ☑ UST  ☐ WetlandsProgram  ☐ Other
Groundwater

RHODE ISLAND

Name: Michael D. Andrews Contact_Title: Sanitary Engineer
Organization: Office of Waste Management, Site Remediation
Address / City: 235 Promenade Street, Providence, 02871
Email: michael.andrews@dem.ri.gov

Groundwater

Direct Contact (Dermal)

Basis: The RIDEM Office of Waste Management applies to the GA and GB Groundwater Objectives as defined in the Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (as amended February 2004) as remediation standards at all sites. GA and GB Groundwater Objectives are available in Tables 3 and 4 at:
http://www.dem.ri.gov/pubs/regs/regs/waste/remreg04.pdf

Contact_Info: Contact person is Ernie Panciera, (401) 222-4700 ext. 7603, ernie.panciera@dem.ri.gov
Comments: A complete list of RIDEM Regulations is available at : http://www.dem.ri.gov/pubs/regs/index.htm#WM

Discharge to Surface Water

Basis: For more information on RIDEM Groundwater Regulations, refer to the Rules and Regulations for Groundwater Quality. These regulations are available at http://www.dem.ri.gov/pubs/regs/regs/water/gwqual05.pdf

Contact_Location: The RIDEM Office of Waste Management applies to GA and GB Groundwater Objectives as defined in the Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (as amended February 2004) as remediation standards at all sites. GA and GB Groundwater Objectives are available in Tables 3 and 4 at:
http://www.dem.ri.gov/pubs/regs/regs/waste/remreg04.pdf

Contact_Info: Contact person is Ernie Panciera, (401) 222-4700 ext. 7603, ernie.panciera@dem.ri.gov
Comments: A complete list of RIDEM Regulations is available at : http://www.dem.ri.gov/pubs/regs/index.htm#WM

Drinking (Ingestion)

Basis: The Rhode Island Department of Health regulates public and private drinking water sources. For more information, refer to the Rules and Regulations Pertaining to Public Drinking Water at http://www.rules.state.ri.us/rules/released/pdf/DOH/DOH_3355.pdf

Contact_Location: The RIDEM Office of Waste Management applies the GA and GB Groundwater Objectives as defined in the Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (as amended February 2004) as remediation standards at all sites. GA and GB Groundwater Objectives are available in Tables 3 and 4 at:
http://www.dem.ri.gov/pubs/regs/regs/waste/remreg04.pdf

Contact_Info: Contact person for RIDOH Regulations is June Swallow, P.E., (401) 222-6867, junes@doh.state.ri.us
Comments: A complete list of RIDEM Regulations is available at : http://www.dem.ri.gov/pubs/regs/index.htm#WM

Other

Basis: The RIDEM GB Groundwater Objectives are based on a scientifically acceptable volatilization model as referenced in Appendix F of the Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (as amended February 2004). This model incorporates site-specific information on the hazardous substances, hydrogeological conditions at the contaminated site, current and reasonably foreseeable building conditions, and demonstrates that contamination will not infiltrate to indoor air and result in significant risk of harm to human health or the environment.

Contact_Info: A complete list of RIDEM Regulations is available at : http://www.dem.ri.gov/pubs/regs/index.htm#WM

RCRA_CA Brownfields DrinkingWater SurfaceWater AirQuality (Clean Air Act)
SolidWasteLndfill VoluntaryClnUp SafeDrinkingWaterAct UST WetlandsProgram Other
## Groundwater

**SOUTH DAKOTA**

<table>
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<tr>
<th>Name</th>
<th>Contact_Title</th>
<th>Organization</th>
<th>Address / City</th>
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<tbody>
<tr>
<td>Mark Lawrensen</td>
<td>Superfund Program Manager</td>
<td>Ground Water Quality Program</td>
<td>523 East Capitol Avenue, Pierre, 57501</td>
<td><a href="mailto:mark.lawrensen@state.sd.us">mark.lawrensen@state.sd.us</a></td>
<td>(605) 773-3296</td>
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### Regulatory

#### Groundwater

**Direct Contact (Dermal)**

**Basis:**

**Citation Location:** [http://legis.state.sd.us/statutes/DisplayStatute.aspx?Type=Statute&Statute=34A-12](http://legis.state.sd.us/statutes/DisplayStatute.aspx?Type=Statute&Statute=34A-12)

**Contact_Info:** Joane Lineburg, SDDENR 773-3296

**Comments:**

**Discharge to Surface Water**

**Basis:**

**Citation Location:** [http://legis.state.sd.us/statutes/DisplayStatute.aspx?Type=Statute&Statute=34A-12](http://legis.state.sd.us/statutes/DisplayStatute.aspx?Type=Statute&Statute=34A-12)

**Contact_Info:** Joane Lineburg, SDDENR 773-3296

**Comments:**

**Drinking (Ingestion)**

**Basis:**

**Citation Location:** [http://legis.state.sd.us/statutes/DisplayStatute.aspx?Type=Statute&Statute=34A-12](http://legis.state.sd.us/statutes/DisplayStatute.aspx?Type=Statute&Statute=34A-12)

**Contact_Info:** Joane Lineburg, SDDENR 773-3296

**Comments:**

### Guidelines

#### Groundwater

**Direct Contact (Dermal)**

**Basis:**


**Contact_Info:**

**Comments:**

**Discharge to Surface Water**

**Basis:**


**Contact_Info:**

**Comments:**

**Drinking (Ingestion)**

**Basis:**


**Contact_Info:**

**Comments:**

- [ ] RCRA_CA
- [ ] Brownfields
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- [ ] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [ ] SolidWasteLndfill
- [ ] VoluntaryClnUp
- [ ] SafeDrinkingWaterAct
- [ ] UST
- [ ] WetlandsProgram
- [ ] Other

10/16/2006

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Groundwater

TEXAS

Name: Chet Clarke  
Contact_Title: Manager, Technical Support Section

Organization: Remediation Division (Superfund, RCRA, LUST, Voluntary Cleanup)

Address / City: TCEQ MC-225, P.O. Box 13087, Austin, 787113087

Email: cclarke@tceq.state.tx.us  
Contact_Phone: (512) 239-2268

Regulatory

Groundwater

Discharge to Surface Water

Basis:

Citation_Location: Title 30 Texas Administrative Code Chapter 350, http://www.tceq.state.tx.us/remediation/trrp/trrprule.html

Contact_Info: Vickie Reat

Comments:

Drinking (Ingestion)

Basis:

Citation_Location: Title 30 Texas Administrative Code Chapter 350, http://www.tceq.state.tx.us/remediation/trrp/trrprule.html

Contact_Info: Chet Clarke, Paul Lewis, or Kip Haney

Comments:

Other

Basis:

Citation_Location: Title 30 Texas Administrative Code Chapter 350, http://www.tceq.state.tx.us/remediation/trrp/trrprule.html

Contact_Info: Chet Clarke, Paul Lewis, or Kip Haney

Comments: "Other" denotes the groundwater chemicals volatilizing to outdoor air and then human inhalation. Cumulative risk for multiple chemicals acting through a single pathway is 1E-4. The hazard quotient is 1. For groundwater ingestion, risk-based values are derived for only chemicals that lack a federal MCL.

RCRA_CA  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)
SolidWasteLandfill  VoluntaryCleanup  SafeDrinkingWaterAct  UST  WetlandsProgram  Other
## Guidelines

### Groundwater

#### Discharge to Surface Water

**Basis:**

**Citation_Location:** TRRP-18, TRRP-24, http://www.tceq.state.tx.us/remediation/trrp/guidance.html

**Contact_Info:** Vickie Reat

**Comments:**

#### Drinking (Ingestion)

**Basis:**

**Citation_Location:** TRRP-18, TRRP-22, http://www.tceq.state.tx.us/remediation/trrp/guidance.html

**Contact_Info:** Chet Clarke, Paul Lewis, or Kip Haney

**Comments:**

#### Other

**Basis:**

**Citation_Location:** TRRP-18, TRRP-22, http://www.tceq.state.tx.us/remediation/trrp/guidance.html

**Contact_Info:** Chet Clarke, Paul Lewis, or Kip Haney

**Comments:**

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- **SurfaceWater**
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- **SolidWasteLndfill**
- **VoluntaryClnUp**
- **SafeDrinkingWaterAct**
- **UST**
- **WetlandsProgram**
- **Other**
# Groundwater

**UTAH**

<table>
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<tr>
<th>Name:</th>
<th>Scott Everett</th>
<th>Contact Title:</th>
<th>Toxicologist</th>
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<td>Email:</td>
<td><a href="mailto:Severett@utah.gov">Severett@utah.gov</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact Phone:</td>
<td></td>
<td>(801) 536-4117</td>
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</tr>
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## Regulatory

### Groundwater

**Direct Contact (Dermal)**

**Basis:**

Citation Location: Regulations currently being drafted

Contact Info: Contact person is Scott Everett, (801) 536-4117, Severett@utah.gov

Comments:

**Drinking (Ingestion)**

**Basis:**

Citation Location: Regulations currently being drafted for Brownfields/VCP. For UST Program, R311-211 Utah Admin. Code (Pending Approval)


Contact Info: Contact person is Scott Everett, (801) 536-4117, Severett@utah.gov

Comments:

- RCRA_CA
- Brownfields
- DrinkingWater
- SurfaceWater
- AirQuality (Clean Air Act)
- SolidWasteLndfill
- VoluntaryClnUp
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other
# Groundwater

## VIRGINIA

**Name:** Pat McMurray  
**Contact Title:** Toxicologist  
**Organization:** Department of Environmental Quality  
**Address / City:**  
**Email:** pamcmurray@deq.virginia.gov  
**Contact Phone:** (804) 698-4186

### Regulatory

#### Groundwater

**Direct Contact (Dermal)**

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<tr>
<td>* see note below</td>
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<td>The above applies to the Voluntary Remediation Program only. In Virginia, there are no statewide numerical standards established by regulation or by guidance for the above media. Specific criteria or performance standards are implemented on a program specific basis. For UST see the DEQ Storage Tank Program Technical Manual at <a href="http://www.deq.state.va.us/tanks/dwnlib.html#techmanfiles">http://www.deq.state.va.us/tanks/dwnlib.html#techmanfiles</a>. Contact <a href="mailto:jsbarnett@deq.virginia.gov">jsbarnett@deq.virginia.gov</a>. For RCRA Subtitle C, the federal regulations are adopted by reference. For Solid Waste DEQ uses Subtitle D federal criteria and guidance. Contact <a href="mailto:skthirunagari@deq.virginia.gov">skthirunagari@deq.virginia.gov</a></td>
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**Discharge to Surface Water**

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<td>Water Quality Standards. 9 VAC 25-260-140.</td>
<td>9VAC20-160-90</td>
<td><a href="mailto:klgreene@deq.virginia.gov">klgreene@deq.virginia.gov</a></td>
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**Drinking (Ingestion)**

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**Comments:**

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- [X] SolidWasteLndfill
- [ ] VoluntaryClnUp
- [ ] SafeDrinkingWaterAct
- [ ] UST
- [ ] WetlandsProgram
- [ ] Other
# Virginia Guidelines

## Groundwater

**Groundwater**

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<tr>
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<td><a href="mailto:pamcmurray@deq.virginia.gov">pamcmurray@deq.virginia.gov</a></td>
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<td>Citation_Location:</td>
<td><a href="http://www.deq.virginia.gov/vrprisk/tables.html">www.deq.virginia.gov/vrprisk/tables.html</a></td>
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<tr>
<td>Contact_Info:</td>
<td><a href="mailto:pamcmurray@deq.virginia.gov">pamcmurray@deq.virginia.gov</a></td>
</tr>
<tr>
<td>Comments:</td>
<td>In Virginia, there are no statewide numerical standards established by regulation or by guidance for the above media. Specific criteria or performance standards are implemented on a program specific basis.</td>
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## Other

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<tr>
<th>Basis:</th>
<th>see VRP risk assessment guidance for screening levels for construction worker exposure and vapor intrusion</th>
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<tbody>
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<td>Citation_Location:</td>
<td><a href="http://www.deq.virginia.gov/vrprisk/tables.html">www.deq.virginia.gov/vrprisk/tables.html</a></td>
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<tr>
<td>Comments:</td>
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</tbody>
</table>
Groundwater

WISCONSIN

Name: Aristeo M. Pelayo  Contact_Title: Hydrogeologist
Organization: Remediation and Redevelopment
Address / City: WDNR, RR/3, PO Box 7921, Madison, 53707
Email: Aristeo.Pelayo@dnr.state.wi.us  Contact_Phone: (608) 267-3539

Regulatory

Groundwater

Discharge to Surface Water

Basis:
Citation_Location: Per s. NR 140.02 (4), Wis. Adm. Code, WI state surface water quality standards apply to groundwater discharge to surface water
Contact_Info: The administrative code containing established WI state groundwater quality standards, NR 140, Wis. Adm. Code, is available at: http://www.legis.state.wi.us/rsb/code/nr/nr140.pdf. State groundwater quality standards for substances of public health concern are listed in Table 1 of NR 140.
Comments: See Table 1 of NR 140 for state groundwater quality standards for substances of public health concern.

Drinking (Ingestion)

Basis:
Citation_Location: Enforcement Standards in Table 1 of NR 140, Wis. Adm. Code
Contact_Info: William.Phelps@dnr.state.wi.us
Comments: See Table 1 of NR 140 for state groundwater quality standards for substances of public health concern.

Guidelines

Groundwater

Drinking (Ingestion)

Basis:
Citation_Location: Preventive Action Limits in Table 1 of NR 140, Wis. Adm. Code
Contact_Info: William.Phelps@dnr.state.wi.us
Comments: See Table 1 of NR 140 for state groundwater quality standards for substances of public health concern.

State Action Levels Report - CERCLA T3 Focus Group

Surface Water

ALASKA

Name: Jill Taylor  Contact_Title: Environmental Program Specialist III
Organization: Alaska DEC Contaminated Sites Program
Address / City: 410 Willoughby Avenue, Suite 303, Juneau, 99801
Email: Jill_Taylor@dec.state.ak.us  Contact_Phone: (907) 465-5209

Regulatory

Surface Water

Direct Contact (Dermal)

Basis:

Citation_Location: Surface water must meet 18 AAC 70 Water Quality Standards which are protective for all use classes. (Drinking, aquaculture, aquatic life, etc.)

Contact_Info: Jill_Taylor@dec.state.ak.us

Ecological Risk

Basis:

Citation_Location: Surface water must meet 18 AAC 70 Water Quality Standards which are protective for all use classes. (Drinking, aquaculture, aquatic life, etc.)

Contact_Info:

Fish Consumption

Basis:

Citation_Location: Surface water must meet 18 AAC 70 Water Quality Standards which are protective for all use classes. (Drinking, aquaculture, aquatic life, etc.)

Contact_Info:

RCRA_CA  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)
SolidWasteLndfill  VoluntaryClnUp  SafeDrinkingWaterAct  UST  WetlandsProgram  Other

Page 121 of 207
Surface Water

ARKANSAS

Name: Ashley Whitlow  
Contact_Title: Senior Epidemiologist
Organization: Arkansas Department of Environmental Quality - Hazardous Waste Division
Address / City: 8001 National Drive, Little Rock, 722198913
Email: whitlow@adeq.state.ar.us

Regulatory Surface Water

Direct Contact (Dermal)

Basis:
Citation_Location: Arkansas Pollution Control and Ecology Commission (APC&EC) Regulation 2 § 508 (Water Quality Standards for Surface Waters of the State). (http://www.adeq.state.ar.us/regs/default.htm)
Contact_Info: Ashley Whitlow; 501-682-0869; whitlow@adeq.state.ar.us
Comments: The Arkansas Voluntary Cleanup Act at A.C.A. § 8-7-1104 (http://170.94.58.9/NXT/gateway.dll?f=templates&fn=default.htm&vid=blr:code), sets up the performance-based concept of eliminating "unacceptable risk" in contaminated surface water. A remedial action pursuant to subdivision (e)(3) of this section shall eliminate unacceptable risks and prevent degradation of groundwaters and surface waters.

Ecological Risk

Basis:
Citation_Location: Arkansas Pollution Control and Ecology Commission Regulation 2 (http://www.adeq.state.ar.us/regs/default.htm)
Contact_Info: Ashley Whitlow; 501-682-0869; whitlow@adeq.state.ar.us
Comments: The Arkansas Voluntary Cleanup Act at A.C.A. § 8-7-1104 (http://170.94.58.9/NXT/gateway.dll?f=templates&fn=default.htm&vid=blr:code), sets up the performance-based concept of eliminating "unacceptable risk" in contaminated surface water. A remedial action pursuant to subdivision (e)(3) of this section shall eliminate unacceptable risks and prevent degradation of groundwaters and surface waters.

Fish Consumption

Basis:
Citation_Location: The Arkansas Department of Health and Human Services (DHHS) health section is consulted for elevated levels of contaminants of concern (COCs) in water bodies, and it is their jurisdiction to issue fish advisories.
Contact_Info: Ashley Whitlow; 501-682-0869; whitlow@adeq.state.ar.us
Comments: The Arkansas Voluntary Cleanup Act at A.C.A. § 8-7-1104 (http://170.94.58.9/NXT/gateway.dll?f=templates&fn=default.htm&vid=blr:code), sets up the performance-based concept of eliminating "unacceptable risk" in contaminated surface water. A remedial action pursuant to subdivision (e)(3) of this section shall eliminate unacceptable risks and prevent degradation of groundwaters and surface waters.

RCRA_CA  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)
SolidWasteLndfill  VoluntaryClnUp  SafeDrinkingWaterAct  UST  WetlandsProgram  Other
### Surface Water

**Guidelines**

**Surface Water**

**Direct Contact (Dermal)**

**Basis:** U.S. EPA Risk Assessment Guidance for Superfund (RAGS), U.S. EPA

http://www.epa.gov/oswer/riskassessment/risk_superfund.htm

**Citation Location:** EPA Maximum Contaminant Levels (MCLs), Maximum Contaminant Level Goals (MCLGs), or risk-based tap water screening values (presented in the EPA Region 6 Human Health Medium Specific Screening Levels (HHMSSLs) table: http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screenvalues.pdf) are typically used as baseline remediation goals for surface water contamination. However, on a site-specific basis, risk-based remediation goals may be calculated based on surface water use(s) and exposure(s) at and near the site.

**Contact Info:** Ashley Whitlow; 501-682-0869; whitlow@adeq.state.ar.us

**Comments:** The Arkansas Voluntary Cleanup Act at A.C.A. § 8-7-1104 (http://170.94.58.9/NXT/gateway.dll?f=templates&f=default.htm&vid=blr:code), sets up the performance-based concept of eliminating “unacceptable risk” in contaminated surface water. A remedial action pursuant to subdivision (e)(3) of this section shall eliminate unacceptable risks and prevent degradation of groundwaters and surface waters.

**Ecological Risk**


**Citation Location:** *None. Ecological remediation standards for surface water are developed on a case-by-case basis (according to site-specific circumstances). Surface water contaminants are initially screened for ecological concerns using the following: USEPA.2001.Supplemental Guidance to RAGS: Region 4 Bulletins, Ecological Risk Assessment. http://www.epa.gov/Region4/waste/ots/ecolbul.htm*

**Contact Info:** Ashley Whitlow; 501-682-0869; whitlow@adeq.state.ar.us

**Comments:** The Arkansas Voluntary Cleanup Act at A.C.A. § 8-7-1104 (http://170.94.58.9/NXT/gateway.dll?f=templates&f=default.htm&vid=blr:code), sets up the performance-based concept of eliminating “unacceptable risk” in contaminated surface water. A remedial action pursuant to subdivision (e)(3) of this section shall eliminate unacceptable risks and prevent degradation of groundwaters and surface waters.

**Fish Consumption**

**Basis:** U.S. EPA Risk Assessment Guidance for Superfund (EPA RAGS), U.S. EPA

http://www.epa.gov/oswer/riskassessment/risk_superfund.htm

**Citation Location:** EPA Maximum Contaminant Levels (MCLs), Maximum Contaminant Level Goals (MCLGs), or risk-based tap water screening values (presented in the EPA Region 6 Human Health Medium Specific Screening Levels (HHMSSLs) table: http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screenvalues.pdf) are typically used as baseline remediation goals for surface water contamination. However, on a site-specific basis, risk-based remediation goals may be calculated based on surface water use(s) and exposure(s) at and near the site.

**Contact Info:** Ashley Whitlow; 501-682-0869; whitlow@adeq.state.ar.us

**Comments:** The Arkansas Voluntary Cleanup Act at A.C.A. § 8-7-1104 (http://170.94.58.9/NXT/gateway.dll?f=templates&f=default.htm&vid=blr:code), sets up the performance-based concept of eliminating “unacceptable risk” in contaminated surface water. A remedial action pursuant to subdivision (e)(3) of this section shall eliminate unacceptable risks and prevent degradation of groundwaters and surface waters.
**Surface Water**

**ARIZONA**

Name: Richard Olm  
Contact_Title: Senior Environmental Engineer

Organization: Arizona Dept. of Environmental Quality, Remedial Projects

Address / City: 1110 West Washington Street, AZ, Phoenix, 85007-2952

Email: rco@azdeq.gov  
Contact_Phone: (480) 367-0249

---

**Regulatory**

**Surface Water**

*Direct Contact (Dermal)*

Basis:

Citation_Location: [http://www.azsos.gov/public_services/Title_18/18-11.htm](http://www.azsos.gov/public_services/Title_18/18-11.htm)

Contact_Info: Chris Varga, crv@azdeq.gov

Comments:

---

**Fish Consumption**

Basis:

Citation_Location: [http://www.azsos.gov/public_services/Title_18/18-11.htm](http://www.azsos.gov/public_services/Title_18/18-11.htm)

Contact_Info:

Comments:

- [✓] RCRA_CA
- [✓] SolidWasteLandfill
- [✓] VoluntaryCleanUp
- [✓] SafeDrinkingWaterAct
- [✓] UST
- [✓] AirQuality (Clean Air Act)
- [✓] UST
- [✓] WetlandsProgram
- [✓] Other
## Surface Water

### CALIFORNIA

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<tr>
<th>Name</th>
<th>Mike Sorensen</th>
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<tr>
<td>Contact_Title</td>
<td>Branch Chief</td>
</tr>
<tr>
<td>Organization</td>
<td>Site Mitigation and Brownfields Reuse Program</td>
</tr>
<tr>
<td>Address / City</td>
<td></td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:msorensen@dtsc.ca.gov">msorensen@dtsc.ca.gov</a></td>
</tr>
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### Regulatory

#### Surface Water

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**Surface Water**

**CALIFORNIA**

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**Regulatory**

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<td>Cleanup criteria could also be established based on beneficial use of the resource. Statute relating to beneficial use is California Water Code, Division 7. Water Quality. (see <a href="http://www.waterboards.ca.gov/water_laws/docs/portercologne.pdf">http://www.waterboards.ca.gov/water_laws/docs/portercologne.pdf</a>) Section 13050(f) defines &quot;Beneficial uses&quot; of the waters of the state that may be protected against water quality degradation include, but are not necessarily limited to, domestic, municipal, agricultural, and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. Water quality goals are established in regional basin plans; for examples see <a href="http://www.waterboards.ca.gov/plnspols/index.html">http://www.waterboards.ca.gov/plnspols/index.html</a>.</td>
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**Contact_Info**: "State Water Resources Control Board, Division of Water Quality (916) 341-5250 (http://www.waterboards.ca.gov/quality.html?counter=85) "

**Comments:**
- RCRA_CA
- Brownfields
- DrinkingWater
- SurfaceWater
- AirQuality (Clean Air Act)
- SolidWasteLndfill
- VoluntaryClnUp
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other
Surface Water

CALIFORNIA

Name: Mike Sorensen
Contact_Title: Branch Chief
Organization: Site Mitigation and Brownfields Reuse Program
Address / City: 
Email: msorense@dtsc.ca.gov
Contact_Phone: (916) 255-6660

Guidelines

Surface Water

Direct Contact (Dermal)

Basis:
Citation_Location: Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities (see http://www.dtsc.ca.gov/AssessingRisk/Supplemental_Guidance.cfm). This DTSC guidance manual supplements the U.S. Environmental Protection Agency manual for performing human health risk assessments (Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A), Interim Final (EPA/540/1-89/002, December 1989)) and OSWER directives by providing recommendations on specific technical or scientific issues that may be encountered when preparing multimedia risk assessment reports for submittal and review by the DTSC.

Contact_Info:
Comments:

Drinking (Ingestion)

Basis:
Citation_Location: 1. Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities (see http://www.dtsc.ca.gov/AssessingRisk/Supplemental_Guidance.cfm). This DTSC guidance manual supplements the U.S. Environmental Protection Agency manual for performing human health risk assessments (Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A), Interim Final (EPA/540/1-89/002, December 1989)) and OSWER directives by providing recommendations on specific technical or scientific issues that may be encountered when preparing multimedia risk assessment reports for submittal and review by the DTSC. 2. For information on public health goals (PHGs), see http://www.oehha.ca.gov/water/phg/allphgs.html. PHGs are developed for chemical contaminants based on the best available toxicological data in the scientific literature. These documents and the analyses contained in them provide estimates of the levels of contaminants in drinking water that would pose no significant health risk to individuals consuming the water on a daily basis over a lifetime. See http://www.oehha.ca.gov/risk/ChemicalDB/index.asp for OEHHA Toxicity Criteria Database, searchable by chemical. 3. For California MCLs see ”Maximum Contaminant Levels And Regulation Dates For Drinking Water Contaminants, USEPA Vs CDHS, September 2003” (see http://www.dhs.ca.gov/ps/ddwm/chemicals/MCL/EMWW/index.htm). 4. For risk assessment of lead exposures, see LeadSpread. (see http://www.dtsc.ca.gov/AssessingRisk/leadspread.cfm). LeadSpread is a tool that can be used to estimate blood lead concentrations resulting from exposure to lead via dietary intake, drinking water, soil and dust ingestion, inhalation, and dermal contact. 5. Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater (Interim Final - February 2005) (see http://www.waterboards.ca.gov/sanfranciscobay/esl.htm) The document Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater (4th edition, February 2005) is a technical report prepared by staff of the California Regional Water Quality Board, San Francisco Bay Region. Information provided in the document is not intended to establish policy or regulation. Volume 1 of the document presents lookup tables of conservative Environmental Screening Levels (“ESLs”) for over 100 chemicals commonly found at sites with contaminated soil and groundwater. Volume 2 describes how the ESLs were developed and provides detailed tables and appendices in support of the summary lookup tables. 6. USEPA Region 9 Preliminary Remediation Goals (PRGs). PRGs are tools for evaluating and cleaning up contaminated sites. They are risk-based concentrations that are intended to assist risk assessors and others in initial screening-level evaluations of environmental measurements. The PRGs contained in the Region 9 PRG Table are generic; they are calculated without site specific information. However, they may be re-calculated using site specific data. PRGs should be viewed as Agency guidelines, not legally enforceable standards. They are used for site ”screening” and as initial cleanup goals if applicable. PRGs are not de facto cleanup standards and should not be applied as such. However, they are helpful in providing long-term targets to use during the analysis of different remedial alternatives. By developing PRGs early in the decision-making process, design staff may be able to streamline the consideration of remedial alternatives. (see http://www.epa.gov/region09/waste/sfund/prg/index.html)

Contact_Info:
Comments:

Ecological Risk
Guidelines

Fish Consumption

Other

Date: 10/16/2006

Page 128 of 207
# Surface Water

## COLORADO

Name: Barbara O'Grady  
Contact_Title: Environmental Protection Specialist III  
Organization: Remedial Programs/Hazardous Materials and Waste Management  
Address / City: 4300 Cherry Creek Drive South, Denver, 80246  
Email: barbara.ogrady@state.co.us  
Contact_Phone: (303) 692-3395

### Regulatory

#### Surface Water

**Direct Contact (Dermal)**

- **Basis:**
  - Citation_Location: [http://www.cdphe.state.co.us/op/regs/waterregs/100231basicstandards1205and1207.pdf](http://www.cdphe.state.co.us/op/regs/waterregs/100231basicstandards1205and1207.pdf)  
  - [http://www.cdphe.state.co.us/wq/Assessment/TMDL/TMDLs.html](http://www.cdphe.state.co.us/wq/Assessment/TMDL/TMDLs.html)
  - **Contact_Info:** Division Staff at (303) 692-3500 or cdphe.wqcc@state.co.us
  - **Comments:**

**Drinking (Ingestion)**

- **Basis:**
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**Ecological Risk**

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  - [http://www.cdphe.state.co.us/wq/Assessment/TMDL/TMDLs.html](http://www.cdphe.state.co.us/wq/Assessment/TMDL/TMDLs.html)
  - **Contact_Info:** Division Staff at (303) 692-3500 or cdphe.wqcc@state.co.us
  - **Comments:**

- [RCRA_CA]  
- [SolidWasteLndfill]  
- [Brownfields]  
- [DrinkingWater]  
- [SafeDrinkingWaterAct]  
- [UST]  
- [WetlandsProgram]  
- [Other]  
- [SurfaceWater]  
- [AirQuality (Clean Air Act)]
Surface Water

CONNECTICUT

Name: Traci Lott
Contact_Title: Environmental Analyst III
Organization: CT DEP/Remediation
Address / City: 79 Elm St., Hartford, 06106
Email: traci.iott@po.state.ct.us
Contact_Phone: (860) 424-3082

Regulatory

Surface Water

Drinking (Ingestion)

Basis: The WQS include ambient criteria for protection of Human Health from exposures due to drinking surface water. The criteria are based on the federal water quality criteria. The WQS are expected to be revised in 2006

Citation_Location: Connecticut Water Quality Standards (http://www.dep.state.ct.us/wtr/wq/wqs.pdf)
Contact_Info: Traci lott @ traci.iott@po.state.ct.us
Comments:

Ecological Risk

Basis: The WQS include ambient criteria for protection of Aquatic Life from Acute and Chronic impacts. The criteria are based on the federal water quality criteria with some State-specific additions. The WQS are expected to be revised in 2006

Citation_Location: Connecticut Water Quality Standards (http://www.dep.state.ct.us/wtr/wq/wqs.pdf)
Contact_Info: Traci lott @ traci.iott@po.state.ct.us
Comments:

Fish Consumption

Basis: The WQS include ambient criteria for protection of Human Health from exposures due to fish consumption. The criteria are based on the federal water quality criteria. The WQS are expected to be revised in 2006

Citation_Location: Connecticut Water Quality Standards (http://www.dep.state.ct.us/wtr/wq/wqs.pdf)
Contact_Info: Traci lott @ traci.iott@po.state.ct.us
Comments:

Guidelines

Surface Water

Ecological Risk

Basis:

Citation_Location: Additional water quality benchmarks are derived on a case by case basis as needed using the procedures established by EPA in the Great Lakes Water Quality Initiative. No CT specific guidance has been developed. However, additional guidance is likely to be included in the revision to the Remediation Standard Regulations.

Contact_Info: Traci lott @ traci.iott@po.state.ct.us
Comments:

☐ RCRA_CA ☑ Brownfields ☐ DrinkingWater ☑ SurfaceWater ☐ AirQuality (Clean Air Act)
☐ SolidWasteLndfill ☑ VoluntaryClnUp ☐ SafeDrinkingWaterAct ☑ UST ☐ WetlandsProgram ☐ Other
# Regulatory

## Surface Water

### Direct Contact (Dermal)

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### Ecological Risk

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- SurfaceWater
- AirQuality (Clean Air Act)
- SolidWasteLndfill
- VoluntaryClnUp
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other
## Surface Water

### GEORGIA

<table>
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<tr>
<th>Name</th>
<th>David Brownlee</th>
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<tr>
<td>Organization</td>
<td>Hazardous Site Response Program</td>
</tr>
<tr>
<td>Address / City</td>
<td>2 MLK Jr Drive, Suite 1462, Atlanta, 30334</td>
</tr>
<tr>
<td>Email</td>
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### Regulatory

#### Surface Water

**Direct Contact (Dermal)**

**Basis:** Determined on a site-specific basis.

**Citation/Locations:** Rules for Hazardous Site Response 391-3-19 and Rules for Water Quality Control 391-3-6 can be found at [http://www.gaepd.org/Documents/rules_exist.html](http://www.gaepd.org/Documents/rules_exist.html)

**Contact Info:**

**Comments:**

**Drinking (Ingestion)**

**Basis:** Determined on a site-specific basis.

**Citation/Locations:** Rules for Hazardous Site Response 391-3-19 and Rules for Water Quality Control 391-3-6 can be found at [http://www.gaepd.org/Documents/rules_exist.html](http://www.gaepd.org/Documents/rules_exist.html)

**Contact Info:**

**Comments:**

**Ecological Risk**

**Basis:** Determined on a site-specific basis.

**Citation/Locations:** If an ecological risk assessment is required it should follow the process described in ERAGS or the Georgia SWMU guidance document (see right for both).

**Contact Info:** jim_brown@dnr.state.ga.us

**Comments:**

**Fish Consumption**

**Basis:** Determined on a site-specific basis.

**Citation/Locations:** Rules for Hazardous Site Response 391-3-19 and Rules for Water Quality Control 391-3-6 can be found at [http://www.gaepd.org/Documents/rules_exist.html](http://www.gaepd.org/Documents/rules_exist.html)

**Contact Info:**

**Comments:**

### Guidelines

#### Surface Water

**Ecological Risk**

**Basis:**

**Citation/Locations:** 1. Ecological Risk Assessment Guidance for Superfund (ERAGS), EPA 1997 (EPA 540-R-97-006); 2. Georgia EPD Guidance for Selecting Media Remediation Levels of RCRA Solid Waste Management Units. This can be found at [http://www.gaepd.org/Files_PDF/techguide/hwb/swmurisk.pdf](http://www.gaepd.org/Files_PDF/techguide/hwb/swmurisk.pdf)

**Contact Info:** jim_brown@dnr.state.ga.us

**Comments:**
Surface Water

IOWA

Name: Bob Drusstrup
Organization: Iowa Department of Natural Resources, Land Recycling Program (a VCP)
Address / City: 502 E. 9th Street, Des Moines, 503190034
Email: bob.drustrup@dnr.state.ia.us

Contact_Title: Environmental Engineer

Contact_Phone: (515) 281-8900

Regulatory

Surface Water

Direct Contact (Dermal)

Basis:

Citation_Location: Chapter 567 IAC 61, http://www.iowadnr.com/water/standards/index.html
Contact_Info: Connie Dou, (515) 281-3350 connie.dou@dnr.state.ia.us

Comments:

☐ RCRA_CA  ☑ Brownfields  ☐ DrinkingWater  ☑ SurfaceWater  ☐ AirQuality (Clean Air Act)
☐ SolidWasteLndfill  ☑ VoluntaryClnUp  ☐ SafeDrinkingWaterAct  ☑ UST  ☑ WetlandsProgram  ☐ Other
# Surface Water

**ILLINOIS**

<table>
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<tr>
<th>Name:</th>
<th>Heather Nifong</th>
<th>Contact_Title:</th>
<th>Programs Advisor</th>
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<tbody>
<tr>
<td>Organization:</td>
<td>Division of Remediation Management, Bureau of Land</td>
<td>Address / City:</td>
<td>1021 North Grand Ave East, Springfield, 627949276</td>
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<tr>
<td>Email:</td>
<td><a href="mailto:heather.nifong@epa.state.il.us">heather.nifong@epa.state.il.us</a></td>
<td>Contact_Phone:</td>
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## Not Specified

### Surface Water

**Direct Contact (Dermal)**

- **Basis:**
- **Citation_Location:** None. Developed on site-specific basis.
- **Contact_Info:** IEPA Toxicity Assessment Unit, 217-785-0830
- **Comments:**

### Ecological Risk

- **Basis:**
- **Citation_Location:** None. Developed on site-specific basis.
- **Contact_Info:**
- **Comments:**

### Fish Consumption

- **Basis:**
- **Citation_Location:** None. Developed on site-specific basis.
- **Contact_Info:** IEPA Toxicity Assessment Unit, 217-785-0830
- **Comments:**

### Other

- **Basis:**
- **Citation_Location:** None. Developed on site-specific basis.
- **Contact_Info:** IEPA Toxicity Assessment Unit, 217-785-0830
- **Comments:**

## Guidelines

### Surface Water

**Other**

- **Basis:** Water quality standards for chemical constituents.
- **Citation_Location:** 35 IAC Part 302.208, 210
- **Contact_Info:** IEPA Toxicity Assessment Unit, 217-785-0830
- **Comments:**

Surface Water

INDIANA

Name: Megan Hamilton
Contact_Title: Environmental Manager
Organization: Applied Science Technologies
Address / City: 100 N Senate Ave, IGCN RM1154N, Indianapolis, 46204
Email: mhamilto@idem.in.gov
Contact_Phone: (317) 234-3928

Regulatory

Surface Water

Direct Contact (Dermal)

Basis:
Citation_Location: 327 IAC 2 Water Quality Standards can be found at: http://www.in.gov/legislative/iac/title327.html
Contact_Info: Dennis Clark, (317) 308-3235, dclark@idem.in.gov
Comments:

Drinking (Ingestion)

Basis: U.S. EPA (Federal) MCL's
Citation_Location: 327 IAC 8-2 Drinking Water Standards can be found at: http://www.in.gov/legislative/iac/title327.html
Contact_Info: Pat Carroll, (317) 308-3281, pcarroll@idem.in.gov
Comments:

Ecological Risk

Basis:
Citation_Location: 327 IAC 2 Water Quality Standards can be found at: http://www.in.gov/legislative/iac/title327.html
Contact_Info: Dennis Clark, (317) 308-3235, dclark@idem.in.gov
Comments:

Fish Consumption

Basis:
Citation_Location: 327 IAC 2 Water Quality Standards can be found at: http://www.in.gov/legislative/iac/title327.html
Contact_Info: Dennis Clark, (317) 308-3235, dclark@idem.in.gov
Comments:

Guidelines

Surface Water

Fish Consumption

Basis:
Citation_Location: 2005 Indiana Fish Consumption Advisory http://www.in.gov/isdh/dataandstats/fish/fish_adv_index.htm. Please see the FDA/EPA Consumer Advice for more information (http://www.cfsan.fdamis/admehg3.html) and to determine which commercial fish species are safest.
Contact_Info:
Comments:
## Surface Water

### KENTUCKY

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<th>Name</th>
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<tr>
<td>Contact_Title</td>
<td>Supervisor Federal Section Superfund</td>
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<tr>
<td>Organization</td>
<td>Division of Waste Management Superfund</td>
</tr>
<tr>
<td>Address / City</td>
<td>14 Reilly Road, Frankfort, 40601</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:wesley.turner@ky.gov">wesley.turner@ky.gov</a></td>
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<tr>
<td>Contact_Phone</td>
<td>(502) 564-6716</td>
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#### Regulatory

**Surface Water**

- **Basis:** 401 KAR Chapters 4, 5, 6, 8
- **Citation Location:** [http://www.lrc.ky.gov/kar/TITLE401.HTM](http://www.lrc.ky.gov/kar/TITLE401.HTM)
- **Contact Info:** Larry Taylor

#### Guidelines

**Surface Water**

- **Ecological Risk**
  - **Citation Location:** [http://www.lrc.ky.gov/kar/401/100/030.htm](http://www.lrc.ky.gov/kar/401/100/030.htm)
  - **Contact Info:** Larry Taylor

**Comments:**

- [ ] RCRA_CA
- [ ] Brownfields
- [ ] DrinkingWater
- [ ] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [ ] SolidWasteLandfill
- [ ] VoluntaryClnUp
- [ ] SafeDrinkingWaterAct
- [ ] UST
- [ ] WetlandsProgram
- [ ] Other
# Surface Water

## LOUISIANA

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<tr>
<th>Name</th>
<th>Patrick J. Lobos</th>
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<tr>
<td>Contact Title</td>
<td>Toxicologist</td>
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<tr>
<td>Organization</td>
<td>Louisiana Department of Environmental Quality</td>
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<td>Address / City</td>
<td>Environmental Technology Division, PO Box 4314, Baton Rouge, 708214314</td>
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<tr>
<td>Email</td>
<td><a href="mailto:patrick.lobos@la.gov">patrick.lobos@la.gov</a></td>
</tr>
<tr>
<td>Contact Phone</td>
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### Regulatory

#### Surface Water

**Direct Contact (Dermal)**

- **Basis:**
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  - **Contact Info:** Patrick J. Lobos patrick.lobos@la.gov 225-219-3425
  - **Comments:**

**Drinking (Ingestion)**

- **Basis:**
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  - **Contact Info:** Patrick J. Lobos patrick.lobos@la.gov 225-219-3425
  - **Comments:**

**Ecological Risk**

- **Basis:**
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  - **Contact Info:** Patrick J. Lobos patrick.lobos@la.gov 225-219-3425
  - **Comments:**

**Fish Consumption**

- **Basis:**
  - **Citation Location:** 2003 Risk Evaluation/Corrective Action Program (RECAP) Mandated in LA R.S. 30:2272. Online version at [http://www.deq.state.la.us/technology/recap](http://www.deq.state.la.us/technology/recap)
  - **Contact Info:** Patrick J. Lobos patrick.lobos@la.gov 225-219-3425
  - **Comments:**

- [✓] RCRA_CA
- [✓] Brownfields
- [✓] DrinkingWater
- [✓] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [✓] SolidWsteLndfill
- [✓] VoluntaryClnUp
- [✓] SafeDrinkingWaterAct
- [✓] UST
- [✓] WetlandsProgram
- [ ] Other
## Surface Water

### LOUISIANA

Name: Patrick J. Lobos  
Contact_Title: Toxicologist  
Organization: Louisiana Department of Environmental Quality  
Address / City: Environmental Technology Division, PO Box 4314, Baton Rouge, 708214314  
Email: patrick.lobos@la.gov  
Contact_Phone: (225) 219-3425

### Guidelines

#### Surface Water

**Direct Contact (Dermal)**

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**Citation_Location:** 2003 Risk Evaluation/Corrective Action Program (RECAP) Mandated in LA R.S. 30:2272. Online version at [http://www.deq.state.la.us/technology/recap](http://www.deq.state.la.us/technology/recap)

**Contact_Info:** Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

**Comments:**

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**Contact_Info:** Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

**Comments:**

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**Contact_Info:** Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

**Comments:**

- [ ] RCRA_CA  
- [ ] Brownfields  
- [ ] DrinkingWater  
- [x] SurfaceWater  
- [ ] AirQuality (Clean Air Act)  
- [ ] SolidWasteLandfill  
- [ ] VoluntaryCleanUp  
- [ ] SafeDrinkingWaterAct  
- [x] UST  
- [ ] WetlandsProgram  
- [ ] Other

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## Surface Water

### Massachusetts

**Name:** Paul Locke  
**Contact Title:** Division Director - Policy & Program Development  
**Organization:** MA DEQ, Waste Site Cleanup  
**Address / City:**  
**Email:** Paul.Locke@state.ma.us  
**Contact Phone:** (617) 556-1160

#### Regulatory

**Surface Water**

**Drinking (Ingestion)**

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<td>Massachusetts MCLs. 310 CMR 22 - Mass Drinking Water Regulation, applicable to Class A Surface Water bodies (reservoirs) <a href="http://mass.gov/dep/water/laws/regulati.htm">http://mass.gov/dep/water/laws/regulati.htm</a></td>
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<td>Contact_Info</td>
<td>Dave Terry, <a href="mailto:David.Terry@state.ma.us">David.Terry@state.ma.us</a>, (617) 292-5529</td>
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#### Guidelines

**Surface Water**

**Ecological Risk**

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<td>Benchmark levels in surface water identified in background documentation for the MCP groundwater GW-3 standards. See <a href="http://mass.gov/dep/cleanup/laws/regulati.htm">http://mass.gov/dep/cleanup/laws/regulati.htm</a></td>
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<td>Nancy Bettinger, MassDEP Office of Research and Standards, <a href="mailto:Nancy.Bettinger@state.ma.us">Nancy.Bettinger@state.ma.us</a>, 617-556-1160</td>
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# Surface Water

## MARYLAND

<table>
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<tr>
<th>Name</th>
<th>James Carroll</th>
<th>Contact_Title</th>
<th>Program Administrator</th>
</tr>
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<tr>
<td>Organization</td>
<td>Maryland Department of the Environment, Waste Management Administration</td>
<td></td>
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</tr>
<tr>
<td>Address / City</td>
<td>1800 Washington Blvd., Ste.625, Baltimore, 21230</td>
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<tr>
<td>Email</td>
<td><a href="mailto:JCarroll@mde.state.md.us">JCarroll@mde.state.md.us</a></td>
<td>Contact_Phone: (410) 537-3437</td>
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### Regulatory

#### Surface Water

#### Direct Contact (Dermal)

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#### Drinking (Ingestion)

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#### Ecological Risk

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#### Fish Consumption

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- [ ] AirQuality (Clean Air Act)
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- [ ] SafeDrinkingWaterAct
- [ ] UST
- [ ] WetlandsProgram
- [ ] Other

10/16/2006
# Surface Water

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<td><a href="mailto:JCarroll@mde.state.md.us">JCarroll@mde.state.md.us</a></td>
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### Guidelines

#### Surface Water

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- [ ] RCRA_CA
- [ ] SolidWasteLndfill
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- [ ] VoluntaryClnUp
- [ ] DrinkingWater
- [ ] SafeDrinkingWaterAct
- [ ] SurfaceWater
- [ ] UST
- [ ] WetlandsProgram
- [ ] AirQuality (Clean Air Act)
- [ ] Other
## Surface Water

### MICHIGAN

**Name:** Christine Flaga  
**Contact_Title:** Chief, Toxicology Unit, Remediation and Redevelopment  
**Organization:** Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Storage Tank)  
**Address / City:** Michigan Department of Environmental Quality, Remediation and Development Division, Constitution Hall, 525 West Allegan St., Detroit, MI 48226  
**Email:** flagac@michigan.gov  
**Contact_Phone:** (517) 373-0160

### Regulatory

#### Surface Water

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### Surface Water

**MICHIGAN**

**Name:** Christine Flaga  
**Contact_Title:** Chief, Toxicology Unit, Remediation and Redevelopment Division  
**Organization:** Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Storage Tank)  
**Address / City:** Michigan Department of Environmental Quality, Remediation and Development Division, Constitution Hall, 525 West Allegan St., Lansing, MI 48917  
**Email:** flagac@michigan.gov  
**Contact_Phone:** (517) 373-0160

#### Guidelines

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<td>Refer to the Soil Standards sheet for the groundwater venting to surface water criteria (GSI).</td>
<td>Christine Flaga, RRD Toxicology Unit (517) 373-0160, <a href="mailto:flagac@michigan.gov">flagac@michigan.gov</a></td>
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# Surface Water

## MINNESOTA

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<th>Email</th>
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<tr>
<td>Doug Beckwith</td>
<td>Remediation Supervisor</td>
<td>Superfund</td>
<td>525 South Lake Svenue Suite 400, Duluth, 55802</td>
<td><a href="mailto:doug.beckwith@pca.state.mn.us">doug.beckwith@pca.state.mn.us</a></td>
<td>(218) 529-6267</td>
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### Regulatory

#### Surface Water

#### Direct Contact (Dermal)

- **Basis:**
  - Citation Location: Minnesota Rule Chapter 7050, Which is accessed through: [http://www.leg.state.mn.us/leg/statutes.asp](http://www.leg.state.mn.us/leg/statutes.asp)
  - Contact Info: Dan White, 651-296-7237, dan.white@pca.state.mn.us
  - Comments:

#### Drinking (Ingestion)

- **Basis:**
  - Citation Location: Minnesota Rule Chapter 7050, Which is accessed through: [http://www.leg.state.mn.us/leg/statutes.asp](http://www.leg.state.mn.us/leg/statutes.asp)
  - Contact Info: Dan White, 651-296-7237, dan.white@pca.state.mn.us
  - Comments:

#### Ecological Risk

- **Basis:**
  - Citation Location: Minnesota Rule Chapter 7050, Which is accessed through: [http://www.leg.state.mn.us/leg/statutes.asp](http://www.leg.state.mn.us/leg/statutes.asp)
  - Contact Info: Dan White, 651-296-7237, dan.white@pca.state.mn.us
  - Comments:

- [ ] RCRA_CA
- [ ] Brownfields
- [ ] DrinkingWater
- [x] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [ ] SolidWasteLndfill
- [x] VoluntaryClnUp
- [ ] SafeDrinkingWaterAct
- [ ] UST
- [ ] WetlandsProgram
- [ ] Other

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### Surface Water

#### MINNESOTA

**Name:** Doug Beckwith  
**Contact_Title:** Remediation Supervisor  
**Organization:** Superfund  
**Address / City:** 525 South Lake Svenue Suite 400, Duluth, 55802  
**Email:** doug.beckwith@pca.state.mn.us  
**Contact_Phone:** (218) 529-6267

#### Guidelines

##### Surface Water

**Direct Contact (Dermal)**

**Basis:**

**Citation_Location:** [http://www.pca.state.mn.us/water/standards/index.html](http://www.pca.state.mn.us/water/standards/index.html)

**Contact_Info:** Dan White, 651-296-7237, dan.white@pca.state.mn.us

**Comments:**

**Drinking (Ingestion)**

**Basis:** U.S. EPA Drinking Water Standards and Health Advisories, [http://www.epa.gov/waterscience/criteria/drinking/](http://www.epa.gov/waterscience/criteria/drinking/)

**Citation_Location:** [http://www.pca.state.mn.us/water/standards/index.html](http://www.pca.state.mn.us/water/standards/index.html)

**Contact_Info:** Dan White, 651-296-7237, dan.white@pca.state.mn.us

**Comments:**

**Ecological Risk**

**Basis:**

**Citation_Location:** [http://www.pca.state.mn.us/water/standards/index.html](http://www.pca.state.mn.us/water/standards/index.html)

**Contact_Info:** Dan White, 651-296-7237, dan.white@pca.state.mn.us

**Comments:**

**Fish Consumption**

**Basis:**

**Citation_Location:** No formal guidelines. May refer to: [http://www.pca.state.mn.us/water/standards/index.html](http://www.pca.state.mn.us/water/standards/index.html)

**Contact_Info:** Dan White, 651-296-7237, dan.white@pca.state.mn.us

**Comments:**

- RCRA_CA
- Brownfields
- DrinkingWater
- SurfaceWater
- AirQuality (Clean Air Act)
- SolidWasteLandfill
- VoluntaryCleanUp
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other
## Surface Water

**MISSOURI**

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<th>Name:</th>
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<th>Contact Title:</th>
<th>Environmental Specialist</th>
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<tr>
<td>Organization:</td>
<td>Hazardous Waste Program/Superfund Section</td>
<td>Address / City:</td>
<td>P.O. Box 176, Jefferson City, 65102</td>
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<tr>
<td>Email:</td>
<td><a href="mailto:linda.vogt@dnr.mo.gov">linda.vogt@dnr.mo.gov</a></td>
<td>Contact Phone:</td>
<td>(573) 751-6998</td>
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### Guidelines

#### Surface Water

**Drinking (Ingestion)**

- **Citation Location:** EPA Region 9 Preliminary Remediation Goals (PRGs), October 2004. [http://www.epa.gov/region09/waste/sfund/prg/](http://www.epa.gov/region09/waste/sfund/prg/). Cancer risk $1 \times 10^{-6}$, non-cancer risk HQ=1

**Ecological Risk**

- **Basis:** Superfund Chemical Data Matrix (SCDM) [http://www.epa.gov/superfund/sites/npl/hrsgs/tools/scdm.htm](http://www.epa.gov/superfund/sites/npl/hrsgs/tools/scdm.htm). Cancer risk $1 \times 10^{-6}$, non-cancer risk HQ=1

**Fish Consumption**

- **Basis:** Superfund Chemical Data Matrix (SCDM) [http://www.epa.gov/superfund/sites/npl/hrsgs/tools/scdm.htm](http://www.epa.gov/superfund/sites/npl/hrsgs/tools/scdm.htm). Cancer risk $1 \times 10^{-6}$, non-cancer risk HQ=1

**Other**

- **Citation Location:** EPA Region 9 Preliminary Remediation Goals (PRGs), October 2004. [http://www.epa.gov/region09/waste/sfund/prg/](http://www.epa.gov/region09/waste/sfund/prg/). Cancer risk $1 \times 10^{-6}$, non-cancer risk HQ=1

- **Contact Info:**
- **Comments:**

### RCRA_CA, SolidWasteLndfill, VoluntaryClnUp, DrinkingWater, SurfaceWater, AirQuality (Clean Air Act), Other

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# Surface Water

## MISSISSIPPI

**Name:** Jere "Trey" Hess  
**Contact_Title:** Brownfields Program Coordinator  
**Organization:** Groundwater Assessment and Remediation Division  
**Address / City:**  
**Email:** Trey_Hess@deq.state.ms.us  
**Contact_Phone:** (601) 961-5654  

### Regulatory

#### Surface Water

#### Other

- **Basis:** State Water Quality Standards  
- **Citation_Location:** Surface Water Division - Randy Reed 601-961-5171  
- **Contact_Info:** Our Surface Water Division has Water Quality Regulations and Standards  
- **Comments:**  

## MONTANA

**Name:** Aimee Reynolds  
**Contact_Title:** Voluntary Cleanup Coordinator  
**Organization:** Hazardous Waste Site Cleanup Bureau  
**Address / City:**  
**Email:** areynolds@mt.gov  
**Contact_Phone:** (406) 841-5065  

### Regulatory

#### Surface Water

#### Drinking (Ingestion)

- **Basis:** 1 x 10^-5 except Arsenic 1 x 10^-3 & HQ of 1  
- **Citation_Location:** Montana Numeric Water Quality Standards - Jan. 2004  
- **Contact_Info:** Chris Levine  
- **Comments:**  

#### Ecological Risk

- **Basis:** 1 x 10^-5 except Arsenic 1 x 10^-3 & HQ of 1  
- **Citation_Location:** Montana Numeric Water Quality Standards - Jan. 2004  
- **Contact_Info:** Chris Levine  
- **Comments:**  

#### Fish Consumption

- **Basis:** 1 x 10^-5 except Arsenic 1 x 10^-3 & HQ of 1  
- **Citation_Location:** Montana Numeric Water Quality Standards - Jan. 2004  
- **Contact_Info:** Chris Levine  
- **Comments:**
  - RCRA_CA
  - Brownfields
  - DrinkingWater
  - SurfaceWater
  - AirQuality (Clean Air Act)
  - SolidWsteLndfill
  - VoluntaryClnUp
  - SafeDrinkingWaterAct
  - UST
  - WetlandsProgram
  - Other
  - Groundwater Remediation
# Surface Water

## NORTH DAKOTA

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<th>Name:</th>
<th>Curt Erickson</th>
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<th>Program Manager</th>
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<tr>
<td>Organization:</td>
<td>Hazardous Waste Program</td>
<td>Address / City:</td>
<td>918 East Divide Ave, Bismarck, 585011947</td>
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<tr>
<td>Email:</td>
<td><a href="mailto:cerickso@state.nd.us">cerickso@state.nd.us</a></td>
<td>Contact_Phone:</td>
<td>(701) 328-5166</td>
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### Regulatory

**Surface Water**

**Ecological Risk**

**Basis:**

**Citation_Location:** Maximum limits for substances or characteristics of class I streams as well as water quality criteria priority pollutants levels are found in Chapter 33-16-02.1 NDAC Standards of Quality for Water of the State and are available at: http://www.legis.nd.gov/information/acdata/pdf/33-16-02.1.pdf

**Contact_Info:**

**Comments:**

**Ingestion**

**Basis:**

**Citation_Location:** The drinking water maximum contaminant levels are found in Chapter 33-17-01 NDAC Public Water Supply Systems in North Dakota and are available at: www.legis.nd.gov/information/acdata/pdf/33-17-01.pdf

**Contact_Info:**

**Comments:**

- RCRA_CA
- Brownfields
- DrinkingWater
- SurfaceWater
- UST
- WetlandsProgram
- Other

### Guidelines

**Surface Water**

**Ecological Risk**

**Basis:**

**Citation_Location:** Maximum limits for substances or characteristics of class I streams as well as water quality criteria priority pollutants levels may also be used as action levels. Final standards for cleanup are determined on a case-by-case basis, depending on the contaminant involved and potential for risk to human health and the environment.

**Contact_Info:**

**Comments:**

**Fish Consumption**

**Basis:**

**Citation_Location:** A Guide to Safe Eating of Fish Caught in North Dakota (July 2003). Available at: www.health.state.nd.us/wq/sw/Z7_Publications/B_2003FishAdvisory.pdf

**Contact_Info:** Mike Ell, (701) 328-5214, mell@state.nd.us

**Comments:**

**Ingestion**

**Basis:**

**Citation_Location:** Drinking water maximum contaminant levels may be used as action levels. Final standards for cleanup are determined on a case-by-case basis, depending on the contaminant involved and potential for risk to human health and the environment.

**Contact_Info:** Kris Roberts, (701) 328-5236, kroberts@state.nd.us

**Comments:**

- RCRA_CA
- Brownfields
- DrinkingWater
- SurfaceWater
- UST
- WetlandsProgram
- Other

10/16/2006
### Surface Water

**NEBRASKA**

<table>
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<tr>
<th>Name</th>
<th>Jim Borovich</th>
<th>Contact_Title</th>
<th>Geologist</th>
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<tr>
<td>Organization</td>
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<td>Address / City</td>
<td>P.O. Box 98922, Lincoln, 685098922</td>
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<tr>
<td>Email</td>
<td><a href="mailto:jim.borovich@ndeq.state.ne.us">jim.borovich@ndeq.state.ne.us</a></td>
<td></td>
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</tr>
<tr>
<td>Contact_Phone</td>
<td>(402) 471-2223</td>
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#### Regulatory

**Surface Water**

**Drinking (Ingestion)**

- **Basis:** Surface water standards for drinking water would follow Safe Drinking Water Act MCLs.
- **Citation_Location:** Nebraska Title 117 - Nebraska Surface Water Quality Standards, available at: [http://www.deq.state.ne.us](http://www.deq.state.ne.us)
- **Contact_Info:** John Bender, 402/471-4201, john.bender@ndeq.state.ne.us
- **Comments:**

**Ecological Risk**

- **Basis:** Standards for acute criteria provided in Chapter 4 of Title 117 generally represent threats to aquatic life, as opposed to human consumption of aquatic life.
- **Citation_Location:** Nebraska Title 117 - Nebraska Surface Water Quality Standards, available at: [http://www.deq.state.ne.us](http://www.deq.state.ne.us)
- **Contact_Info:** John Bender, 402/471-4201, john.bender@ndeq.state.ne.us
- **Comments:**

**Fish Consumption**

- **Basis:** Standards for chronic criteria provided in Chapter 4 of Title 117 generally represent threats to human consumption of aquatic life.
- **Citation_Location:** Nebraska Title 117 - Nebraska Surface Water Quality Standards, available at: [http://www.deq.state.ne.us](http://www.deq.state.ne.us)
- **Contact_Info:** John Bender, 402/471-4201, john.bender@ndeq.state.ne.us
- **Comments:**

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## Guidelines

### Surface Water

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- RCRA_CA
- Brownfields
- DrinkingWater
- SurfaceWater
- AirQuality (Clean Air Act)
- SolidWsteLndfill
- VoluntaryClnUp
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other
# Surface Water

## NEW JERSEY

**Name:** Barry Frasco  
**Contact_Title:** Assistant Director - Division of Remediation Management  
**Organization:** New Jersey DEP  
**Address / City:** 401 East State Street PO Box 413, Trenton, 08625  
**Email:** Barry.Frasco@dep.state.nj.us  
**Contact_Phone:** (609) 633-6801

### Regulatory

#### Surface Water

**Drinking (Ingestion)**

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<td>Comments:</td>
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#### Ecological Risk

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| SolidWasteLndfill | ✔ | VoluntaryClnUp | ✔ | SafeDrinkingWaterAct | ✔ | UST | ✔ | WetlandsProgram | ✔ | Other |

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# Surface Water

## OHIO

<table>
<thead>
<tr>
<th>Name</th>
<th>Timothy Christman</th>
<th>Contact Title</th>
<th>Environmental Scientist 3</th>
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<td>Organization</td>
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<td>Address / City</td>
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<td>Email</td>
<td><a href="mailto:timothy.christman@epa.state.oh.us">timothy.christman@epa.state.oh.us</a></td>
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- DrinkingWater
- SurfaceWater
- AirQuality (Clean Air Act)
- SolidWasteLndfill
- VoluntaryCleanUp
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other

10/16/2006
Surface Water

OKLAHOMA

Name: Catherine Sharp  Contact_Title: Assistant Director
Organization: Brownfields and Voluntary Cleanup
Address / City:  
Email: catherine.sharp@deq.state.ok.us  Contact_Phone: (405) 702-5151

Regulatory

Surface Water

Drinking (Ingestion)

Basis:
Citation_Location: Oklahoma Water Resources Board (separate agency that sets water standards and regulates water usage) has regulations that are used to support decisions. http://www.owrb.state.ok.us/util/rules/rules.php#ch45

Contact_Info:
Comments:

Fish Consumption

Basis:
Citation_Location: Oklahoma Water Resources Board has regulations that are used to support decisions

Contact_Info:
Comments:

Guidelines

Surface Water

Direct Contact (Dermal)

Basis:
Citation_Location: Cleanups are reviewed on a site specific basis. Federal Guidance documents are used, specifically the EPA Soil Screening Levels, the EPA Region VI Medium Specific Screening Levels, and occasionally others.

Contact_Info:
Comments:

Drinking (Ingestion)

Basis:
Citation_Location: In addition to guidance documents cited above, OWRB standards are used for reference, along with the Water Quality Standards Implementation Plan (WQSIP)

Contact_Info:
Comments:

Fish Consumption

Basis:
Citation_Location: In addition to guidance documents cited above, OWRB standards are used for reference, along with the Water Quality Standards Implementation Plan (WQSIP)

Contact_Info:
Comments:
Surface Water

OREGON

Name: Mike Poulsen  Contact_Title: Toxicologist
Organization: Oregon Dept. of Environmental Quality, Cleanup
Address / City: 2020 SW 4th St., Portland, 97201
Email: poulsen.mike@deq.state.or.us
Contact_Phone: (503) 229-6773

Regulatory
Surface Water

Direct Contact (Dermal)

Basis: 1.E-06 for individual carcinogens, 1.E0-5 for multiple carcinogens.
Citation_Location: OAR 340-122-0115 http://arcweb.sos.state.or.us/rules/OARs_300/OAR_340/340_122.html
Contact_Info: Mike Poulsen 503 229-6773 poulsen.mike@deq.state.or.us
Comments: RCRA corrective action is done by the state environmental cleanup program in Oregon. SW land fill contamination that extends off-site is cleaned up under cleanup program authority. UST, Brownfield, and VCP all operate under the same statute, and therefore the same definition of acceptable risk.

Drinking (Ingestion)

Basis: 1.E-06 for individual carcinogens, 1.E0-5 for multiple carcinogens.
Citation_Location: OAR 340-122-0115 http://arcweb.sos.state.or.us/rules/OARs_300/OAR_340/340_122.html
Contact_Info: Mike Poulsen 503 229-6773 poulsen.mike@deq.state.or.us
Comments: RCRA corrective action is done by the state environmental cleanup program in Oregon. SW land fill contamination that extends off-site is cleaned up under cleanup program authority. UST, Brownfield, and VCP all operate under the same statute, and therefore the same definition of acceptable risk.

Ecological Risk

Basis: T&E species: hazard index of 1 for individuals. Non-T&E species: a 10% chance or less that more than 20% of the total local population will be exposed to a concentration greater than the ecological benchmark value for each chemical of concern, and no other observed significant adverse effects on the health or viability of the local population.
Citation_Location: OAR 340-122-0115 http://arcweb.sos.state.or.us/rules/OARs_300/OAR_340/340_122.html
Contact_Info: Mike Poulsen 503 229-6773 poulsen.mike@deq.state.or.us
Comments: RCRA corrective action is done by the state environmental cleanup program in Oregon. SW land fill contamination that extends off-site is cleaned up under cleanup program authority. UST, Brownfield, and VCP all operate under the same statute, and therefore the same definition of acceptable risk.

Fish Consumption

Basis: 1.E-06 for individual carcinogens, 1.E0-5 for multiple carcinogens.
Citation_Location: OAR 340-122-0115 http://arcweb.sos.state.or.us/rules/OARs_300/OAR_340/340_122.html
Contact_Info: Mike Poulsen 503 229-6773 poulsen.mike@deq.state.or.us
Comments: RCRA corrective action is done by the state environmental cleanup program in Oregon. SW land fill contamination that extends off-site is cleaned up under cleanup program authority. UST, Brownfield, and VCP all operate under the same statute, and therefore the same definition of acceptable risk.

Other

Basis: Beneficial uses are protected.
Citation_Location: OAR 340-122-0115 http://arcweb.sos.state.or.us/rules/OARs_300/OAR_340/340_122.html
Contact_Info: Mike Poulsen 503 229-6773 poulsen.mike@deq.state.or.us
Comments: RCRA corrective action is done by the state environmental cleanup program in Oregon. SW land fill contamination that extends off-site is cleaned up under cleanup program authority. UST, Brownfield, and VCP all operate under the same statute, and therefore the same definition of acceptable risk.

☑️ RCRA_CA ☑️ SolidWasteLndfill ☑️ Brownfields ☑️ DrinkingWater ☐ SurfaceWater ☐ AirQuality (Clean Air Act)
☐ SafeDrinkingWaterAct ☐ UST ☐ WetlandsProgram ☐ Other

10/16/2006
**Surface Water**

**OREGON**

**Name:** Mike Poulsen  
**Contact_Title:** Toxicologist  
**Organization:** Oregon Dept. of Environmental Quality, Cleanup  
**Address / City:** 2020 SW 4th St., Portland, 97201  
**Email:** poulsen.mike@deq.state.or.us  
**Contact_Phone:** (503) 229-6773

### Guidelines

#### Surface Water

**Direct Contact (Dermal)**

**Basis:** 1.E-06 for individual carcinogens, 1.E0-5 for multiple carcinogens.

**Citation_Location:** Human health risk assessment guidance available at: [http://www.deq.state.or.us/wmc/cleanup/hh-intro.htm](http://www.deq.state.or.us/wmc/cleanup/hh-intro.htm) and [http://www.deq.state.or.us/wmc/tank/rbdm.htm](http://www.deq.state.or.us/wmc/tank/rbdm.htm)

**Contact_Info:** Mike Poulsen 503 229-6773 poulsen.mike@deq.state.or.us

**Comments:** RCRA corrective action is done by the state environmental cleanup program in Oregon. SW land fill contamination that extends off-site is cleaned up under cleanup program authority. UST, Brownfield, and VCP all operate under the same statute, and therefore the same definition of acceptable risk.

**Drinking (Ingestion)**

**Basis:** 1.E-06 for individual carcinogens, 1.E0-5 for multiple carcinogens.

**Citation_Location:** Human health risk assessment guidance available at: [http://www.deq.state.or.us/wmc/cleanup/hh-intro.htm](http://www.deq.state.or.us/wmc/cleanup/hh-intro.htm) and [http://www.deq.state.or.us/wmc/tank/rbdm.htm](http://www.deq.state.or.us/wmc/tank/rbdm.htm)

**Contact_Info:** Mike Poulsen 503 229-6773 poulsen.mike@deq.state.or.us

**Comments:** RCRA corrective action is done by the state environmental cleanup program in Oregon. SW land fill contamination that extends off-site is cleaned up under cleanup program authority. UST, Brownfield, and VCP all operate under the same statute, and therefore the same definition of acceptable risk.

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**Basis:** T&E species: hazard index of 1 for individuals. Non-T&E species: a 10% chance or less that more than 20% of the total local population will be exposed to a concentration greater than the ecological benchmark value for each chemical of concern, and no other observed significant adverse effects on the health or viability of the local population.

**Citation_Location:** Ecological risk assessment guidance available at: [http://www.deq.state.or.us/wmc/cleanup/ecocover.htm](http://www.deq.state.or.us/wmc/cleanup/ecocover.htm)

**Contact_Info:** Mike Poulsen 503 229-6773 poulsen.mike@deq.state.or.us

**Comments:** RCRA corrective action is done by the state environmental cleanup program in Oregon. SW land fill contamination that extends off-site is cleaned up under cleanup program authority. UST, Brownfield, and VCP all operate under the same statute, and therefore the same definition of acceptable risk.

**Fish Consumption**

**Basis:** 1.E-06 for individual carcinogens, 1.E0-5 for multiple carcinogens.

**Citation_Location:** Human health risk assessment guidance available at: [http://www.deq.state.or.us/wmc/cleanup/hh-intro.htm](http://www.deq.state.or.us/wmc/cleanup/hh-intro.htm) and [http://www.deq.state.or.us/wmc/tank/rbdm.htm](http://www.deq.state.or.us/wmc/tank/rbdm.htm)

**Contact_Info:** Mike Poulsen 503 229-6773 poulsen.mike@deq.state.or.us

**Comments:** RCRA corrective action is done by the state environmental cleanup program in Oregon. SW land fill contamination that extends off-site is cleaned up under cleanup program authority. UST, Brownfield, and VCP all operate under the same statute, and therefore the same definition of acceptable risk.

**Other**

**Basis:** Beneficial uses are protected.

**Citation_Location:** Guidance for identification of hot spots: [http://www.deq.state.or.us/wmc/documents/hotspot2.pdf](http://www.deq.state.or.us/wmc/documents/hotspot2.pdf)

**Contact_Info:** Mike Poulsen 503 229-6773 poulsen.mike@deq.state.or.us

**Comments:** RCRA corrective action is done by the state environmental cleanup program in Oregon. SW land fill contamination that extends off-site is cleaned up under cleanup program authority. UST, Brownfield, and VCP all operate under the same statute, and therefore the same definition of acceptable risk.

- [ ] RCRA_CA  
- [ ] Brownfields  
- [ ] DrinkingWater  
- [ ] SurfaceWater  
- [ ] AirQuality (Clean Air Act)  
- [ ] SolidWasteLndfill  
- [ ] VoluntaryClnUp  
- [ ] SafeDrinkingWaterAct  
- [X] UST  
- [ ] WetlandsProgram  
- [ ] Other
# Surface Water

## RHODE ISLAND

Name: Michael D. Andrews  
Contact_Title: Sanitary Engineer  
Organization: Office of Waste Management, Site Remediation  
Address / City: 235 Promenade Street, Providence, 02871  
Email: michael.andrews@dem.ri.gov  
Contact_Phone: (401) 862-5250

### Regulatory

#### Surface Water

<table>
<thead>
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<td>Citation_Location: See Comments</td>
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</tr>
<tr>
<td>Comments: The RIDEM Office of Waste Management has not established remediation standards for surface waters. All standards applied are established on a site specific basis. For more information specific to Surface Waters use the Water Quality Regulations as administered by the RIDEM Office of Water Resources. These regulations can be found at: <a href="http://www.dem.ri.gov/pubs/regs/regs/water/h20qlty.pdf">http://www.dem.ri.gov/pubs/regs/regs/water/h20qlty.pdf</a></td>
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<td>Citation_Location: See Comments</td>
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<tr>
<td>Contact_Info: Contact person is Michael Andrews, (401) 222-2797 ext. 7140, <a href="mailto:michael.andrews@dem.ri.gov">michael.andrews@dem.ri.gov</a></td>
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<td>Citation_Location: See Comments</td>
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<tr>
<td>Contact_Info: Contact person is Michael Andrews, (401) 222-2797 ext. 7140, <a href="mailto:michael.andrews@dem.ri.gov">michael.andrews@dem.ri.gov</a></td>
</tr>
<tr>
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<td><strong>Basis:</strong></td>
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<tr>
<td>Citation_Location: See Comments</td>
</tr>
<tr>
<td>Contact_Info: Contact person is Michael Andrews, (401) 222-2797 ext. 7140, <a href="mailto:michael.andrews@dem.ri.gov">michael.andrews@dem.ri.gov</a></td>
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<td>Comments: The RIDEM Office of Waste Management has not established remediation standards for surface waters. All standards applied are established on a site specific basis. For more information specific to Surface Waters use the Water Quality Regulations as administered by the RIDEM Office of Water Resources. These regulations can be found at: <a href="http://www.dem.ri.gov/pubs/regs/regs/water/h20qlty.pdf">http://www.dem.ri.gov/pubs/regs/regs/water/h20qlty.pdf</a></td>
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### Other

- [ ] RCRA_CA
- [ ] Brownfields
- [ ] DrinkingWater
- [ ] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [ ] SolidWasteLndfill
- [ ] VoluntaryClnUp
- [ ] SafeDrinkingWaterAct
- [ ] UST
- [ ] WetlandsProgram
- [ ] Other

10/16/2006  
Page 156 of 207
Surface Water

RHODE ISLAND

Name: Michael D. Andrews Contact_Title: Sanitary Engineer
Organization: Office of Waste Management, Site Remediation
Address / City: 235 Promenade Street, Providence, 02871
Email: michael.andrews@dem.ri.gov

Guidelines
Surface Water

Direct Contact (Dermal)

Basis:
Citation_Location: The RIDEM Office of Waste Management has not established remediation standards for surface waters. All standards applied are established on a site specific basis. For more information specific to Surface Waters use the Water Quality Regulations as administered by the RIDEM Office of Water Resources. These regulations can be found at:

Contact_Info: Contact person is Michael Andrews, (401) 222-2797 ext. 7140, michael.andrews@dem.ri.gov

Comments: The RIDEM Office of Waste Management has not established remediation standards for surface waters. All standards applied are established on a site specific basis. For more information specific to Surface Waters use the Water Quality Regulations as administered by the RIDEM Office of Water Resources. These regulations can be found at:
# Surface Water

## SOUTH DAKOTA

<table>
<thead>
<tr>
<th>Name</th>
<th>Contact_Title</th>
<th>Organization</th>
<th>Address / City</th>
<th>Email</th>
<th>Contact_Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark Lawrensen</td>
<td>Superfund Program Manager</td>
<td>Ground Water Quality Program</td>
<td>523 East Capitol Avenue, Pierre, 57501</td>
<td><a href="mailto:mark.lawrensen@state.sd.us">mark.lawrensen@state.sd.us</a></td>
<td>(605) 773-3296</td>
</tr>
</tbody>
</table>

### Regulatory

#### Surface Water

**Direct Contact (Dermal)**

- **Basis:**
- **Citation_Location:** [http://legis.state.sd.us/statutes/DisplayStatute.aspx?Type=Statute&Statute=34A-12](http://legis.state.sd.us/statutes/DisplayStatute.aspx?Type=Statute&Statute=34A-12)
- **Contact_Info:** Patrick Snyder, SDDENR 773-3351
- **Comments:**

**Drinking (Ingestion)**

- **Basis:**
- **Citation_Location:** [http://legis.state.sd.us/statutes/DisplayStatute.aspx?Type=Statute&Statute=34A-12](http://legis.state.sd.us/statutes/DisplayStatute.aspx?Type=Statute&Statute=34A-12)
- **Contact_Info:** Patrick Snyder, SDDENR 773-3351
- **Comments:**

**Ecological Risk**

- **Basis:**
- **Citation_Location:** [http://legis.state.sd.us/statutes/DisplayStatute.aspx?Type=Statute&Statute=34A-12](http://legis.state.sd.us/statutes/DisplayStatute.aspx?Type=Statute&Statute=34A-12)
- **Contact_Info:** Patrick Snyder, SDDENR 773-3351
- **Comments:**

### Not Specified

#### Surface Water

- **Fish Consumption**
  - **Basis:**
  - **Citation_Location:** No specific regulations, site-specific cleanup criteria will be developed as necessary.
  - **Contact_Info:** Patrick Snyder, SDDENR 773-3351
  - **Comments:**

**RCRA_CA**

**SolidWasteLndfill**

**Brownfields**

**DrinkingWater**

**SurfaceWater**

**AirQuality (Clean Air Act)**

**UST**

**SafeDrinkingWaterAct**

**WetlandsProgram**

**Other**

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Surface Water

SOUTH DAKOTA

Name: Mark Lawrensen
Contact_Title: Superfund Program Manager
Organization: Ground Water Quality Program
Address / City: 523 East Capitol Avenue, Pierre, 57501
Email: mark.lawrensen@state.sd.us
Contact_Phone: (605) 773-3296

Guidelines
Surface Water

Direct Contact (Dermal)

Basis:
Citation_Location: http://legis.state.sd.us/rules/DisplayRule.aspx?Rule=74:51
Contact_Info: Patrick Snyder, SDDENR 773-3351
Comments:

Drinking (Ingestion)

Basis:
Citation_Location: http://legis.state.sd.us/rules/DisplayRule.aspx?Rule=74:51
Contact_Info: Patrick Snyder, SDDENR 773-3351
Comments:

Ecological Risk

Basis:
Citation_Location: http://legis.state.sd.us/rules/DisplayRule.aspx?Rule=74:51
Contact_Info: Patrick Snyder, SDDENR 773-3351
Comments:

- RCRA_CA
- Brownfields
- DrinkingWater
- SurfaceWater
- AirQuality (Clean Air Act)
- SolidWasteLandfill
- VoluntaryCleanUp
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other
# Surface Water

## TEXAS

<table>
<thead>
<tr>
<th>Name:</th>
<th>Chet Clarke</th>
<th>Contact_Title:</th>
<th>Manager, Technical Support Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization:</td>
<td>Remediation Division (Superfund, RCRA, LUST, Voluntary Cleanup)</td>
<td>Address / City:</td>
<td>TCEQ MC-225, P.O. Box 13087, Austin, 787113087</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:cclarke@tceq.state.tx.us">cclarke@tceq.state.tx.us</a></td>
<td>Contact_Phone:</td>
<td>(512) 239-2268</td>
</tr>
</tbody>
</table>

### Regulatory

#### Surface Water

**Direct Contact (Dermal)**

- **Basis:**
  - Citation_Location: Title 30 Texas Administrative Code Chapter 350, http://www.tceq.state.tx.us/remediation/trrp/trrprule.html
  - 350.72, 350.74(h)
  - Contact_Info: Vickie Reat
  - Comments:

- **Basis:**
  - Citation_Location: Title 30 Texas Administrative Code Chapter 350, http://www.tceq.state.tx.us/remediation/trrp/trrprule.html
  - Contact_Info: Larry Champagne or Vickie Reat
  - Comments:

**Drinking (Ingestion)**

- **Basis:**
  - Citation_Location: Title 30 Texas Administrative Code (TAC) Chapter 350, http://www.tceq.state.tx.us/remediation/trrp/trrprule.html
  - 30 TAC 307
  - 350.72, 350.74(f), 350.74(h)
  - Contact_Info: Vickie Reat
  - Comments:

**Fish Consumption**

- **Basis:**
  - Citation_Location: Title 30 Texas Administrative Code (TAC) Chapter 350, http://www.tceq.state.tx.us/remediation/trrp/trrprule.html
  - 30 TAC 307
  - Contact_Info: Vickie Reat
  - Comments:

- **RCRA_CA**
- **SolidWasteLndfill**
- **VoluntaryClnUp**
- **SafeDrinkingWaterAct**
- **UST**
- **WetlandsProgram**
- **Other**
Guidelines

Surface Water

Direct Contact (Dermal)

Basis:
Citation_Location: RG-263 and associated guidance, http://www.tceq.state.tx.us/remediation/eco/eco.html
Contact_Info: Larry Champagne or Vickie Reat
Comments:

Drinking (Ingestion)

Basis:
Citation_Location: TRRP-18, TRRP-24, http://www.tceq.state.tx.us/remediation/trrp/guidance.html
Contact_Info: Vickie Reat
Comments:

Fish Consumption

Basis:
Contact_Info: Vickie Reat
Comments:

- RCRA_CA
- SolidWasteLandfill
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other
## Surface Water

### UTAH

<table>
<thead>
<tr>
<th>Name:</th>
<th>Scott Everett</th>
<th>Contact_Title:</th>
<th>Toxicologist</th>
</tr>
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<tbody>
<tr>
<td>Organization:</td>
<td>Voluntary Cleanup Program</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address / City:</td>
<td></td>
<td>Email:</td>
<td><a href="mailto:Severett@utah.gov">Severett@utah.gov</a></td>
</tr>
<tr>
<td>Contact_Phone:</td>
<td></td>
<td>Contact_Phone:</td>
<td>(801) 536-4117</td>
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</table>

### Regulatory

#### Surface Water

**Drinking (Ingestion)**

**Basis:**
- Citation_Location: Regulations currently being drafted
- Contact_Info: Contact person is Scott Everett, (801) 536-4117, Severett@utah.gov
- Comments:
  - RCRA_CA
  - SolidWsteLndfill
  - Brownfields
  - DrinkingWater
  - SurfaceWater
  - AirQuality (Clean Air Act)
  - VoluntaryClnUp
  - SafeDrinkingWaterAct
  - UST
  - WetlandsProgram
  - Other

### Guidelines

#### Surface Water

**Ecological Risk**

**Basis:**
- Citation_Location: Guidelines currently under review
- Contact_Info: Contact person is Scott Everett, (801) 536-4117, Severett@utah.gov
- Comments:
  - RCRA_CA
  - SolidWsteLndfill
  - Brownfields
  - DrinkingWater
  - SurfaceWater
  - AirQuality (Clean Air Act)
  - VoluntaryClnUp
  - SafeDrinkingWaterAct
  - UST
  - WetlandsProgram
  - Other
## Surface Water

### VIRGINIA

*Name:* Pat McMurray  
*Contact Title:* Toxicologist

*Organization:* Department of Environmental Quality

**Address / City:**

*Email:* pamcmurray@deq.virginia.gov  
*Contact Phone:* (804) 698-4186

### Regulatory

#### Surface Water

##### Drinking (Ingestion)

*Basis:* MCL supercedes risk-based

*Citation_Location:* 9VAC20-160-90

*Contact_Info:* 

*Comments:* 

##### Ecological Risk

*Basis:* Water Quality Standards. 9 VAC 25-260-140.

*Citation_Location:* 9VAC20-160-90

*Contact_Info:* klgreene@deq.virginia.gov

*Comments:* 

##### Fish Consumption

*Basis:* Water Quality Standards. 9 VAC 25-260-140.

*Citation_Location:* 9VAC20-160-90

*Contact_Info:* klgreene@deq.virginia.gov

*Comments:* 

### Guidelines

#### Surface Water

##### Drinking (Ingestion)

*Basis:* WQS used for screening; federal criteria used when Virginia WQS not available

*Citation_Location:* www.deq.virginia.gov/vrprisk/tables.html

*Contact_Info:* pamcmurray@deq.virginia.gov

*Comments:* 

##### Ecological Risk

*Basis:* WQS used for screening; federal criteria used when Virginia WQS not available

*Citation_Location:* www.deq.virginia.gov/vrprisk/tables.html

*Contact_Info:* pamcmurray@deq.virginia.gov

*Comments:* 

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*Basis:* WQS used for screening; federal criteria used when Virginia WQS not available

*Citation_Location:* www.deq.virginia.gov/vrprisk/tables.html

*Contact_Info:* pamcmurray@deq.virginia.gov

*Comments:* 

10/16/2006
## Surface Water

### WISCONSIN

**Name:** Aristeo M. Pelayo  
**Contact_Title:** Hydrogeologist  
**Organization:** Remediation and Redevelopment  
**Address / City:** WDNR, RR/3, PO Box 7921, Madison, 53707  
**Email:** Aristeo.Pelayo@dnr.state.wi.us  
**Contact_Phone:** (608) 267-3539

### Regulatory

#### Surface Water

**Drinking (Ingestion)**

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<th>Basis:</th>
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**Fish Consumption**

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**Other**

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<th>Basis:</th>
<th>Based on ingestion during Swimming and other Recreational uses</th>
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**Citation_Location:** NR 105.08 for non-carcinogens and NR 105.09 for carcinogens  
**Contact_Info:**  
**Comments:**
## ALASKA

**Vapor Intrusion**

**Regulatory**

**Vapor Intrusion**

- **Inhalation**
  - **Basis:** Cleanup levels are developed on a site specific basis to handle both human health and ecological receptors.
  - **Citation Location:** Jill_Taylor@dec.state.ak.us
  - **Comments:**
    - RCRA_CA
    - SolidWsteLndfill
    - Brownfields
    - VoluntaryClnUp
    - DrinkingWater
    - SafeDrinkingWaterAct
    - SurfaceWater
    - UST
    - WetlandsProgram
    - AirQuality (Clean Air Act)
    - Other

**Guidelines**

**Vapor Intrusion**

- **Inhalation**
  - **Basis:** Risk Assessment Procedures Manual (this document is adopted by reference in 18 AAC 75)
  - **Citation Location:** Jill_Taylor@dec.state.ak.us
  - **Comments:**
    - RCRA_CA
    - SolidWsteLndfill
    - Brownfields
    - VoluntaryClnUp
    - DrinkingWater
    - SafeDrinkingWaterAct
    - SurfaceWater
    - UST
    - WetlandsProgram
    - AirQuality (Clean Air Act)
    - Other

## ARKANSAS

**Vapor Intrusion**

- **Guidelines**
  - **Inhalation**
    - **Citation Location:** None. Remediation standards to prevent harmful vapor intrusion are developed on a case-by-case basis (according to site-specific circumstances). Vapor intrusion is typically addressed according to EPA Subsurface Vapor Intrusion Guidance: http://www.epa.gov/correctiveaction/eis/vapor.htm
    - **Contact Info:** Ashley Whitlow; 501-682-0869; whitlow@adeq.state.ar.us
    - **Comments:**
      - RCRA_CA
      - SolidWsteLndfill
      - Brownfields
      - VoluntaryClnUp
      - DrinkingWater
      - SafeDrinkingWaterAct
      - SurfaceWater
      - UST
      - WetlandsProgram
      - AirQuality (Clean Air Act)
      - Other
## Vapor Intrusion

### ARIZONA

<table>
<thead>
<tr>
<th>Name</th>
<th>Richard Olm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact_Title</td>
<td>Senior Environmental Engineer</td>
</tr>
<tr>
<td>Organization</td>
<td>Arizona Dept. of Environmental Quality, Remedial Projects</td>
</tr>
<tr>
<td>Address / City</td>
<td>1110 West Washington Street, , AZ, Phoenix, 850072952</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:rco@azdeq.gov">rco@azdeq.gov</a></td>
</tr>
<tr>
<td>Contact_Phone</td>
<td>(480) 367-0249</td>
</tr>
</tbody>
</table>

### Regulatory

#### Vapor Intrusion

**Inhalation**

| Basis: | State statutes and rules do not directly address vapor intrusion. Moreover, the soil cleanup standards were derived assuming an outdoor air exposure. Consideration of the vapor intrusion pathway is linked to statute and rule language that requires protection of public health and the environment. Vapor intrusion is evaluated on a site specific basis. The Johnson/Ettinger model is used in the LUST Tier 2 analysis. |

<table>
<thead>
<tr>
<th>RCRA_CA</th>
<th>Brownfields</th>
<th>DrinkingWater</th>
<th>SurfaceWater</th>
<th>AirQuality (Clean Air Act)</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SolidWasteLandfill</td>
<td>✔ VoluntaryClnUp</td>
<td>SafeDrinkingWaterAct</td>
<td>✔ UST</td>
<td>WetlandsProgram</td>
</tr>
</tbody>
</table>

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**Vapor Intrusion**

**CALIFORNIA**

Name: Mike Sorensen  
Contact_Title: Branch Chief  
Organization: Site Mitigation and Brownfields Reuse Program  
Address / City:  
Email: msorense@dtsc.ca.gov  
Contact_Phone: (916) 255-6660

**Regulatory**

**Vapor Intrusion**

**Inhalation**

Basis:

Citation_Location: CA Health and Safety Code, Div 20, Chapter 6.5 and 6.8. (see http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=hsc&codebody=&hits=20) requires cleanups be consistent with the NCP. Risk range of 1.E-06 to 1.E-04 is utilized to establish cleanup levels and considers 9 criteria analysis.

Contact_Info: Deputy Director, Site Mitigation and Brownfields Reuse Program, (916) 322-0504. (see http://www.dtsc.ca.gov/index.cfm)

Comments:

- [x] RCRA_CA  
- [x] Brownfields  
- [x] DrinkingWater  
- [x] SurfaceWater  
- [ ] AirQuality (Clean Air Act)  
- [ ] SolidWsteLndfill  
- [ ] VoluntaryClnUp  
- [ ] SafeDrinkingWaterAct  
- [ ] UST  
- [ ] WetlandsProgram  
- [ ] Other

Page 167 of 207
## Vapor Intrusion

**CALIFORNIA**

**Name:** Mike Sorensen  
**Contact_Title:** Branch Chief  
**Organization:** Site Mitigation and Brownfields Reuse Program  
**Address / City:**  
**Email:** msorense@dtsc.ca.gov  
**Contact_Phone:** (916) 255-6660

### Guidelines

#### Vapor Intrusion

**Inhalation**

**Basis:**

<table>
<thead>
<tr>
<th>Citation_Location</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>1. Guidance For The Evaluation And Mitigation Of Subsurface Vapor Intrusion To Indoor Air. (See <a href="http://www.dtsc.ca.gov/AssessingRisk/upload/HERD_POL_Eval_Subsurface_Vapor_Intrusion_interim_final.pdf">http://www.dtsc.ca.gov/AssessingRisk/upload/HERD_POL_Eval_Subsurface_Vapor_Intrusion_interim_final.pdf</a>) The intrusion of subsurface vapors into buildings is one of many exposure pathways that must be considered in assessing the risk posed by releases of hazardous chemicals into the environment. The Department of Toxic Substances Control (DTSC) in this guidance document recommends an approach for evaluating vapor intrusion into buildings and its subsequent impact on indoor air quality. Approaches for the mitigation of vapor intrusion are also discussed.</td>
<td></td>
</tr>
</tbody>
</table>

**Contact_Info:**

**Comments:**

### Other

**Basis:**

<table>
<thead>
<tr>
<th>Citation_Location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater (Interim Final - February 2005) (see <a href="http://www.waterboards.ca.gov/sanfranciscobay/esl.htm">http://www.waterboards.ca.gov/sanfranciscobay/esl.htm</a>) The document Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater (4th edition, February 2005) is a technical report prepared by staff of the California Regional Water Quality Board, San Francisco Bay Region. Information provided in the document is not intended to establish policy or regulation. Volume 1 of the document presents lookup tables of conservative Environmental Screening Levels (&quot;ESLs&quot;) for over 100 chemicals commonly found at sites with contaminated soil and groundwater. Volume 2 describes how the ESLs were developed and provides detailed tables and appendices in support of the summary lookup tables.</td>
<td></td>
</tr>
<tr>
<td>2. California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties (see <a href="http://www.calepa.ca.gov/Brownfields/documents/2005/CHHSLsGuide.pdf">http://www.calepa.ca.gov/Brownfields/documents/2005/CHHSLsGuide.pdf</a>). The California Human Health Screening Levels (CHHSLs or &quot;Chisels&quot;) are concentrations of 54 hazardous chemicals in soil or soil gas that the California Environmental Protection Agency (Cal/EPA) considers to be below thresholds of concern for risks to human health. The CHHSLs can be used to screen sites for potential human health concerns where releases of hazardous chemicals to soils have occurred. Under most circumstances, and within the limitations described in this document, the presence of a chemical in soil, soil gas or indoor air at concentrations below the corresponding CHHSLs can be assumed to not pose a significant health risk to people who may live (residential CHHSLs) or work (commercial/industrial CHHSLs) at the site. However, evaluation of other potential environmental concerns must also be addressed.</td>
<td></td>
</tr>
<tr>
<td>3. USEPA Region 9 Preliminary Remediation Goals (PRGs). PRGs are tools for evaluating and cleaning up contaminated sites. They are risk-based concentrations that are intended to assist risk assessors and others in initial screening-level evaluations of environmental measurements. The PRGs contained in the Region 9 PRG Table are generic; they are calculated without site specific information. However, they may be re-calculated using site specific data. PRGs should be viewed as Agency guidelines, not legally enforceable standards. They are used for site &quot;screening&quot; and as initial cleanup goals if applicable. PRGs are not de facto cleanup standards and should not be applied as such. However, they are helpful in providing long-term targets to use during the analysis of different remedial alternatives. By developing PRGs early in the decision-making process, design staff may be able to streamline the consideration of remedial alternatives.</td>
<td></td>
</tr>
</tbody>
</table>

**Contact_Info:**

**Comments:**

- RCRA_CA
- Brownfields
- DrinkingWater
- SurfaceWater
- AirQuality (Clean Air Act)
- SolidWasteLandfill
- VoluntaryClnUp
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other

10/16/2006
Vapor Intrusion

COLORADO

Name: Barbara O'Grady  
Contact_Title: Environmental Protection Specialist III

Organization: Remedial Programs/Hazardous Materials and Waste Management

Address / City: 4300 Cherry Creek Drive South, Denver, 80246

Email: barbara.ogrady@state.co.us  
Contact_Phone: (303) 692-3395

Guidelines

Vapor Intrusion

Inhalation

| Citation_Location: | http://www.cdphe.state.co.us/hm/indoorair.pdf |
| Contact_Info: | Walter Avramenko 303-692-3362 walter.avramenko@state.co.us |
| Comments: | Other: Groundwater Screening Concentrations are listed in table form. The document provides guidance for calculating health-based remediation goals. |

RCRA_CA  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)
SolidWasteLndfill  VoluntaryClnUp  SafeDrinkingWaterAct  UST  WetlandsProgram  Other
### CONNECTICUT

**Vapor Intrusion**

**Name:** Traci Lott  
**Organization:** CT DEP/Remediation  
**Address / City:** 79 Elm St., Hartford, 06106  
**Email:** traci.iott@po.state.ct.us

**Regulatory**

**Vapor Intrusion**

**Inhalation**

**Basis:**

**Citation Location:** 22a-133k-3 RCSA Ground-water Remediation Standards contain an allowance for considering indoor air monitoring, see subsection (c)(5)(B)

**Contact Info:** Traci Lott at traci.iott@po.state.ct.us

**Comments:**

- RCRA_CA
- Brownfields
- VoluntaryCleanUp
- SafeDrinkingWaterAct
- UST

### Not Specified

**Vapor Intrusion**

**Inhalation**

**Basis:**

**Citation Location:** None - handled on a case by case basis

**Contact Info:** Traci Lott at traci.iott@po.state.ct.us

**Comments:**

- RCRA_CA
- Brownfields

### DELAWARE

**Name:** Stephen Johnson  
**Organization:** Site Investigation and Restoration Branch

**Guidelines**

**Vapor Intrusion**

**Inhalation**

**Basis:**

**Citation Location:** under development--

**Contact Info:** Qazi Salahudin

**Comments:**

- RCRA_CA
- Brownfields
- VoluntaryCleanUp
- SafeDrinkingWaterAct
- UST

---

10/16/2006  
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Vapor Intrusion

GEORGIA

Name: David Brownlee  Contact_Title: Unit Coordinator
Organization: Hazardous Site Response Program
Address / City: 2 MLK Jr Drive, Suite 1462, Atlanta, 30334
Email: david_brownlee@dnr.state.ga.us
Contact_Phone: (404) 657-6800

Regulatory
Vapor Intrusion

Inhalation

Basis: If required the Johnson & Ettinger model should be used to demonstrate compliance with indoor air/vapor intrusion requirements. Other methods may be approved on a site-specific basis.

Citation_Location: Rules for Hazardous Site Response 391-3-19 can be found at http://www.gaepd.org/Documents/rules_exist.html
Contact_Info: jim_brown@dnr.state.ga.us
Comments:

☐ RCRA_CA  ☑ Brownfields  ☐ DrinkingWater  ☐ SurfaceWater  ☐ AirQuality (Clean Air Act)
☐ SolidWsteLndfill  ☐ VoluntaryClnUp  ☐ SafeDrinkingWaterAct  ☐ UST  ☐ WetlandsProgram  ☐ Other

IOWA

Name: Bob Drstrup  Contact_Title: Environmental Engineer
Organization: Iowa Department of Natural Resources, Land Recycling Program (a VCP)
Address / City: 502 E. 9th Street, Des Moines, 503190034
Email: bob.drustrup@dnr.state.ia.us
Contact_Phone: (515) 281-8900

Regulatory
Vapor Intrusion

Inhalation

Basis:

Citation_Location: Subrule 567 IAC 137.6(9) http://www.iowadnr.com/land/consites/index.html
Contact_Info: Bob Drstrup, (515) 281-8900, bob.drustrup@dnr.state.ia.us
Comments: Promulgated ambient air quality standards are statewide standards in the voluntary cleanup program. OSHA standards apply if the contaminant is used in the workplace. Normal background levels can be considered. Use of soil-gas samples extrapolated to indoor air can be used. Cumulative risk requirements apply.

Other

Basis:

Citation_Location: Chapter 567 IAC 28 http://www.iowadnr.com/air/prof/progdev/rules.html
Contact_Info: Christine Paulson (515) 242-5154 christine.paulson@dnr.state.ia.us
Comments: Promulgated ambient air quality standards are statewide standards in the voluntary cleanup program. OSHA standards apply if the contaminant is used in the workplace. Normal background levels can be considered. Use of soil-gas samples extrapolated to indoor air can be used. Cumulative risk requirements apply.

☐ RCRA_CA  ☑ Brownfields  ☐ DrinkingWater  ☐ SurfaceWater  ☐ AirQuality (Clean Air Act)
☐ SolidWsteLndfill  ☑ VoluntaryClnUp  ☐ SafeDrinkingWaterAct  ☑ UST  ☐ WetlandsProgram  ☐ Other
## Illinois

**Vapor Intrusion**

<table>
<thead>
<tr>
<th>Name</th>
<th>Heather Nifong</th>
<th>Contact Title</th>
<th>Programs Advisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization</td>
<td>Division of Remediation Management, Bureau of Land</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address / City</td>
<td>1021 North Grand Ave East, Springfield, 627949276</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:heather.nifong@epa.state.il.us">heather.nifong@epa.state.il.us</a></td>
<td>Contact Phone</td>
<td>(217) 785-4729</td>
</tr>
</tbody>
</table>

### Guidelines

**Vapor Intrusion**

#### Inhalation

**Basis:**

Citation Location: U.S. EPA Draft Guidance for Vapor Intrusion http://www.epa.gov/correctiveaction/eis/vapor.htm

Contact Info: IEPA Toxicity Assessment Unit, 217-785-0830

Comments: Illinois is in the process of developing a vapor intrusion pathway to be added to TACO.

- [ ] RCRA_CA
- [ ] Brownfields
- [ ] DrinkingWater
- [ ] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [ ] SolidWasteLndfill
- [ ] VoluntaryClnUp
- [ ] SafeDrinkingWaterAct
- [ ] UST
- [ ] WetlandsProgram
- [ ] Other

### Indiana

**Vapor Intrusion**

<table>
<thead>
<tr>
<th>Name</th>
<th>Megan Hamilton</th>
<th>Contact Title</th>
<th>Environmental Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization</td>
<td>Applied Science Technologies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address / City</td>
<td>100 N Senate Ave, IGCN RM1154N, Indianapolis, 46204</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:mhamilto@idem.in.gov">mhamilto@idem.in.gov</a></td>
<td>Contact Phone</td>
<td>(317) 234-3928</td>
</tr>
</tbody>
</table>

### Guidelines

#### Inhalation

**Basis:**


Citation Location: In the process of developing Vapor Intrusion Pilot Program Guidance

Contact Info: John Clark, (317) 234-0999, jclark@idem.in.gov

Comments:

- [ ] RCRA_CA
- [ ] Brownfields
- [ ] DrinkingWater
- [ ] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [ ] SolidWasteLndfill
- [ ] VoluntaryClnUp
- [ ] SafeDrinkingWaterAct
- [ ] UST
- [ ] WetlandsProgram
- [ ] Other
# Vapor Intrusion

## KENTUCKY

<table>
<thead>
<tr>
<th>Name:</th>
<th>Wesley Turner, et.al.</th>
<th>Contact_Title:</th>
<th>Supervisor Federal Section Superfund</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization:</td>
<td>Division of Waste Management Superfund</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address / City:</td>
<td>14 Reilly Road, Frankfort, 40601</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:wesley.turner@ky.gov">wesley.turner@ky.gov</a></td>
<td>Contact_Phone:</td>
<td>(502) 564-6716</td>
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</table>

**Regulatory**

**Vapor Intrusion**

**Inhalation**

- **Basis:** 401 KAR 100:030, Levels calculated from Johnson and Ettinger Vapor Intrusion Model
- **Citation_Location:** http://www.lrc.ky.gov/kar/TITLE401.HTM
- **Contact_Info:** Larry Taylor
- **Comments:**
  - RCRA_CA
  - Brownfields
  - DrinkingWater
  - SurfaceWater
  - AirQuality (Clean Air Act)
  - SolidWasteLandfill
  - VoluntaryClinUp
  - SafeDrinkingWaterAct
  - UST
  - WetlandsProgram
  - Other

## LOUISIANA

<table>
<thead>
<tr>
<th>Name:</th>
<th>Patrick J. Lobos</th>
<th>Contact_Title:</th>
<th>Toxicologist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization:</td>
<td>Louisiana Department of Environmental Quality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address / City:</td>
<td>Environmental Technology Division, PO Box 4314, Baton Rouge, 708214314</td>
<td></td>
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</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:patrick.lobos@la.gov">patrick.lobos@la.gov</a></td>
<td>Contact_Phone:</td>
<td>(225) 219-3425</td>
</tr>
</tbody>
</table>

**Regulatory**

**Vapor Intrusion**

**Inhalation**

- **Contact_Info:** Patrick J. Lobos, patrick.lobos@la.gov, 225-219-3425
- **Comments:**
  - RCRA_CA
  - Brownfields
  - DrinkingWater
  - SurfaceWater
  - AirQuality (Clean Air Act)
  - SolidWasteLandfill
  - VoluntaryClinUp
  - SafeDrinkingWaterAct
  - UST
  - WetlandsProgram
  - Other

**Guidelines**

**Vapor Intrusion**

**Inhalation**

- **Contact_Info:** Patrick J. Lobos, patrick.lobos@la.gov, 225-219-3425
- **Comments:**
  - RCRA_CA
  - Brownfields
  - DrinkingWater
  - SurfaceWater
  - AirQuality (Clean Air Act)
  - SolidWasteLandfill
  - VoluntaryClinUp
  - SafeDrinkingWaterAct
  - UST
  - WetlandsProgram
  - Other
**MASSACHUSETTS**

Name: Paul Locke  
Contact_Title: Division Director - Policy & Program Development  
Organization: MA DEQ, Waste Site Cleanup  
Address / City:  
Email: Paul.Locke@state.ma.us  
Contact_Phone: (617) 556-1160

**Regulatory**

**Vapor Intrusion**

**Inhalation**

Basis: Hazard Index=0.2, Cancer Risk= 1E-06. Standards consider inhalation of indoor air containing contaminants volatilized from groundwater beneath a building. The standards also consider quantitation limits, indoor air background levels and "ceiling limits".

Citation_Location: GW-2 Standards in 310 CMR 40 - "The Massachusetts Contingency Plan", specifically standards published in Supart I, 310 CMR 40.0900 et. seq. See http://mass.gov/dep/cleanup/laws/regulati.htm

Contact_Info: Nancy Bettinger, MassDEP Office of Research and Standards, Nancy.Bettinger@state.ma.us, 6176-556-1160

Comments:  
☑️ RCRA_CA  ☑️ Brownfields  ☐ DrinkingWater  ☐ SurfaceWater  ☐ AirQuality (Clean Air Act)  
☑️ SolidWasteLndfill  ☑️ VoluntaryClnUp  ☐ SafeDrinkingWaterAct  ☑️ UST  ☐ WetlandsProgram  ☐ Other

**MARYLAND**

Name: James Carroll  
Contact_Title: Program Administrator  
Organization: Maryland Department of the Environment, Waste Management Administration  
Address / City: 1800 Washington Blvd., Ste.625, Baltimore, 21230  
Email: JCarroll@mde.state.md.us  
Contact_Phone: (410) 537-3437

**Regulatory**

**Vapor Intrusion**

**Inhalation**

Basis: 10-5 cancer risk, HI=1

Citation_Location: Sections 7-208 & 7-508 of the Environmental Article, Annotated Code of Maryland

Contact_Info: ERRP (410) 537-3493

Comments:  
☐ RCRA_CA  ☑️ Brownfields  ☐ DrinkingWater  ☐ SurfaceWater  ☐ AirQuality (Clean Air Act)  
☐ SolidWasteLndfill  ☑️ VoluntaryClnUp  ☐ SafeDrinkingWaterAct  ☑️ UST  ☐ WetlandsProgram  ☐ Other

**Guidelines**

**Vapor Intrusion**

**Inhalation**

Basis:  
Citation_Location: OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils, U.S. EPA  
http://www.epa.gov/correctiveaction/eis/vapor.htm

Contact_Info:  
Comments:  
☐ RCRA_CA  ☑️ Brownfields  ☐ DrinkingWater  ☐ SurfaceWater  ☐ AirQuality (Clean Air Act)  
☐ SolidWasteLndfill  ☑️ VoluntaryClnUp  ☐ SafeDrinkingWaterAct  ☑️ UST  ☐ WetlandsProgram  ☐ Other
Vapor Intrusion

MICHIGAN

Name: Christine Flaga  
Organization: Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Storage)  
Address / City: Michigan Department of Environmental Quality, Remediation and Development Division, Constitution Hall, 525 West Allegan St.,  
Email: flagac@michigan.gov

Human Health Risk

Basis:
Citation_Location: Refer to the Soil and Groundwater Standards sheet for the vapor intrusion criteria, SVIIC and GVIIC.
Contact_Info:
Comments: Vapor intrusion of contaminants into a building is addressed by the GVIIC and SVIIC. Soil gas and indoor air screening levels are also available. The use of these criteria and screening levels should refer to guidance documents for application requirements: Technical Standard Document for GVIIC and SVIIC (RRD OP Memo No. 1 Attachment 5, in progress) and Soil Gas Methods (RRD Operational Memorandum No 4 Attachment 4, in progress).

MINNESOTA

Name: Doug Beckwith  
Organization: Superfund
Address / City: 525 South Lake Svenue Suite 400, Duluth, 55802  
Email: doug.beckwith@pca.state.mn.us

Human Health Risk

Basis:
Citation_Location: Refer to the Soil and Groundwater Standards sheet for the vapor intrusion criteria, SVIIC and GVIIC.
Contact_Info:
Comments: Vapor intrusion of contaminants into a building is addressed by the GVIIC and SVIIC. Soil gas and indoor air screening levels are also available. The use of these criteria and screening levels should refer to guidance documents for application requirements: Technical Standard Document for GVIIC and SVIIC (RRD OP Memo No. 1 Attachment 5, in progress) and Soil Gas Methods (RRD Operational Memorandum No 4 Attachment 4, in progress).

Guidelines

Vapor Intrusion

Human Health Risk

Basis:
Citation_Location: Guidelines online soon. Other sources Minnesota Department of Health air quality rules: http://www.health.state.mn.us/divs/eh/air/rules.htm
Contact_Info: Laura Solem, 218-529-6254, laura.solem@pca.state.mn.us
Comments:
### MISSOURI

**Name:** Linda Vogt  
**Contact_Title:** Environmental Specialist  
**Organization:** Hazardous Waste Program/Superfund Section  
**Address / City:** P.O. Box 176, Jefferson City, 65102  
**Email:** linda.vogt@dnr.mo.gov  
**Contact_Phone:** (573) 751-6998

#### Guidelines

**Vapor Intrusion**

**Inhalation**

**Basis:** Missouri Risk-Based Corrective Action (MRBCA) Technical Guidance (2005 Draft).  
**Citation_Location:** U.S. EPA Users Guide for Evaluating Subsurface Vapor Intrusion into Buildings,  
**Contact_Info:** EPA Region 9 Preliminary Remediation Goals (PRGs), October 2004.  Http://www.epa.gov/region09/waste/sfund/prg/.  Cancer risk 1x10^-6, non-cancer risk HQ=1  
**Comments:**

- RCRA_CA  
- Brownfields  
- DrinkingWater  
- SurfaceWater  
- AirQuality (Clean Air Act)  
- SolidWasteLndfill  
- VoluntaryClnUp  
- SafeDrinkingWaterAct  
- UST  
- WetlandsProgram  
- Other

### MISSISSIPPI

**Name:** Jere "Trey" Hess  
**Contact_Title:** Brownfields Program Coordinator  
**Organization:** Groundwater Assessment and Remediation Division  
**Address / City:**  
**Email:** Trey_Hess@deq.state.ms.us  
**Contact_Phone:** (601) 961-5654

#### Guidelines

**Vapor Intrusion**

**Human Health Risk**

**Basis:** U.S. EPA Users Guide for Evaluating Subsurface Vapor Intrusion into Buildings,  
**Citation_Location:**  
**Contact_Info:**  
**Comments:**

- RCRA_CA  
- Brownfields  
- DrinkingWater  
- SurfaceWater  
- AirQuality (Clean Air Act)  
- SolidWasteLndfill  
- VoluntaryClnUp  
- SafeDrinkingWaterAct  
- UST  
- WetlandsProgram  
- Other
Vapor Intrusion

MONTANA

Name: Aimee Reynolds
Organization: Hazardous Waste Site Cleanup Bureau
Address / City:
Email: areynolds@mt.gov

Contact_Title: Voluntary Cleanup Coordinator

Guidelines

Vapor Intrusion

Inhalation

Basis: 1 x 10-6 & HQ of 1
Citation_Location: EPA Vapor Intrusion to Indoor Air Guidance
Contact_Info: Aimee Reynolds

Comments: [RCRA_CA] [Brownfields] [DrinkingWater] [SurfaceWater] [AirQuality (Clean Air Act)]
[SolidWsteLndfill] [VoluntaryClnUp] [SafeDrinkingWaterAct] [UST] [WetlandsProgram] [Other] [Groundwater Remediation]

NORTH DAKOTA

Name: Curt Erickson
Organization: Hazardous Waste Program
Address / City: 918 East Divide Ave, Bismarck, 585011947
Email: cerickso@state.nd.us

Contact_Title: Program Manager

Not Specified

Vapor Intrusion

Human Health Risk

Basis:
Citation_Location: *None. Where applicable, vapor intrusion to indoor air pathways will be assessed using: US EPA Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance) November 2002, EPA530-D-02-004. Available at: www.epa.gov/correctiveaction/eis/vapor/complete.pdf*

Contact_Info:

Comments: [RCRA_CA] [Brownfields] [DrinkingWater] [SurfaceWater] [AirQuality (Clean Air Act)]
[SolidWsteLndfill] [VoluntaryClnUp] [SafeDrinkingWaterAct] [UST] [WetlandsProgram] [Other]
## NEBRASKA

**Name:** Jim Borovich  
**Contact_Title:** Geologist  
**Organization:** Nebraska Department of Environmental Quality, Remediation Section/Voluntary CI  
**Address / City:** P.O. Box 98922, Lincoln, 685098922  
**Email:** jim.borovich@ndeq.state.ne.us  
**Contact_Phone:** (402) 471-2223

### Guidelines

**Vapor Intrusion**

#### Human Health Risk

**Basis:** NDEQ's VCP guidance specifies that vapor intrusion concerns be screened using the following criteria: 1) volatile chemicals are located 100 feet below ground level or less and 2) volatile chemicals are located in proximity to existing or future buildings (within 100 feet horizontally. If these criteria are met, the user is to use a cancer risk basis of 1E-06 for residential land use and 1E-05 for industrial land use and an HI=1 for both residential and industrial land use.

**Citation_Location:** Nebraska Voluntary Cleanup Program Guidance & Protocol for VCP Remediation Goals Lookup Tables, available at: http://www.deq.state.ne.us  
**Contact_Info:** Jim Borovich, 402/471-2223, jim.borovich@ndeq.state.ne.us  
**Comments:** NDEQ's Petroleum Remediation Section uses a Risk-Based Corrective Action (RBCA) process specific for petroleum releases that provides screening levels and site-specific target levels for several exposure pathways under different land use and groundwater use scenarios. These levels may differ significantly from the Remediation Goals (RGs) discussed above for individual chemicals of concern common to both programs.

- [ ] RCRA_CA  
- [ ] Brownfields  
- [ ] SurfaceWater  
- [ ] AirQuality (Clean Air Act)

- [ ] SolidWasteLndfill  
- [x] VoluntaryClnUp  
- [x] SafeDrinkingWaterAct  
- [ ] UST  
- [ ] WetlandsProgram  
- [ ] Other

## NEW HAMPSHIRE

**Name:** Robin Mongeon  
**Contact_Title:** Engineer  
**Organization:** Waste Management Division, Site Remediation Programs  
**Address / City:** 29 Hazen Drive, PO Box 95, Concord, 033020095  
**Email:** rmongeon@des.state.nh.us  
**Contact_Phone:** (603) 271-7378

### Guidelines

**Vapor Intrusion**

#### Inhalation

**Basis:** See explanation below  
**Citation_Location:** Guidelines for evaluating vapor intrusion see the "Risk Characterization and Management Policy" http://www.des.state.nh.us/orcb/doclist/pdf/rcmp.pdf and the Draft Vapor Intrusion Guidance http://www.des.state.nh.us/orcb/doclist/pdf/vapor_intrusion.pdf  
**Contact_Info:** Robin Mongeon mongeon@des.state.nh.us  
**Comments:** Indoor air values are derived taking into account risk, background and method reporting limit, then groundwater and soil gas screening values are derived based on applying specific attenuation factors.

- [ ] RCRA_CA  
- [ ] Brownfields  
- [ ] DrinkingWater  
- [ ] SurfaceWater  
- [x] AirQuality (Clean Air Act)

- [x] SolidWasteLndfill  
- [x] VoluntaryClnUp  
- [x] SafeDrinkingWaterAct  
- [x] UST  
- [ ] WetlandsProgram  
- [ ] Other
### NEW JERSEY

**Name:** Barry Frasco  
**Contact Title:** Assistant Director - Division of Remediation Manag  
**Organization:** New Jersey DEP  
**Address / City:** 401 East State Street PO Box 413, Trenton, 08625  
**Email:** Barry.Frasco@dep.state.nj.us  
**Contact Phone:** (609) 633-6801

#### Guidelines

#### Vapor Intrusion

**Inhalation**

- **Basis:** Health-based: 1x10-6 for carcinogens; HQ = 1 for non-carcinogens  
- **Citation Location:** Vapor Intrusion Guidance Document (Draft) - Document is expected to be finalized in October 2005.  
- **Contact Info:** Draft of the Vapor Intrusion Guidance Document is available at: http://www.nj.gov/dep/srp/guidance/vaporintrusion/vig_draft.htm  
- **Contact person is Diane Groth.**  
- **Comments:** For those contaminants whose health-based screening level is below analytical capability, the screening level is set at the analytical Practical Quantitation Level. In addition, for those contaminants whose health-based screening level is less than the ground water quality standard, the screening level is set at the ground water quality standard. Also, no remediation is conducted if indoor air levels are below ambient air background levels.

| ✔️ RCRA_CA | ✔️ Brownfields | ☐ DrinkingWater | ☐ SurfaceWater | ☐ AirQuality (Clean Air Act) |
| ☑️ SolidWsteLndfill | ✔️ VoluntaryClnUp | ☐ SafeDrinkingWaterAct | ✔️ UST | ✔️ WetlandsProgram | ☐ Other |

### OHIO

**Name:** Timothy Christman  
**Contact Title:** Environmental Scientist 3  
**Organization:** Ohio Environmental Protection Agency  
**Address / City:** 122 South Front Street, Lazarus Government Center, Columbus, 43215  
**Email:** timothy.christman@epa.state.oh.us  
**Contact Phone:** 614-644-2297

#### Guidelines

#### Vapor Intrusion

**Inhalation**

- **Basis:** ILCR = 1E-06 to 1E-04, HI =1  
- **Citation Location:** Methodology for Vapor Intrusion Assessment, Technical Decision Compendium  
- **Contact Info:** Brian Tucker, Emergency and Remedial Response 614-644-3120  
- **Comments:**  

| ☐ RCRA_CA | ☐ Brownfields | ☐ DrinkingWater | ☐ SurfaceWater | ☐ AirQuality (Clean Air Act) |
| ☐ SolidWsteLndfill | ☐ VoluntaryClnUp | ☐ SafeDrinkingWaterAct | ☐ UST | ☐ WetlandsProgram | ☐ Other |
**Vapor Intrusion**

### OKLAHOMA

**Name:** Catherine Sharp  
**Contact Title:** Assistant Director  
**Organization:** Brownfields and Voluntary Cleanup  
**Address / City:**  
**Email:** catherine.sharp@deq.state.ok.us  
**Contact Phone:** (405) 702-5151

**Guidelines**

**Vapor Intrusion**

**Inhalation**

**Basis:** Additionally we rely on the USEPA Vapor Intrusion Guidance Document.

**Citation Location:** Cleanups are reviewed on a site specific basis. Federal Guidance documents are used, specifically the EPA Soil Screening Levels, the EPA Region VI Medium Specific Screening Levels, and occasionally others.

**Contact Info:**

**Comments:**

- RCRA_CA
- Brownfields
- DrinkingWater
- SurfaceWater
- AirQuality (Clean Air Act)
- SolidWasteLndfill
- VoluntaryClnUp
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other

### OREGON

**Name:** Mike Poulsen  
**Contact Title:** Toxicologist  
**Organization:** Oregon Dept. of Environmental Quality, Cleanup  
**Address / City:** 2020 SW 4th St., Portland, 97201  
**Email:** poulsen.mike@deq.state.or.us  
**Contact Phone:** (503) 229-6773

**Guidelines**

**Vapor Intrusion**

**Inhalation**

**Basis:** 1.E-06 for individual carcinogens, 1.E0-5 for multiple carcinogens.

**Citation Location:** OAR 340-122-0115 http://arcweb.sos.state.or.us/rules/OARs_300/OAR_340/340_122.html

**Contact Info:** Mike Poulsen 503 229-6773 poulsen.mike@deq.state.or.us

**Comments:** RCRA corrective action is done by the state environmental cleanup program in Oregon. SW land fill contamination that extends off-site is cleaned up under cleanup program authority. UST, Brownfield, and VCP all operate under the same statute, and therefore the same definition of acceptable risk.

- RCRA_CA
- Brownfields
- DrinkingWater
- SurfaceWater
- AirQuality (Clean Air Act)
- SolidWasteLndfill
- VoluntaryClnUp
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other
# Vapor Intrusion

## RHODE ISLAND

**Name:** Michael D. Andrews  
**Contact Title:** Sanitary Engineer  
**Organization:** Office of Waste Management, Site Remediation  
**Address / City:** 235 Promenade Street, Providence, 02871  
**Email:** michael.andrews@dem.ri.gov  
**Contact Phone:** (401) 862-5250

### Guidelines

**Vapor Intrusion**

### Other

**Basis:**

**Citation Location:** The RIDEM Method 1 GB Groundwater Objectives are based on a scientifically acceptable volatilization model as referenced in Appendix F of the Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (as amended February 2004). This model incorporates site-specific information on the hazardous substances, hydrogeological conditions at the contaminated site, current and reasonably foreseeable building conditions, and demonstrates that contamination will not infiltrate to indoor air and result in significant risk of harm to human health or the environment. GB Groundwater Objectives are available at: [http://www.dem.ri.gov/pubs/regs/waste/remreg04.pdf](http://www.dem.ri.gov/pubs/regs/waste/remreg04.pdf)

**Contact Info:** Contact person is Michael Andrews, (401) 222-2797 ext. 7140, michael.andrews@dem.ri.gov

**Comments:** A complete list of RIDEM Regulations is available at: [http://www.dem.ri.gov/pubs/regs/index.htm#WM](http://www.dem.ri.gov/pubs/regs/index.htm#WM)

## SOUTH DAKOTA

**Name:** Mark Lawrensen  
**Contact Title:** Superfund Program Manager  
**Organization:** Ground Water Quality Program  
**Address / City:** 523 East Capitol Avenue, Pierre, 57501  
**Email:** mark.lawrensen@state.sd.us  
**Contact Phone:** (605) 773-3296

### Not Specified

**Vapor Intrusion**

**Inhalation**

**Basis:**

**Citation Location:** No specific regulations, site-specific cleanup criteria will be developed as necessary.

**Contact Info:**

**Comments:**

### Other

**Basis:**

**Citation Location:** No specific regulations, site-specific cleanup criteria will be developed as necessary.

**Contact Info:**

**Comments:**

[Selections for regulatory categories]
### Vapor Intrusion

#### UTAH

<table>
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<tr>
<th>Name</th>
<th>Scott Everett</th>
</tr>
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<tbody>
<tr>
<td>Contact_Title</td>
<td>Toxicologist</td>
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<tr>
<td></td>
<td><a href="mailto:Severett@utah.gov">Severett@utah.gov</a></td>
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#### Guidelines

**Vapor Intrusion**

**Inhalation**

**Basis:**

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<td>Contact person is Scott Everett, (801) 536-4117, <a href="mailto:Severett@utah.gov">Severett@utah.gov</a></td>
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**Comments:**

- RCRA_CA
- Brownfields
- DrinkingWater
- SurfaceWater
- AirQuality (Clean Air Act)
- SolidWasteLandfill
- VoluntaryCleanup
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other

#### VIRGINIA

<table>
<thead>
<tr>
<th>Name</th>
<th>Pat McMurray</th>
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<tbody>
<tr>
<td>Contact_Title</td>
<td>Toxicologist</td>
</tr>
<tr>
<td>Organization</td>
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<tbody>
<tr>
<td></td>
<td><a href="mailto:pamcmurray@deq.virginia.gov">pamcmurray@deq.virginia.gov</a></td>
<td>(804) 698-4186</td>
</tr>
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</table>

#### Guidelines

**Vapor Intrusion**

**Inhalation**

**Basis:**

- HQ=0.1 for screening; screening levels are for soil vapor and groundwater; VRP uses EPA Region III RBC for indoor air screening level.

<table>
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<tr>
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<th><a href="http://www.deq.virginia.gov/vrprisk/tables.html">www.deq.virginia.gov/vrprisk/tables.html</a></th>
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<tr>
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<td><a href="mailto:pamcmurray@deq.virginia.gov">pamcmurray@deq.virginia.gov</a></td>
</tr>
</tbody>
</table>

**Comments:**

In Virginia, there are no statewide numerical standards established by regulation or by guidance for the above media. Specific criteria or performance standards are implemented on a program specific basis.

- RCRA_CA
- Brownfields
- DrinkingWater
- SurfaceWater
- AirQuality (Clean Air Act)
- SolidWasteLandfill
- VoluntaryCleanup
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other
## Vapor Intrusion

### WISCONSIN

<table>
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<tr>
<th>Name: Aristeo M. Pelayo</th>
<th>Contact_Title: Hydrogeologist</th>
</tr>
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<tr>
<td>Organization: Remediation and Redevelopment</td>
<td></td>
</tr>
<tr>
<td>Address / City: WDNR, RR/3, PO Box 7921, Madison, 53707</td>
<td></td>
</tr>
<tr>
<td>Email: <a href="mailto:Aristeo.Pelayo@dnr.state.wi.us">Aristeo.Pelayo@dnr.state.wi.us</a></td>
<td>Contact_phone: (608) 267-3539</td>
</tr>
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</table>

### Regulatory

#### Vapor Intrusion

**Inhalation**

**Basis:** Vapor migration is a contaminant migration pathway that needs to be evaluated like other pathways, and is required by s. NR 716.11(5)(a) and (b).

**Citation_Location:** U.S. EPA OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils, http://www.epa.gov/correctiveaction/eis/vapor.htm

**Contact_Info:** Theresa.Evanson@dnr.state.wi.us

**Comments:** Investigation and cleanup of vapor intrusion impacts of indoor air target a one in one million increased cancer risk or hazard index of 1.0. Initial default exposure assumptions and the resulting target concentrations are consistent with the EPA Region III Risk Based Concentration Table entry for Ambient Air Quality. Background concentrations (e.g. benzene) and site specific exposure assumptions may be considered when appropriate.

### Guidelines

#### Vapor Intrusion

**Inhalation**


**Citation_Location:**

**Contact_Info:** Theresa.Evanson@dnr.state.wi.us

**Comments:** Investigation and cleanup of vapor intrusion impacts of indoor air target a one in one million increased cancer risk or hazard index of 1.0. Initial default exposure assumptions and the resulting target concentrations are consistent with the EPA Region III Risk Based Concentration Table entry for Ambient Air Quality. Background concentrations (e.g. benzene) and site specific exposure assumptions may be considered when appropriate.
## Sediment

### ALASKA

<table>
<thead>
<tr>
<th>Name</th>
<th>Jill Taylor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact_Title</td>
<td>Environmental Program Specialist III</td>
</tr>
<tr>
<td>Organization</td>
<td>Alaska DEC Contaminated Sites Program</td>
</tr>
<tr>
<td>Address / City</td>
<td>410 Willoughby Avenue, Suite 303, Juneau, 99801</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:Jill_Taylor@dec.state.ak.us">Jill_Taylor@dec.state.ak.us</a></td>
</tr>
<tr>
<td>Contact_Phone</td>
<td>(907) 465-5209</td>
</tr>
</tbody>
</table>

### Regulatory

#### Sediment

**Human Health Risk**

**Basis:**

Citation_Location: Cleanup levels are developed on a site specific basis to handle both human health and ecological receptors.

Contact_Info: Jill_Taylor@dec.state.ak.us

Comments:

- ✔ SolidWsteLndfill
- ✔ Brownfields
- ✔ UST

### Guidelines

#### Sediment

**Human Health Risk**

**Basis:**

Citation_Location: Risk Assessment Procedures Manual (this document is adopted by reference in 18 AAC 75)

Contact_Info: Jill_Taylor@dec.state.ak.us

Comments:

- ✔ SolidWsteLndfill
- ✔ Brownfields
- ✔ UST
Sediment

ARKANSAS

Name: Ashley Whitlow  Contact_Title: Senior Epidemiologist
Organization: Arkansas Department of Environmental Quality - Hazardous Waste Division
Address / City: 8001 National Drive, Little Rock, 722198913
Email: whitlow@adeq.state.ar.us  Contact_Phone: (501) 682-0689

Guidelines

Sediment

Ecological Risk

Citation_Location: *None. Sediment remediation standards are developed on a case-by-case basis (according to site-specific circumstances). Sediment contaminants are initially screened for ecological concerns using the following: USEPA.2001.Supplemental Guidance to RAGS: Region 4 Bulletins, Ecological Risk Assessment. http://www.epa.gov/Region4/waste/ots/ecolbul.htm
Contact_Info: Ashley Whitlow; 501-682-0869; whitlow@adeq.state.ar.us
Comments:

Human Health Risk

Citation_Location: None. Sediment remediation standards are developed on a case-by-case basis (according to site-specific circumstances). For human exposure, sediment is addressed as surface soil, and sediment contaminants are initially screened using the residential screening levels presented in the EPA Region 6 Human Health Medium Specific Screening Levels (HHMSSLs) table: http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screenvalues.pdf. Toxicity values for use in the risk-based development of remediation goals for chemicals of concern (COCs) that failed the screening process are also obtained from the HHMSSLs table.
Contact_Info: Ashley Whitlow; 501-682-0869; whitlow@adeq.state.ar.us
Comments:

☐ RCRA_CA  ☑ Brownfields  ☐ DrinkingWater  ☐ SurfaceWater  ☐ AirQuality (Clean Air Act)
☐ SolidWsteLndfill  ☑ VoluntaryClnUp  ☐ SafeDrinkingWaterAct  ☐ UST  ☐ WetlandsProgram  ☐ Other
## Sediment

### CALIFORNIA

<table>
<thead>
<tr>
<th>Name:</th>
<th>Mike Sorensen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact_Title:</td>
<td>Branch Chief</td>
</tr>
<tr>
<td>Organization:</td>
<td>Site Mitigation and Brownfields Reuse Program</td>
</tr>
<tr>
<td>Address / City:</td>
<td></td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:msorense@dtsc.ca.gov">msorense@dtsc.ca.gov</a></td>
</tr>
<tr>
<td>Contact_Phone:</td>
<td>(916) 255-6660</td>
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### Regulatory

#### Ecological Risk

**Basis:**

**Citation_Location:** CA Health and Safety Code, Div 20, Chapter 6.5 and 6.8. (see [http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=hsc&codebody=&hits=20](http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=hsc&codebody=&hits=20)) requires cleanups be consistent with the NCP. Risk range of 1.E-06 to 1.E-04 is utilized to establish cleanup levels and considers 9 criteria analysis.

**Contact_Info:** Deputy Director, Site Mitigation and Brownfields Reuse Program, (916) 322-0504. (see [http://www.dtsc.ca.gov/index.cfm](http://www.dtsc.ca.gov/index.cfm))

**Comments:**

#### Human Health Risk

**Basis:**

**Citation_Location:** CA Health and Safety Code, Div 20, Chapter 6.5 and 6.8. (see [http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=hsc&codebody=&hits=20](http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=hsc&codebody=&hits=20)) requires cleanups be consistent with the NCP. Risk range of 1.E-06 to 1.E-04 is utilized to establish cleanup levels and considers 9 criteria analysis.

**Contact_Info:** Deputy Director, Site Mitigation and Brownfields Reuse Program, (916) 322-0504. (see [http://www.dtsc.ca.gov/index.cfm](http://www.dtsc.ca.gov/index.cfm))

**Comments:**

#### Other

**Basis:**

**Citation_Location:** Cleanup criteria could also be established based on beneficial use of the resource. Statute relating to beneficial use is California Water Code, Division 7. Water Quality. (see [http://www.waterboards.ca.gov/water_laws/docs/portercologne.pdf](http://www.waterboards.ca.gov/water_laws/docs/portercologne.pdf)) Section 13050(f) defines "Beneficial uses" of the waters of the state that may be protected against water quality degradation include, but are not necessarily limited to, domestic, municipal, agricultural, and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. Water quality goals are established in regional basin plans; for examples see [http://www.waterboards.ca.gov/plnspols/index.html](http://www.waterboards.ca.gov/plnspols/index.html).

**Contact_Info:** "State Water Resources Control Board, Division of Water Quality (916) 341-5250 (http://www.waterboards.ca.gov/quality.html?counter=85)"

**Comments:**

- RCRA_CA
- Brownfields
- SurfaceWater
- AirQuality (Clean Air Act)
- SolidWsteLndfill
- VoluntaryClnUp
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other

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**Sediment**

**CALIFORNIA**

Name: Mike Sorensen  
Contact Title: Branch Chief  
Organization: Site Mitigation and Brownfields Reuse Program  
Address / City:  
Email: msorense@dtsc.ca.gov  
Contact Phone: (916) 255-6660

### Guidelines

#### Sediment

**Ecological Risk**

**Basis:**

**Citation Location:** Guidance for Ecological Risk Assessments (see http://www.dtsc.ca.gov/AssessingRisk/eco.cfm). This document contains the description of the DTSC-recommended phased method for conducting an ecological risk assessment. Outlined are the contents of a Scoping Assessment, a Phase I Predictive Assessment, a Phase II Validation Study and a Phase III Impact Assessment. More detailed guidance for each of these components will be available in a series of additional documents. Also included are flow charts describing the process with a text description of the decision points and work products contained in the flow charts.

**Contact Info:**

**Comments:**

#### Human Health Risk

**Basis:**

**Citation Location:** Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities (see http://www.dtsc.ca.gov/AssessingRisk/Supplemental_Guidance.cfm). This DTSC guidance manual supplements the U.S. Environmental Protection Agency manual for performing human health risk assessments (Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A), Interim Final (EPA/540/1-89/002, December 1989)) and OSWER directives by providing recommendations on specific technical or scientific issues that may be encountered when preparing multimedia risk assessment reports for submittal and review by the DTSC.

**Contact Info:**

**Comments:**

#### Other

**Basis:**

**Citation Location:** Compilation Of Existing Guidance For The Development Of Site-Specific Water Quality Objectives In The State Of California (see http://www.waterboards.ca.gov/docs/sitespec/sitespecificwqo.pdf) This document provides the State of California, United States Environmental Protection Agency (USEPA) Region 9, other stakeholders and the general public with a compilation of existing guidance and information on the development of site-specific water quality objectives (SSOs). The document presents background information on default national aquatic life criteria, including their strengths and limitations. Published and unpublished methodologies for the derivation of site-specific objectives are described with links, references and case examples provided for greater detail.

**Contact Info:**

**Comments:**

- [✓] RCRA_CA  
- [✓] Brownfields  
- [✓] DrinkingWater  
- [✓] SurfaceWater  
- [✓] AirQuality (Clean Air Act)  
- [✓] SolidWasteLndfill  
- [✓] VoluntaryClnUp  
- [✓] SafeDrinkingWaterAct  
- [✓] UST  
- [✓] WetlandsProgram  
- [✓] Other
## Sediment

### CONNECTICUT

<table>
<thead>
<tr>
<th>Name</th>
<th>Traci Lott</th>
<th>Contact_Title</th>
<th>Environmental Analyst III</th>
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<td>Organization</td>
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<td></td>
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### Regulatory

#### Sediment

#### Ecological Risk

**Basis:** General provisions to allow the Commissioner to take any action necessary to prevent or abate any threat to human health or the environment are currently in the regulations. More detail regarding the evaluation and remediation of sediments is expected to be included in the proposed revisions to the Remediation Standard Regulations. Look to the CTDEP web site (http://www.dep.state.ct.us/wtr/remediation/index.htm) in the future for proposed revisions to the Regulations.

**Citation_Location:** 22a-133k-1 through 22a-133k-3 RCSA, Remediation Standard Regulations

**Contact_Info:** Traci Lott at traci.iott@po.state.ct.us

**Comments:**

- RCRA_CA
- SolidWsteLndfill
- Brownfields
- VoluntaryClnUp
- SurfaceWater
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other

#### Not Specified

**Sediment

**Ecological Risk**

**Basis:**

**Citation_Location:** Ecological Risk is handled on a case by case basis. No detailed guidance is available.

**Contact_Info:** Traci Lott at traci.iott@po.state.ct.us

**Comments:**

- RCRA_CA
- SolidWsteLndfill
- Brownfields
- VoluntaryClnUp
- SurfaceWater
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other

#### Human Health Risk

**Basis:**

**Citation_Location:** Human Health Risk is handled on a case by case basis. No detailed guidance is available.

**Contact_Info:** Traci Lott at traci.iott@po.state.ct.us

**Comments:**

- RCRA_CA
- SolidWsteLndfill
- Brownfields
- VoluntaryClnUp
- SurfaceWater
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other

### Guidelines

#### Sediment

#### Human Health Risk

**Basis:**

**Citation_Location:** 22a-133k-1 through 22a-133k-3 RCSA, Remediation Standard Regulations

**Contact_Info:** Traci Lott at traci.iott@po.state.ct.us

**Comments:**

- RCRA_CA
- SolidWsteLndfill
- Brownfields
- VoluntaryClnUp
- SurfaceWater
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other
### Sediment

**DELAWARE**

<table>
<thead>
<tr>
<th>Name:</th>
<th>Stephen Johnson</th>
</tr>
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<tbody>
<tr>
<td>Organization:</td>
<td>Site Investigation and Restoration Branch</td>
</tr>
<tr>
<td>Address / City:</td>
<td></td>
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<tr>
<td>Email:</td>
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**Guidelines**

**Sediment**

**Ecological Risk**

- **Basis:** various--Oak Ridge Lab, EPA, NOAA
- **Citation_Location:** Uniform Riskbased Standards-Eco
- **Contact_Info:**
- **Comments:**

**Human Health Risk**

- **Basis:**
- **Citation_Location:** Uniform Riskbased Standards--Human Health
- **Contact_Info:**
- **Comments:**

- RCRA_CA
- Brownfields
- DrinkingWater
- SurfaceWater
- AirQuality (Clean Air Act)
- SolidWasteLndfill
- VoluntaryClnUp
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other
## Sediment

### GEORGIA

<table>
<thead>
<tr>
<th>Name</th>
<th>David Brownlee</th>
<th>Contact_Title</th>
<th>Unit Coordinator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization</td>
<td>Hazardous Site Response Program</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address / City</td>
<td>2 MLK Jr Drive, Suite 1462, Atlanta, 30334</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:david_brownlee@dnr.state.ga.us">david_brownlee@dnr.state.ga.us</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact Phone</td>
<td>(404) 657-6800</td>
<td></td>
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### Regulatory

#### Sediment

**Ecological Risk**

- **Basis:** Determined on a site-specific basis.
- **Citation_Location:** If an ecological risk assessment is required it should follow the process described in ERAGS or the Georgia SWMU guidance document (see right for both).
- **Contact_Info:** jim_brown@dnr.state.ga.us
- **Comments:**

**Human Health Risk**

- **Basis:**
- **Citation_Location:** Rules for Hazardous Site Response 391-3-19 can be found at http://www.gaepd.org/Documents/rules_exist.html
- **Contact_Info:** david_brownlee@dnr.state.ga.us
- **Comments:**

### Guidelines

#### Sediment

**Ecological Risk**

- **Basis:**
- **Citation_Location:** 1. Ecological Risk Assessment Guidance for Superfund (ERAGS), EPA 1997 (EPA 540-R-97-006); 2. Georgia EPD Guidance for Selecting Media Remediation Levels of RCRA Solid Waste Management Units. This can be found at http://www.gaepd.org/Files_PDF/techguide/hwb/swmurisk.pdf
- **Contact_Info:** jim_brown@dnr.state.ga.us
- **Comments:**
### Sediment

#### IOWA

<table>
<thead>
<tr>
<th>Name:</th>
<th>Bob Drustrup</th>
<th>Contact_Title:</th>
<th>Environmental Engineer</th>
</tr>
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<tbody>
<tr>
<td>Organization:</td>
<td>Iowa Department of Natural Resources, Land Recycling Program (a VCP)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address / City:</td>
<td>502 E. 9th Street, Des Moines, 503190034</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:bob.drustrup@dnr.state.ia.us">bob.drustrup@dnr.state.ia.us</a></td>
<td>Contact_Phone:</td>
<td>(515) 281-8900</td>
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#### Not Specified

**Sediment**

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<th>Contact_Info:</th>
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<tr>
<td>Comments:</td>
<td>No specific sediment standards exist. Contaminants in sediments will be addressed on a site-specific basis in conjunction with the surface water quality program as warranted.</td>
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</tr>
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- [ ] RCRA_CA
- [ ] Brownfields
- [ ] DrinkingWater
- [ ] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [ ] SolidWasteLandfill
- [ ] VoluntaryCleanUp
- [ ] SafeDrinkingWaterAct
- [ ] UST
- [ ] WetlandsProgram
- [ ] Other

#### ILLINOIS

<table>
<thead>
<tr>
<th>Name:</th>
<th>Heather Nifong</th>
<th>Contact_Title:</th>
<th>Programs Advisor</th>
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<tbody>
<tr>
<td>Organization:</td>
<td>Division of Remediation Management, Bureau of Land</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address / City:</td>
<td>1021 North Grand Ave East, Springfield, 627949276</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:heather.nifong@epa.state.il.us">heather.nifong@epa.state.il.us</a></td>
<td>Contact_Phone:</td>
<td>(217) 785-4729</td>
</tr>
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#### Guidelines

**Sediment**

**Ecological Risk**

- [ ] RCRA_CA
- [ ] Brownfields
- [ ] DrinkingWater
- [ ] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [ ] SolidWasteLandfill
- [ ] VoluntaryCleanUp
- [ ] SafeDrinkingWaterAct
- [ ] UST
- [ ] WetlandsProgram
- [ ] Other

- Basis: None. Developed on site-specific basis.
- Contact_Info: IEPA Toxicity Assessment Unit, 217-785-0830
- Comments: Cleanup objectives for contaminants other than petroleum are developed on a site-specific basis.

**Human Health Risk**

- Basis: Guidance for petroleum product releases to sediments, March 21, 2003
- Contact_Info: IEPA Toxicity Assessment Unit, 217-785-0830
- Comments: Cleanup objectives for contaminants other than petroleum are developed on a site-specific basis.
## Sediment

### INDIANA

<table>
<thead>
<tr>
<th>Name: Megan Hamilton</th>
<th>Contact_Title: Environmental Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization: Applied Science Technologies</td>
<td></td>
</tr>
<tr>
<td>Address / City: 100 N Senate Ave, IGCN RM1154N, Indianapolis, 46204</td>
<td></td>
</tr>
<tr>
<td>Email: <a href="mailto:mhamilto@idem.in.gov">mhamilto@idem.in.gov</a></td>
<td>Contact_Phone: (317) 234-3928</td>
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### Guidelines

#### Sediment

**Ecological Risk**

- **Basis:**

**Human Health Risk**

- **Basis:**
  - Citation_Location: U.S. EPA Risk Assessment Guidance for Superfund (EPA RAGS), U.S. EPA [http://www.epa.gov/oswer/riskassessment/risk_superfund.htm](http://www.epa.gov/oswer/riskassessment/risk_superfund.htm)

**Contact_Info:**

**Comments:**

- checkbox for RCRA_CA
- checkbox for Brownfields
- checkbox for DrinkingWater
- checkbox for SurfaceWater
- checkbox for AirQuality (Clean Air Act)
- checkbox for SolidWasteLndfill
- checkbox for VoluntaryClnUp
- checkbox for SafeDrinkingWaterAct
- checkbox for UST
- checkbox for WetlandsProgram
- checkbox for Other
# Sediment

## KENTUCKY

<table>
<thead>
<tr>
<th>Name: Wesley Turner, et.al.</th>
<th>Contact_Title: Supervisor Federal Section Superfund</th>
</tr>
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<tbody>
<tr>
<td>Organization: Division of Waste Management Superfund</td>
<td></td>
</tr>
<tr>
<td>Address / City: 14 Reilly Road, Frankfort, 40601</td>
<td></td>
</tr>
<tr>
<td>Email: <a href="mailto:wesley.turner@ky.gov">wesley.turner@ky.gov</a></td>
<td>Contact_Phone: (502) 564-6716</td>
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### Regulatory

#### Sediment

| Basis: 401 KAR 100:030 Ecological Risk Assessment for Superfund, Region 4 Ecological Screening Values |
| Contact_Info: Larry Taylor |
| Comments: |

- RCRA_CA
- Brownfields
- DrinkingWater
- SurfaceWater
- AirQuality (Clean Air Act)
- SolidWasteLandfill
- VoluntaryCleanUp
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other

### Guidelines

#### Sediment

| Contact_Info: Larry Taylor |
| Comments: |

- RCRA_CA
- Brownfields
- DrinkingWater
- SurfaceWater
- AirQuality (Clean Air Act)
- SolidWasteLandfill
- VoluntaryCleanUp
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other
## Sediment

### LOUISIANA

<table>
<thead>
<tr>
<th>Name</th>
<th>Patrick J. Lobos</th>
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</thead>
<tbody>
<tr>
<td>Contact_Title</td>
<td>Toxicologist</td>
</tr>
<tr>
<td>Organization</td>
<td>Louisiana Department of Environmental Quality</td>
</tr>
<tr>
<td>Address / City</td>
<td>Environmental Technology Division, PO Box 4314, Baton Rouge, 708214314</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:patrick.lobos@la.gov">patrick.lobos@la.gov</a></td>
</tr>
<tr>
<td>Contact_Phone</td>
<td>(225) 219-3425</td>
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### Regulatory

#### Sediment

**Ecological Risk**

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<tr>
<th>Basis:</th>
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<tr>
<td>Contact_Info:</td>
<td>Patrick J. Lobos <a href="mailto:patrick.lobos@la.gov">patrick.lobos@la.gov</a> 225-219-3425</td>
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### Guidelines

#### Sediment

**Ecological Risk**

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<tr>
<td>Contact_Info:</td>
<td>Patrick J. Lobos <a href="mailto:patrick.lobos@la.gov">patrick.lobos@la.gov</a> 225-219-3425</td>
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10/16/2006
## Sediment

### Massachusetts

<table>
<thead>
<tr>
<th>Name</th>
<th>Paul Locke</th>
<th>Contact Title</th>
<th>Division Director - Policy &amp; Program Development</th>
</tr>
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<tbody>
<tr>
<td>Organization</td>
<td>MA DEQ, Waste Site Cleanup</td>
<td></td>
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<tr>
<td>Address / City</td>
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<td></td>
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</tr>
<tr>
<td>Email</td>
<td><a href="mailto:Paul.Locke@state.ma.us">Paul.Locke@state.ma.us</a></td>
<td>Contact Phone</td>
<td>(617) 556-1160</td>
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### Regulatory

#### Human Health Risk

- **Basis:** See Soil Standards for acceptable values.
- **Citation Location:**
- **Contact Info:**
- **Comments:**

- [RCRA_CA](#)
- [Brownfields](#)
- [DrinkingWater](#)
- [SurfaceWater](#)
- [AirQuality (Clean Air Act)](#)
- [SolidWasteLandfill](#)
- [VoluntaryCleanup](#)
- [SafeDrinkingWaterAct](#)
- [UST](#)
- [WetlandsProgram](#)
- [Other](#)

### Guidelines

#### Sediment

#### Ecological Risk

- **Basis:** Probable Effects Concentrations (PECs) published by MacDonald, et. al (2000).
- **Citation Location:** Sediment Screening Values See [http://mass.gov/dep/service/compliance/riskasmt.htm](http://mass.gov/dep/service/compliance/riskasmt.htm)
- **Contact Info:** Nancy Bettinger, MassDEP Office of Research and Standards, Nancy.Bettinger@state.ma.us, 617-556-1160
- **Comments:**

- [RCRA_CA](#)
- [Brownfields](#)
- [DrinkingWater](#)
- [SurfaceWater](#)
- [AirQuality (Clean Air Act)](#)
- [SolidWasteLandfill](#)
- [VoluntaryCleanup](#)
- [SafeDrinkingWaterAct](#)
- [UST](#)
- [WetlandsProgram](#)
- [Other](#)
# Sediment

**MARYLAND**

<table>
<thead>
<tr>
<th>Name</th>
<th>James Carroll</th>
</tr>
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<tbody>
<tr>
<td>Contact_Title</td>
<td>Program Administrator</td>
</tr>
<tr>
<td>Organization</td>
<td>Maryland Department of the Environment, Waste Management Administration</td>
</tr>
<tr>
<td>Address / City</td>
<td>1800 Washington Blvd., Ste.625, Baltimore, 21230</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:JCarroll@mde.state.md.us">JCarroll@mde.state.md.us</a></td>
</tr>
<tr>
<td>Contact_Phone</td>
<td>(410) 537-3437</td>
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## Regulatory

### Sediment

#### Ecological Risk

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<td>Citation_Location: Sections 7-208 &amp; 7-508 of the Environmental Article, Annotated Code of Maryland, COMAR 26.08.02.03-2</td>
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<td>Contact_Info: ERRP (410) 537-3493</td>
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#### Human Health Risk

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### Guidelines

#### Sediment

#### Ecological Risk

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<tr>
<td>Citation_Location: MDE Cleanup Standards, Ambient Water Quality Criteria (AWQC), COMAR 26.08.02.03-2</td>
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#### Human Health Risk

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<td>Citation_Location: EPA RAGS</td>
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<tr>
<td>Contact_Info: EPA RBC</td>
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<tr>
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Sediment

MICHIGAN

Name: Christine Flaga  
Contact_Title: Chief, Toxicology Unit, Remediation and Redevelopment

Organization: Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Storage Tank)  
Address / City: Michigan Department of Environmental Quality, Remediation and Development Division, Constitution Hall, 525 West Allegan St., Lansing, MI 48917

Email: flagac@michigan.gov  
Contact_Phone: (517) 373-0160

Regulatory Sediment

Ecological Risk

Basis: No generic clean-up criteria available. Clean-up levels are determined on a site-specific basis.

Citation_Location: Part 201 (Environmental Remediation), Part 213 (LUSTs), and Part 201 Rules. Document available at http://www.michigan.gov/deq/0,1607,7-135-3313_3686_3728-11383--,00.html specifically R299.5730 and R299.5532

Contact_Info: Christine Flaga, RRD Toxicology Unit (517) 373-0160, flagac@michigan.gov

Comments:

Human Health Risk

Basis: Generic numerical criteria have not been established for contaminated surface water sediments. Sediment contamination is addressed on a site-specific basis.

Citation_Location: Part 201 (Environmental Remediation), Part 213 (LUSTs), and Part 201 Rules. Document available at http://www.michigan.gov/deq/0,1607,7-135-3313_3686_3728-11383--,00.html specifically R299.5730 and R299.5532

Contact_Info: Christine Flaga, RRD Toxicology Unit (517) 373-0160, flagac@michigan.gov

Comments:

Guidelines Sediment

Ecological Risk

Basis: No generic clean-up criteria available. Clean-up levels are determined on a site-specific basis.

Citation_Location: http://www.michigan.gov/deq/0,1607,7-135-3313_3686_3728-11383--,00.html

Contact_Info: Christine Flaga, RRD Toxicology Unit (517) 373-0160, flagac@michigan.gov

Comments:

Human Health Risk

Basis: See Operational Memoranda 4, Attachment 3: Sediments (in progress)

Citation_Location: Guidelines available at: http://www.michigan.gov/deq/0,1607,7-135-3306_28608---,00.html

Contact_Info: Christine Flaga, RRD Toxicology Unit (517) 373-0160, flagac@michigan.gov

Comments:
**MINNESOTA**

<table>
<thead>
<tr>
<th>Name: Doug Beckwith</th>
<th>Contact_Title: Remediation Supervisor</th>
</tr>
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<tbody>
<tr>
<td>Organization:</td>
<td>Superfund</td>
</tr>
<tr>
<td>Address / City: 525 South Lake Svenue Suite 400, Duluth, 55802</td>
<td></td>
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<tr>
<td>Email: <a href="mailto:doug.beckwith@pca.state.mn.us">doug.beckwith@pca.state.mn.us</a></td>
<td>Contact_Phone: (218) 529-6267</td>
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**Not Specified**

**Sediment**

**Ecological Risk**

Basis: None, guidelines are developed on a site specific basis.

Citation_Location: None, guidelines are developed on a site specific basis.

Contact_Info: Steve Hennis, 651-296-7830, steven.hennes@pca.state.mn.us

Comments:

**Human Health Risk**

Basis: None, guidelines are developed on a site specific basis.

Citation_Location: None, guidelines are developed on a site specific basis.

Contact_Info: Laura Solem, 218-529-6254, laura.solem@pca.state.mn.us

**MISSOURI**

<table>
<thead>
<tr>
<th>Name: Linda Vogt</th>
<th>Contact_Title: Environmental Specialist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization:</td>
<td>Hazardous Waste Program/Superfund Section</td>
</tr>
<tr>
<td>Address / City:</td>
<td>P.O. Box 176, Jefferson City, 65102</td>
</tr>
<tr>
<td>Email: <a href="mailto:linda.vogt@dnr.mo.gov">linda.vogt@dnr.mo.gov</a></td>
<td>Contact_Phone: (573) 751-6998</td>
</tr>
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</table>

**Guidelines**

**Sediment**

**Ecological Risk**

Basis: EPA Consensus-based freshwater sediment quality guidelines. June 2000. EPA 905/R-00/007


Contact_Info:

Comments:
**Sediment**

**MISSISSIPPI**

Name: Jere "Trey" Hess  
Contact_Title: Brownfields Program Coordinator  
Organization: Groundwater Assessment and Remediation Division  
Address / City:

Email: Trey_Hess@deq.state.ms.us  
Contact_Phone: (601) 961-5654

**Guidelines**

**Sediment**

**Ecological Risk**


Citation_Location:  
Contact_Info:  
Comments:

☐ RCRA_CA  
☐ SolidWsteLndfill  
☐ Brownfields  
☐ DrinkingWater  
☐ SurfaceWater  
☐ AirQuality (Clean Air Act)  
☐ UST  
☐ WetlandsProgram  
☐ Other

**NEW HAMPSHIRE**

Name: Robin Mongeon  
Contact_Title: Engineer  
Organization: Waste Management Division, Site Remediation Programs  
Address / City: 29 Hazen Drive, PO Box 95, Concord, 033020095  
Email: rmongeon@des.state.nh.us  
Contact_Phone: (603) 271-7378

**Guidelines**

**Sediment**

**Ecological Risk**

Basis: See comment below


Contact_Info: Lori Siegel lsiegel@des.state.nh.us

Comments: Site specific sediment quality is assessed using a triad approach by evaluating chemical analysis values, toxicity bioassays (laboratory) and community assessments(field) as outlined in the guidance.

☑ RCRA_CA  
☑ SolidWsteLndfill  
☑ Brownfields  
☑ DrinkingWater  
☑ SurfaceWater  
☑ AirQuality (Clean Air Act)  
☑ VoluntaryClnUp  
☑ SafeDrinkingWaterAct  
☑ UST  
☑ WetlandsProgram  
☐ Other
# Sediment

## NEW JERSEY

<table>
<thead>
<tr>
<th>Name: Barry Frasco</th>
<th>Contact_Title: Assistant Director - Division of Remediation Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization: New Jersey DEP</td>
<td>Address / City: 401 East State Street PO Box 413, Trenton, 08625</td>
</tr>
<tr>
<td>Email: <a href="mailto:Barry.Frasco@dep.state.nj.us">Barry.Frasco@dep.state.nj.us</a></td>
<td>Contact_Phone: (609) 633-6801</td>
</tr>
</tbody>
</table>

### Guidelines

#### Sediment

**Ecological Risk**


**Citation_Location:** Guidance For Sediment Quality Evaluations.

**Contact_Info:** A copy of the Guidance For Sediment Quality Evaluations is available at: http://www.nj.gov/dep/srp/regs/sediment/ The contact person is Nancy Hamill.

**Comments:** Sediment remediation is based solely on ecological risk. If sediment is moved to an upland location, it is treated as soil, and as such, soil remediation standards would apply.

- [ ] RCRA_CA
- [ ] Brownfields
- [ ] DrinkingWater
- [ ] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [ ] SolidWasteLndfill
- [ ] VoluntaryClnUp
- [x] SafeDrinkingWaterAct
- [x] UST
- [x] WetlandsProgram
- [ ] Other

## OHIO

<table>
<thead>
<tr>
<th>Name: Timothy Christman</th>
<th>Contact_Title: Environmental Scientist 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization: Ohio Environmental Protection Agency</td>
<td>Address / City: 122 South Front Street, Lazarus Government Center, Columbus, 43215</td>
</tr>
<tr>
<td>Email: <a href="mailto:timothy.christman@epa.state.oh.us">timothy.christman@epa.state.oh.us</a></td>
<td>Contact_Phone: 614-644-2297</td>
</tr>
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### Guidelines

#### Sediment

**Ecological Risk**

**Basis:** Threshold effects

**Citation_Location:** Ecological Risk Assessment Guidance Document, RR-031

**Contact_Info:** Brian Tucker, Emergency and Remedial Response 614-644-3120

**Comments:**

**Human Health Risk**

<table>
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<th>Basis: ILCR = 1E-06, HI =1</th>
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**Citation_Location:** Use of USEPA Region 9 PRG's as Screening Values in Human Health Risk Assessment, Technical Decision Compendium, use soil values for sediment

**Contact_Info:** Brian Tucker, Emergency and Remedial Response 614-644-3120

**Comments:**

- [ ] RCRA_CA
- [ ] Brownfields
- [ ] DrinkingWater
- [ ] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [ ] SolidWasteLndfill
- [ ] VoluntaryClnUp
- [ ] SafeDrinkingWaterAct
- [ ] UST
- [ ] WetlandsProgram
- [ ] Other
# Sediment

**OKLAHOMA**

<table>
<thead>
<tr>
<th>Name:</th>
<th>Catherine Sharp</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact_Title:</td>
<td>Assistant Director</td>
</tr>
<tr>
<td>Organization:</td>
<td>Browndfields and Voluntary Cleanup</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:catherine.sharp@deq.state.ok.us">catherine.sharp@deq.state.ok.us</a></td>
</tr>
<tr>
<td>Contact_Phone:</td>
<td>(405) 702-5151</td>
</tr>
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### Guidelines

#### Sediment

**Ecological Risk**

<table>
<thead>
<tr>
<th>Basis:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleanups are reviewed on a site specific basis. Federal Guidance documents are used, specifically the EPA Soil Screening Levels, the EPA Region VI Medium Specific Screening Levels, and occasionally others.</td>
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<table>
<thead>
<tr>
<th>Contact_Info:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Further information is available in our Risk Based Cleanup Fact Sheet located at <a href="http://www.deq.state.ok.us/lpdnew/FactSheets/RiskbasedDecisionGuidanceFinal.pdf">http://www.deq.state.ok.us/lpdnew/FactSheets/RiskbasedDecisionGuidanceFinal.pdf</a></td>
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**Comments:**

- RCRA_CA
- Brownfields
- RCRA_CA
- SolidWsteLndfill
- VoluntaryClnUp
- SafeDrinkingWaterAct
- UST
- WetlandsProgram
- Other
## Sediment

**OREGON**

**Name:** Mike Poulsen  
**Contact_Title:** Toxicologist  
**Organization:** Oregon Dept. of Environmental Quality, Cleanup  
**Address / City:** 2020 SW 4th St., Portland, 97201  
**Email:** poulsen.mike@deq.state.or.us  
**Contact_Phone:** (503) 229-6773

### Regulatory

#### Sediment

**Ecological Risk**

**Basis:** T&E species: hazard index of 1 for individuals. Non-T&E species: a 10% chance or less that more than 20% of the total local population will be exposed to a concentration greater than the ecological benchmark value for each chemical of concern, and no other observed significant adverse effects on the health or viability of the local population.

**Citation_Location:** OAR 340-122-0115 http://arcweb.sos.state.or.us/rules/OARs_300/OAR_340/340_122.html  
**Contact_Info:** Mike Poulsen 503 229-6773 poulsen.mike@deq.state.or.us  
**Comments:** RCRA corrective action is done by the state environmental cleanup program in Oregon. SW land fill contamination that extends off-site is cleaned up under cleanup program authority. UST, Brownfield, and VCP all operate under the same statute, and therefore the same definition of acceptable risk.

**Human Health Risk**

**Basis:** 1.E-06 for individual carcinogens, 1.E0-5 for multiple carcinogens.

**Citation_Location:** OAR 340-122-0115 http://arcweb.sos.state.or.us/rules/OARs_300/OAR_340/340_122.html  
**Contact_Info:** Mike Poulsen 503 229-6773 poulsen.mike@deq.state.or.us  
**Comments:** RCRA corrective action is done by the state environmental cleanup program in Oregon. SW land fill contamination that extends off-site is cleaned up under cleanup program authority. UST, Brownfield, and VCP all operate under the same statute, and therefore the same definition of acceptable risk.

### Guidelines

#### Sediment

**Ecological Risk**

**Basis:** T&E species: hazard index of 1 for individuals. Non-T&E species: a 10% chance or less that more than 20% of the total local population will be exposed to a concentration greater than the ecological benchmark value for each chemical of concern, and no other observed significant adverse effects on the health or viability of the local population.

**Citation_Location:** Ecological risk assessment guidance available at: http://www.deq.state.or.us/wmc/cleanup/ecocover.htm  
**Contact_Info:** Mike Poulsen 503 229-6773 poulsen.mike@deq.state.or.us  
**Comments:** RCRA corrective action is done by the state environmental cleanup program in Oregon. SW land fill contamination that extends off-site is cleaned up under cleanup program authority. UST, Brownfield, and VCP all operate under the same statute, and therefore the same definition of acceptable risk.

**Human Health Risk**

**Basis:** 1.E-06 for individual carcinogens, 1.E0-5 for multiple carcinogens.

**Citation_Location:** Human health risk assessment guidance available at: http://www.deq.state.or.us/wmc/cleanup/hh-intro.htm  
**Contact_Info:** Mike Poulsen 503 229-6773 poulsen.mike@deq.state.or.us  
**Comments:** RCRA corrective action is done by the state environmental cleanup program in Oregon. SW land fill contamination that extends off-site is cleaned up under cleanup program authority. UST, Brownfield, and VCP all operate under the same statute, and therefore the same definition of acceptable risk.
## Sediment

### RHODE ISLAND

<table>
<thead>
<tr>
<th>Name</th>
<th>Contact Title</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michael D. Andrews</td>
<td>Sanitary Engineer</td>
<td>Office of Waste Management, Site Remediation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Address / City</th>
<th>Email</th>
<th>Contact Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>235 Promenade Street, Providence, 02871</td>
<td><a href="mailto:michael.andrews@dem.ri.gov">michael.andrews@dem.ri.gov</a></td>
<td>(401) 862-5250</td>
</tr>
</tbody>
</table>

#### Regulatory

**Sediment**

**Ecological Risk**

**Basis:**

Citation Location: An Ecological Risk Assessment may be conducted in accordance with EPA/630/R-92/001, February 1992, Framework For Ecological Risk Assessment, or functional equivalent. Site Specific remedial objectives may be demonstrated through an Ecological Risk Assessment.

Contact Info: Contact person is Richard Enander, (401) 222-6822 ext. 4411, richard.enander@dem.ri.gov

Comments: Remediation standards for sediment have not been established by RIDEM. All remediation standards with respect to sediment are developed on a site specific basis.

- [ ] RCRA_CA
- [ ] Brownfields
- [ ] DrinkingWater
- [ ] SurfaceWater
- [ ] AirQuality (Clean Air Act)

- [ ] SolidWasteLndfill
- [ ] VoluntaryClnUp
- [ ] SafeDrinkingWaterAct

#### Not Specified

**Sediment**

**Human Health Risk**

**Basis:**

Citation Location: None. Where applicable, sediment remediation standards with regard to human health risk will be developed on a site specific basis.

Contact Info: Contact person is Michael Andrews, (401) 222-2797 ext. 7140, michael.andrews@dem.ri.gov

Comments: Remediation standards for sediment have not been established by RIDEM. All remediation standards with respect to sediment are developed on a site specific basis.

- [ ] RCRA_CA
- [ ] Brownfields
- [ ] DrinkingWater
- [ ] SurfaceWater

- [ ] SolidWasteLndfill
- [ ] VoluntaryClnUp
- [ ] SafeDrinkingWaterAct

#### Guidelines

**Sediment**

**Ecological Risk**

**Basis:**

Citation Location: Ecological Risk Assessments may be conducted in accordance with EPA/630/R-92/001, February 1992, Framework For Ecological Risk Assessment.

Contact Info: Contact person is Richard Enander, (401) 222-6822 ext. 4411, richard.enander@dem.ri.gov

Comments: Remediation standards for sediment have not been established by RIDEM. All remediation standards with respect to sediment are developed on a site specific basis.

- [ ] RCRA_CA
- [ ] Brownfields
- [ ] DrinkingWater

- [ ] SolidWasteLndfill
- [ ] VoluntaryClnUp
- [ ] SafeDrinkingWaterAct

- [ ] UST
- [ ] WetlandsProgram

- [ ] Other
### Sediment

#### SOUTH DAKOTA

<table>
<thead>
<tr>
<th>Name:</th>
<th>Mark Lawrensen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact_Title:</td>
<td>Superfund Program Manager</td>
</tr>
<tr>
<td>Organization:</td>
<td>Ground Water Quality Program</td>
</tr>
<tr>
<td>Address / City:</td>
<td>523 East Capitol Avenue, Pierre, 57501</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:mark.lawrensen@state.sd.us">mark.lawrensen@state.sd.us</a></td>
</tr>
<tr>
<td>Contact_Phone:</td>
<td>(605) 773-3296</td>
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#### Not Specified

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<td>Comments:</td>
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| **Human Health Risk** |                      |
| Basis:                |                      |
| Citation_Location:    | No specific regulations, site-specific cleanup criteria will be developed as necessary. |
| Contact_Info:         |                      |
| Comments:             |                      |

| **Other** |                      |
| Basis:    |                      |
| Citation_Location: | No specific regulations, site-specific cleanup criteria will be developed as necessary. |
| Contact_Info: |                      |
| Comments:  |                      |
### Sediment

#### TEXAS

<table>
<thead>
<tr>
<th>Name</th>
<th>Chet Clarke</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact_Title</td>
<td>Manager, Technical Support Section</td>
</tr>
<tr>
<td>Organization</td>
<td>Remediation Division (Superfund, RCRA, LUST, Voluntary Cleanup)</td>
</tr>
<tr>
<td>Address / City</td>
<td>TCEQ MC-225, P.O. Box 13087, Austin, 787113087</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:cclarke@tceq.state.tx.us">cclarke@tceq.state.tx.us</a></td>
</tr>
<tr>
<td>Contact_Phone</td>
<td>(512) 239-2268</td>
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#### Regulatory

#### Sediment

##### Ecological Risk

- **Basis:** Title 30 Texas Administrative Code Chapter 350, [http://www.tceq.state.tx.us/remediation/trrp/trrprule.html](http://www.tceq.state.tx.us/remediation/trrp/trrprule.html)
- **Contact_Info:** Larry Champagne or Vickie Reat
- **Comments:** Cumulative risk for multiple chemicals acting through a single pathway is 1E-4. The hazard quotient is 1.

##### Human Health Risk

- **Basis:** Title 30 Texas Administrative Code Chapter 350, [http://www.tceq.state.tx.us/remediation/trrp/trrprule.html](http://www.tceq.state.tx.us/remediation/trrp/trrprule.html) 350.72, 350.74(h)
- **Contact_Info:** Vickie Reat
- **Comments:** Cumulative risk for multiple chemicals acting through a single pathway is 1E-4. The hazard quotient is 1.

#### Guidelines

##### Sediment

##### Ecological Risk

- **Contact_Info:** Larry Champagne or Vickie Reat
- **Comments:** Cumulative risk for multiple chemicals acting through a single pathway is 1E-4. The hazard quotient is 1.

##### Human Health Risk

- **Basis:** TRRP-18, TRRP-24, [http://www.tceq.state.tx.us/remediation/trrp/guidance.html](http://www.tceq.state.tx.us/remediation/trrp/guidance.html)
- **Contact_Info:** Vickie Reat
- **Comments:** Cumulative risk for multiple chemicals acting through a single pathway is 1E-4. The hazard quotient is 1.
### Sediment

#### UTAH

<table>
<thead>
<tr>
<th>Name</th>
<th>Scott Everett</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Title</td>
<td>Toxicologist</td>
</tr>
<tr>
<td>Organization</td>
<td>Voluntary Cleanup Program</td>
</tr>
<tr>
<td>Address / City</td>
<td></td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:Severett@utah.gov">Severett@utah.gov</a></td>
</tr>
<tr>
<td>Contact Phone</td>
<td>(801) 536-4117</td>
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#### Guidelines

**Ecological Risk**

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<tr>
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<tr>
<td>Contact Info:</td>
<td>Contact person is Scott Everett, (801) 536-4117, <a href="mailto:Severett@utah.gov">Severett@utah.gov</a></td>
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<tr>
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#### VIRGINIA

<table>
<thead>
<tr>
<th>Name</th>
<th>Pat McMurray</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Title</td>
<td>Toxicologist</td>
</tr>
<tr>
<td>Organization</td>
<td>Department of Environmental Quality</td>
</tr>
<tr>
<td>Address / City</td>
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</tr>
<tr>
<td>Email</td>
<td><a href="mailto:pamcmurray@deq.virginia.gov">pamcmurray@deq.virginia.gov</a></td>
</tr>
<tr>
<td>Contact Phone</td>
<td>(804) 698-4186</td>
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**Human Health Risk**

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<td>Comments:</td>
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<td>☑ Other</td>
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#### Guidelines

**Ecological Risk**

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<tr>
<th>Basis</th>
<th>VRP recommends the Region III BTAG screening levels but they have not been incorporated into the guidance</th>
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</thead>
<tbody>
<tr>
<td>Citation Location:</td>
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<tr>
<td>Contact Info:</td>
<td><a href="mailto:pamcmurray@deq.virginia.gov">pamcmurray@deq.virginia.gov</a></td>
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<td>Comments:</td>
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<td>☐ RCRA_CA</td>
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## Sediment Guidelines

### WISCONSIN

<table>
<thead>
<tr>
<th>Name:</th>
<th>Aristeo M. Pelayo</th>
<th>Contact:</th>
<th>Hydrogeologist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization:</td>
<td>Remediation and Redevelopment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address / City:</td>
<td>WDNR, RR/3, PO Box 7921, Madison, 53707</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:Aristeo.Pelayo@dnr.state.wi.us">Aristeo.Pelayo@dnr.state.wi.us</a></td>
<td></td>
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</tr>
<tr>
<td>Contact Phone:</td>
<td>(608) 267-3539</td>
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### Guidelines

#### Sediment

**Other**

**Basis:**

- **Citation_Location:** We currently use EPA's Sediment Guidelines and State guidance entitled: "Consensus Based Sediment Quality Guidelines"

**Contact_Info:**

**Comments:**

- [ ] RCRA_CA
- [ ] Brownfields
- [ ] DrinkingWater
- [ ] SurfaceWater
- [ ] AirQuality (Clean Air Act)
- [ ] SolidWasteLndfill
- [ ] VoluntaryClnUp
- [ ] SafeDrinkingWaterAct
- [ ] UST
- [ ] WetlandsProgram
- [ ] Other