

## Soil

### ALASKA

Name: Jill Taylor

Contact\_Title: Environmental Program Specialist III

Organization: Alaska DEC Contaminated Sites Program

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Email: Jill\_Taylor@dec.state.ak.us

Contact\_Phone: (907) 465-5209

### Regulatory

#### Soil

##### Direct Contact (Dermal)

Basis:

Citation\_Location: "18 AAC 75.325 (g) and (h) for Cumulative Risk. <http://www.dec.state.ak.us/regulations/index.htm> Cleanup Levels Guidance - Method 2 Standard Tables"

Contact\_Info: Jill\_Taylor@dec.state.ak.us

Comments:

##### Ingestion

Basis:

Citation\_Location: "18 AAC 75.325 (g) and (h) for Cumulative Risk. <http://www.dec.state.ak.us/regulations/index.htm> Cleanup Levels Guidance - Method 2 Standard Tables"

Contact\_Info: Jill\_Taylor@dec.state.ak.us

Comments:

##### Inhalation

Basis: Jill\_Taylor@dec.state.ak.us

Citation\_Location: 18 AAC 75.325 (g) and (h) for Cumulative Risk. <http://www.dec.state.ak.us/regulations/index.htm> Cleanup Levels Guidance - Method 2 Standard Tables

Contact\_Info:

Comments:

- RCRA\_CA
  Brownfields
  DrinkingWater
  SurfaceWater
  AirQuality (Clean Air Act)
- SolidWsteLndfill
  VoluntaryClnUp
  SafeDrinkingWaterAct
  UST
  WetlandsProgram
  Other

### Guidelines

#### Soil

##### Ecological 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:

##### Impact to Surface Water

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:

- RCRA\_CA
  Brownfields
  DrinkingWater
  SurfaceWater
  AirQuality (Clean Air Act)
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  VoluntaryClnUp
  SafeDrinkingWaterAct
  UST
  WetlandsProgram
  Other

## 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

## 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.

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  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

## 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

#### Soil

##### Direct Contact (Dermal)

Basis: U.S. EPA. 2001. RAGS, Volume I: Human Health Evaluation Manual, Part E, Supplemental Guidance for Dermal Risk Assessment. Final. OSWER 9285.7-02EP. PB99-963312

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/earth1r6/6pd/rcra\\_c/pd-n/screenvalues.pdf](http://www.epa.gov/earth1r6/6pd/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=bl:code>), sets up the performance-based concept of eliminating "unacceptable risk" in contaminated soils.

##### Ecological Risk

Basis: U.S. EPA, Ecological Risk Assessment Guidance for Superfund, <http://www.epa.gov/oswer/riskassessment/ecorisk/ecorisk.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 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&fn=default.htm&vid=bl:code>), sets up the performance-based concept of eliminating "unacceptable risk" in contaminated soils.

##### Impact to Groundwater

Basis: U.S. EPA. 1996. Soil Screening Guidance: User's Guide, April 1996. EPA/540/R-96/018.

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=bl:code>), sets up the performance-based concept of eliminating "unacceptable risk" in contaminated soils.

##### Ingestion

Basis: U.S. 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: 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/earth1r6/6pd/rcra\\_c/pd-n/screenvalues.pdf](http://www.epa.gov/earth1r6/6pd/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=bl:code>), sets up the performance-based concept of eliminating "unacceptable risk" in contaminated soils.

##### Inhalation

## Soil

### ARKANSAS

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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

Basis: U.S. EPA, Risk Assessment Guidance for Superfund (RAGS), U.S. EPA  
[http://www.epa.gov/oswer/riskassessment/risk\\_superfund.htm](http://www.epa.gov/oswer/riskassessment/risk_superfund.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](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.

- |   |  |   |                                       |   |                                |
|---|--|---|---------------------------------------|---|--------------------------------|
| <input checked="" type="checkbox"/> RCRA_CA | <input checked="" type="checkbox"/> Brownfields    | <input type="checkbox"/> DrinkingWater        | <input type="checkbox"/> SurfaceWater | <input type="checkbox"/> AirQuality (Clean Air Act) |                                |
| <input type="checkbox"/> SolidWsteLndfill   | <input checked="" type="checkbox"/> VoluntaryClnUp | <input type="checkbox"/> SafeDrinkingWaterAct | <input type="checkbox"/> UST          | <input type="checkbox"/> WetlandsProgram            | <input type="checkbox"/> Other |

## Soil

### ARIZONA

Name: Richard Olm

Contact\_Title: Senior Environmental Engineer

Organization: Arizona Dept. of Environmental Quality, Remedial Projects

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Email: rco@azdeq.gov

Contact\_Phone: (480) 367-0249

## 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>

Contact\_Info: Jeanene Hanley, [jph@azdeq.gov](mailto: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)

Contact\_Info:

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.

#### *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),

Contact\_Info:

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.

#### *Ingestion*

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>

Contact\_Info: Jeanene Hanley, [jph@azdeq.gov](mailto: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.

#### *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

### Regulatory

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>

Contact\_Info: Jeanene Hanley, [jph@azdeq.gov](mailto: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 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.

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

### Guidelines

#### Soil

##### Impact to Groundwater

Basis:

Citation\_Location: A Screening Method to Determine Soil Concentrations protective of Groundwater Quality

Contact\_Info: Richard Olm, [rco@azdeq.gov](mailto: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.

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 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Soil

### 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

### Regulatory

#### Soil

##### *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:

##### *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>) 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:

##### *Impact to Groundwater*

Basis:

Citation\_Location: "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>) 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>."

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:

##### *Impact 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](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>."

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:

## Soil

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Contact\_Title: Branch Chief

Organization: Site Mitigation and Brownfields Reuse Program

Address / City:

Email: msorensen@dtsc.ca.gov

Contact\_Phone: (916) 255-6660

### Regulatory

#### Ingestion

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:

#### 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:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other



## Soil

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Contact\_Phone: (916) 255-6660

### 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](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](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\\_pubs.cfm?prog=Site%20](http://www.dtsc.ca.gov/PublicationsForms/prog_pubs.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

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### Guidelines

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:

#### 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](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](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\\_pubs.cfm?prog=Site%20](http://www.dtsc.ca.gov/PublicationsForms/prog_pubs.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:

#### Inhalation

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](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](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\\_pubs.cfm?prog=Site%20](http://www.dtsc.ca.gov/PublicationsForms/prog_pubs.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: Deputy Director, Site Mitigation and Brownfields Reuse Program, (916) 322-0504. (see <http://www.dtsc.ca.gov/index.cfm>)

Comments:

#### Other

## Soil

### 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

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 Menegement

Address / City: 4300 Cherry Creek Drive South, Denver, 80246

Email: barbara.ograde@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

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.

##### Inhalation

Basis:

Citation\_Location: <http://www.cdphe.state.co.us/hm/soilplcydraft.asp>

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.

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)
- SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

# Soil

## 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

#### 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 lott at traci.iott@po.state.ct.us

Comments:

##### Ecological Risk

Basis: The Regulations are currently being revised. 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-2 RCSA Standards for Soil Remediation See subsection (i) Additional Remediation of Soil

Contact\_Info: Traci lott at traci.iott@po.state.ct.us

Comments:

##### Impact to Groundwater

Basis: The Regulations are currently being revised. Expect the criteria to be updated to reflect current toxicity values. 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-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 lott at traci.iott@po.state.ct.us

Comments:

##### Impact to Surface Water

Basis: The Regulations are currently being revised. 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-2 RCSA Standards for Soil Remediation See subsection (i) Additional Remediation of Soil

Contact\_Info: Traci lott at traci.iott@po.state.ct.us

Comments:

##### Ingestion

Basis: The Regulations are currently being revised. Expect the criteria to be updated to reflect current toxicity values. 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-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 lott at traci.iott@po.state.ct.us

Comments:

##### Inhalation

Basis: The regulations are currently being revised and the existing numbers are expected to be replaced by the proposed values in the document listed under Guidelines (next column to the right)

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 lott at traci.iott@po.state.ct.us

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## Soil

### 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

### 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

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

### Guidelines

#### Soil

##### 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

Comments:

##### 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](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

Comments:

##### 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](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

Comments:

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

## Soil

### DELAWARE

Name: Stephen Johnson

Contact\_Title: Environmental Engineer

Organization: Site Investigation and Restoration Branch

Address / City:

Email:

Contact\_Phone: (302) 395-2600

### 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)  
 SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

## Soil

### DELAWARE

Name: Stephen Johnson

Contact\_Title: Environmental Engineer

Organization: Site Investigation and Restoration Branch

Address / City:

Email:

Contact\_Phone: (302) 395-2600

### Guidelines

#### Soil

##### *Ecological Risk*

Basis:

Citation\_Location: Uniform Riskbased Standards --Eco

Contact\_Info: Qazi Salahudin

Comments:

##### *Impact to Groundwater*

Basis:

Citation\_Location: Uniform Riskbased Standards

Contact\_Info:

Comments:

##### *Impact to Surface Water*

Basis:

Citation\_Location: Uniform Riskbased Standards

Contact\_Info:

Comments:

##### *Ingestion*

Basis: 1E-6 risk concentrations for individual analytes

Citation\_Location: Uniform Riskbased Standards

Contact\_Info:

Comments:

##### *Inhalation*

Basis:

Citation\_Location: In development following EPA guidance

Contact\_Info:

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)
- SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other



## Soil

### FLORIDA

Name: Bheem R. Kothur

Contact\_Title: PE III

Organization: DWM/S&HWR/RCRA/HSWA

Address / City: 2600 Blair Stone Road, MS#4560, Tallahassee, 323992400

Email: Bheem.Kothur@dep.state.fl.us

Contact\_Phone: (850) 245-8781

### 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](http://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](http://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.

##### Ingestion

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](http://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.

##### Inhalation

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](http://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.

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)
- SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## Soil

### 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

#### 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: 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:

##### Impact to Groundwater

Basis: Soil cleanup values are calculated such that exceedances of groundwater remediation standards will not occur.

Citation\_Location: Rules for Hazardous Site Response 391-3-19 can be found at [http://www.gaepd.org/Documents/rules\\_exist.html](http://www.gaepd.org/Documents/rules_exist.html)

Contact\_Info: david\_brownlee@dnr.state.ga.us

Comments:

##### Impact to Surface Water

Basis: Site specific soil 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](http://www.gaepd.org/Documents/rules_exist.html)

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](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](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)  
 SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

## Soil

### 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

### 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/swmurisk.pdf](http://www.gaepd.org/Files_PDF/techguide/hwb/swmurisk.pdf)  
Contact\_Info: jim\_brown@dnr.state.ga.us  
Comments:

##### Other

Basis:  
Citation\_Location: 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.  
Contact\_Info:  
Comments:  
 RCRA\_CA  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)  
 SolidWsteLndfill  VoluntaryClnUp  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

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

### Not Specified

#### Soil

##### Ecological Risk

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:

- RCRA\_CA  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)  
 SolidWsteLndfill  VoluntaryClnUp  SafeDrinkingWaterAct  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, 627949276

Email: heather.nifong@epa.state.il.us Contact\_Phone: (217) 785-4729

## Regulatory

### Soil

#### 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: Dermal exposure is addressed by the RBCA equations in Tiers 2 and 3, which depend on the use of site-specific paramters. 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 Groundwater

Basis: allows pH specific remediation objectives  
 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: Dermal exposure is addressed by the RBCA equations in Tiers 2 and 3, which depend on the use of site-specific paramters. 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.

#### 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: Dermal exposure is addressed by the RBCA equations in Tiers 2 and 3, which depend on the use of site-specific paramters. 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.

#### Inhalation

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: Dermal exposure is addressed by the RBCA equations in Tiers 2 and 3, which depend on the use of site-specific paramters. 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.

#### 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: Dermal exposure is addressed by the RBCA equations in Tiers 2 and 3, which depend on the use of site-specific paramters. 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.

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  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, 627949276

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 paramters. 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 paramters. 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.

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

# Soil

## 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

### Guidelines

#### Soil

##### Direct Contact (Dermal)

Basis: U.S. EPA. 1996. Soil Screening Guidance: Technical Background Document. Office of Emergency and Remedial Response, Washington, D.C. EPA/540/R-95/128.  
 Citation\_Location: Soil Cleanup Criteria available at: [http://www.in.gov/idem/land/risc/tech\\_guide/index.html](http://www.in.gov/idem/land/risc/tech_guide/index.html)  
 Contact\_Info: Contact person is Megan Hamilton, (317) 234-3928, mhamilto@idem.in.gov  
 Comments:

##### Ecological Risk

Basis:  
 Citation\_Location: Ecological Risk Assessment Guidance for Superfund for Designing and Conducting Ecological Risk Assessments <http://www.epa.gov/oerrpage/superfund/programs/risk/ecorisk/ecorisk.htm>  
 Contact\_Info: Program Specific  
 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: Soil Cleanup Criteria available at: [http://www.in.gov/idem/land/risc/tech\\_guide/index.html](http://www.in.gov/idem/land/risc/tech_guide/index.html)  
 Contact\_Info: Contact person is Megan Hamilton, (317) 234-3928, mhamilto@idem.in.gov  
 Comments:

##### Ingestion

Basis: U.S. EPA. 1996. Soil Screening Guidance: Technical Background Document. Office of Emergency and Remedial Response, Washington, DC. EPA/540/R-96/128. NTIS PB96-963502.  
 Citation\_Location: Soil Cleanup Criteria available at: [http://www.in.gov/idem/land/risc/tech\\_guide/index.html](http://www.in.gov/idem/land/risc/tech_guide/index.html)  
 Contact\_Info: Contact person is Megan Hamilton, (317) 234-3928, mhamilto@idem.in.gov  
 Comments:

##### Inhalation

Basis: U.S. EPA. 1996. Soil Screening Guidance: Technical Background Document. Office of Emergency and Remedial Response, Washington, D.C. EPA/540/R-95/128.  
 Citation\_Location: Soil Cleanup Criteria available at: [http://www.in.gov/idem/land/risc/tech\\_guide/index.html](http://www.in.gov/idem/land/risc/tech_guide/index.html)  
 Contact\_Info: Contact person is Megan Hamilton, (317) 234-3928, mhamilto@idem.in.gov  
 Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other



## Soil

### KENTUCKY

Name: Wesley Turner, et.al.

Contact\_Title: Supervisor Federal Section Superfund

Organization: Division of Waste Mangement Superfund

Address / City: 14 Reilly Road, Frankfort, 40601

Email: wesley.turner@ky.gov

Contact\_Phone: (502) 564-6716

### Regulatory

#### Soil

##### 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>

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>

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>

Contact\_Info: Larry Taylor

Comments:

##### 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>

Contact\_Info: Larry Taylor

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

### Guidelines

#### Soil

##### Ecological Risk

Basis: " 401 KAR 100:030 ""Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments (1997)", and ""Guidelines for Ecological Risk Assessment (1998)"". "

Citation\_Location: <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

## 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:

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>

Contact\_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

Comments:

#### *Ecological Risk*

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>

Contact\_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

Comments:

#### *Impact to Groundwater*

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>

Contact\_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

Comments:

#### *Impact to Surface Water*

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>

Contact\_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

Comments:

#### *Ingestion*

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>

Contact\_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

Comments:

#### *Inhalation*

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>

Contact\_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

Comments:

#### *Other*

## 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

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>

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 proceeded through management options (9-tiered evaluation) more site-specific parameters are considered.

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)
- SolidWsteLndfill   
  VoluntaryClnUp   
  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:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)
- SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## 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, 6176-556-1160

**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, 6176-556-1160

**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, 6176-556-1160

**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, 6176-556-1160

**Comments:**

- RCRA\_CA    
  Brownfields    
  DrinkingWater    
  SurfaceWater    
  AirQuality (Clean Air Act)
- SolidWsteLndfill    
  VoluntaryClnUp    
  SafeDrinkingWaterAct    
 UST    
 WetlandsProgram    
 Other

## Soil

### 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

### Soil

#### 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:

#### Ecological Risk

Basis:  
 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:

#### Impact to Groundwater

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:

#### Impact to Surface Water

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:

#### Ingestion

Basis: 10-5 cancer risk, HI=1  
 Citation\_Location: Section 7-208 & 7-508 of the Environmental Article, Annotated Code of Maryland  
 Contact\_Info: ERRP (410) 537-3493  
 Comments:

#### Inhalation

Basis: 10-5 cancer risk, HI=1  
 Citation\_Location: Sections 7-208 & 7-508 of the Environmental Article, Annotated Code of Maryland <http://www.mlis.state.md.us/>  
 Contact\_Info: ERRP (410) 537-3493  
 Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
 WetlandsProgram   
 Other

## Soil

### 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

### Guidelines

#### Soil

##### Direct Contact (Dermal)

Basis: U.S. EPA Region III Risk-Based Concentration Table (EPA RBC), <http://www.epa.gov/reg3hwmd/risk/human/index.htm>  
 Citation\_Location: 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: State of Maryland Department of the Environment Cleanup Standards for Soil and Groundwater (MDE Cleanup Standards) [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)  
 Comments:

##### Ecological Risk

Basis:  
 Citation\_Location: Ecological Risk Assessment Guidance for Superfund, U.S. EPA <http://www.epa.gov/oswer/riskassessment/ecorisk/ecorisk.htm>  
 Contact\_Info:  
 Comments:

##### Impact to Surface Water

Basis: U.S. EPA Region III Risk-Based Concentration Table (EPA RBC), <http://www.epa.gov/reg3hwmd/risk/human/index.htm>  
 Citation\_Location: 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: 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:

##### Ingestion

Basis: U.S. EPA Region III Risk-Based Concentration Table (EPA RBC), <http://www.epa.gov/reg3hwmd/risk/human/index.htm>  
 Citation\_Location: 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: State of Maryland Department of the Environment Cleanup Standards for Soil and Groundwater (MDE Cleanup Standards) [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)  
 Comments:

##### Inhalation

Basis: U.S. EPA Region III Risk-Based Concentration Table (EPA RBC), <http://www.epa.gov/reg3hwmd/risk/human/index.htm>  
 Citation\_Location: 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: State of Maryland Department of the Environment Cleanup Standards for Soil and Groundwater (MDE Cleanup Standards) [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)  
 Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
 WetlandsProgram   
 Other

## Soil

### MICHIGAN

Name: Christine Flaga Contact\_Title: Chief, Toxicology Unit, Remediation and Redevelo  
 Organization: Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Storag  
 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

### Soil

#### Direct Contact (Dermal)

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](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](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 Contact\_Title: Chief, Toxicology Unit, Remediation and Redevelo  
 Organization: Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Storag  
 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 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\\_9846-58095--,00.html](http://www.michigan.gov/deq/0,1607,7-135-3311_4109_9846-58095--,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](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:  
 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.

#### Inhalation



## Soil

### MICHIGAN

Name: Christine Flaga Contact\_Title: Chief, Toxicology Unit, Remediation and Redevelo  
 Organization: Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Storag  
 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](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  
 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.

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:  
 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.

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Soil

### MICHIGAN

Name: Christine Flaga Contact\_Title: Chief, Toxicology Unit, Remediation and Redevelo  
 Organization: Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Stora  
 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

### 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

Citation\_Location: Cleanup Criteria available at: [http://www.deq.state.mi.us/documents/deq-rrd-OpMemo\\_1.pdf](http://www.deq.state.mi.us/documents/deq-rrd-OpMemo_1.pdf); [http://www.deq.state.mi.us/documents/deq-rrd-OpMemo\\_1-Attachment6.pdf](http://www.deq.state.mi.us/documents/deq-rrd-OpMemo_1-Attachment6.pdf)

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

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

Citation\_Location: Cleanup Criteria available at: [http://www.deq.state.mi.us/documents/deq-rrd-OpMemo\\_1.pdf](http://www.deq.state.mi.us/documents/deq-rrd-OpMemo_1.pdf); [http://www.deq.state.mi.us/documents/deq-rrd-OpMemo\\_1-Attachment3DrinkingWaterCriteriaTechnicalSupportDocument.pdf](http://www.deq.state.mi.us/documents/deq-rrd-OpMemo_1-Attachment3DrinkingWaterCriteriaTechnicalSupportDocument.pdf); [http://www.deq.state.mi.us/documents/deq-rrd-OpMemo\\_1-Attachment9GWPCTechnicalSupportDocument.pdf](http://www.deq.state.mi.us/documents/deq-rrd-OpMemo_1-Attachment9GWPCTechnicalSupportDocument.pdf); <http://www.deq.state.mi.us/documents/deq-erd-tds6.pdf>; <http://www.deq.state.mi.us/documents/deq-erd-tds5.pdf>; [http://www.deq.state.mi.us/documents/deq-rrd-OpMemo\\_5.pdf](http://www.deq.state.mi.us/documents/deq-rrd-OpMemo_5.pdf)

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: Cleanup Criteria available at: [http://www.deq.state.mi.us/documents/deq-rrd-OpMemo\\_1.pdf](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

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.

## Soil

### MICHIGAN

Name: Christine Flaga Contact\_Title: Chief, Toxicology Unit, Remediation and Redevelo  
 Organization: Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Storag  
 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

### Guidelines

#### Inhalation

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:  
 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.  
 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; Technical Support Document (TSD): Generic Groundwater and Soil Volatilization to Indoor Air Inhalation Criteria; TSD: Generic Soil Inhalation Criteria for Ambient Air.  
 Citation\_Location: Cleanup Criteria available at: [http://www.deq.state.mi.us/documents/deq-rrd-OpMemo\\_1.pdf](http://www.deq.state.mi.us/documents/deq-rrd-OpMemo_1.pdf);  
<http://www.deq.state.mi.us/documents/deq-erd-td6.pdf>; <http://www.deq.state.mi.us/documents/deq-erd-td5.pdf>  
 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.

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

# Soil

## 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

#### Soil

##### 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:  
[http://www.pca.state.mn.us/cleanup/pubs/srv3\\_99.pdf](http://www.pca.state.mn.us/cleanup/pubs/srv3_99.pdf)  
 Contact\_Info: Laura Solem, 218-529-6254, laura.solem@pca.state.mn.us  
 Comments:

##### Ecological Risk

Basis:  
 Citation\_Location: 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>  
 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>  
 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:  
[http://www.pca.state.mn.us/cleanup/pubs/srv3\\_99.pdf](http://www.pca.state.mn.us/cleanup/pubs/srv3_99.pdf)  
 Contact\_Info: Laura Solem, 218-529-6254, laura.solem@pca.state.mn.us  
 Comments:  
 Basis: U.S. EPA, Risk Assessment Guidance for Superfund, 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:  
[http://www.pca.state.mn.us/cleanup/pubs/srv3\\_99.pdf](http://www.pca.state.mn.us/cleanup/pubs/srv3_99.pdf)  
 Contact\_Info: Laura Solem, 218-529-6254, laura.solem@pca.state.mn.us  
 Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     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>

Contact\_Info: Division of Environmental Quality,  
Water Protection Program

Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     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

### Guidelines

#### Soil

##### *Direct Contact (Dermal)*

Basis: EPA Region 9 Preliminary Remediation Goals (PRGs), October 2004. <http://www.epa.gov/region09/waste/sfund/prg/>. Cancer risk 1x10<sup>-6</sup>, 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<sup>-6</sup>, non-cancer risk HQ=1  
 Contact\_Info: Missouri Risk-Based Corrective Action (MRBCA) Technical Guidance (2005 Draft). <http://www.dnr.mo.gov/env/hwp/mrbca/workgroup.htm>. Cancer risk 1x10<sup>-5</sup>, noncancer risk HQ=1  
 Comments:

##### *Ecological Risk*

Basis: Tiered approach to qualitative and/or quantitative eco risk evaluation based on checklists.  
 Citation\_Location: MRBCA  
 Contact\_Info: Chris Cady  
 Comments:

##### *Impact to Groundwater*

Basis: Missouri Risk-Based Corrective Action (MRBCA) Technical Guidance (2005 Draft). <http://www.dnr.mo.gov/env/hwp/mrbca/workgroup.htm>. Cancer risk 1x10<sup>-5</sup>, noncancer risk HQ=1. Soil levels protective of leaching to groundwater calculated from risk-based groundwater stds.  
 Citation\_Location: EPA Region 9 Preliminary Remediation Goals (PRGs), October 2004. <http://www.epa.gov/region09/waste/sfund/prg/>. Cancer risk 1x10<sup>-6</sup>, non-cancer risk HQ=1  
 Contact\_Info:  
 Comments:

##### *Impact to Surface Water*

Basis: Soil or sediment contam. levels protective of surface water would be determined based on surface water quality std. Regulations  
 Citation\_Location: MRBCA  
 Contact\_Info: Chris Cady  
 Comments:

##### *Ingestion*

Basis: Missouri Risk-Based Corrective Action (MRBCA) Technical Guidance (2005 Draft). <http://www.dnr.mo.gov/env/hwp/mrbca/workgroup.htm>. Cancer risk 1x10<sup>-5</sup>, noncancer risk HQ=1  
 Citation\_Location: EPA Region 9 Preliminary Remediation Goals (PRGs), October 2004. <http://www.epa.gov/region09/waste/sfund/prg/>. Cancer risk 1x10<sup>-6</sup>, non-cancer risk HQ=1  
 Contact\_Info:  
 Comments:

##### *Inhalation*

Basis: Missouri Risk-Based Corrective Action (MRBCA) Technical Guidance (2005 Draft). <http://www.dnr.mo.gov/env/hwp/mrbca/workgroup.htm>. Cancer risk 1x10<sup>-5</sup>, noncancer risk HQ=1  
 Citation\_Location: EPA Region 9 Preliminary Remediation Goals (PRGs), October 2004. <http://www.epa.gov/region09/waste/sfund/prg/>. Cancer risk 1x10<sup>-6</sup>, non-cancer risk HQ=1  
 Contact\_Info:  
 Comments:

## 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

### Guidelines

- RCRA\_CA   
 Brownfields   
 DrinkingWater   
 SurfaceWater   
 AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 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

### Regulatory

#### Soil

##### Inhalation

Basis: Subpart II - Brownfield Risk Evaluation Procedures

Citation\_Location:

Contact\_Info: [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   
 DrinkingWater   
 SurfaceWater   
 AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

### Guidelines

#### Soil

##### Ingestion

Basis: Subpart II - Brownfield Risk Evaluation Procedures

Citation\_Location:

Contact\_Info: [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   
 DrinkingWater   
 SurfaceWater   
 AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 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

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

### Guidelines

#### Soil

##### *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:

##### *Ingestion*

Basis: 1 x 10-6 & 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:

##### *Inhalation*

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:

Basis: 1 x10-6 & HQ of 1

Citation\_Location: EPA Vapor Intrusion to Indoor Air Guidance

Contact\_Info: Aimee Reynolds

Comments:

## 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

### Guidelines

Basis: 1 x10-6 & HQ of 1/10

Citation\_Location: Region 9 Preliminary Remediation Goals

Contact\_Info: Aimee Reynolds

Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other Groundwater Remediation

## Soil

### NORTH DAKOTA

Name: Curt Erickson

Contact\_Title: Program Manager

Organization: Hazardous Waste Program

Address / City: 918 East Divide Ave, Bismarck, 585011947

Email: cerickso@state.nd.us

Contact\_Phone: (701) 328-5166

## Regulatory

### Soil

#### Ingestion

Basis: 400 ppm residential; 1200 ppm non-residential.

Citation\_Location: Chapter 33-15-24 NDAC Standards for Lead-Based Paint Activities. Available at [www.legis.nd.gov/information/acdata/pdf/33-15-24.pdf](http://www.legis.nd.gov/information/acdata/pdf/33-15-24.pdf)

Contact\_Info: Sandra Washek, (701) 328-5190, [swashek@state.nd.us](mailto:swashek@state.nd.us)

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)
- SolidWsteLndfill   
  VoluntaryClnUp   
  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](http://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](mailto:gbracht@state.nd.us)

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)
- SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other Groundwater Program

## Soil

### NORTH DAKOTA

Name: Curt Erickson

Contact\_Title: Program Manager

Organization: Hazardous Waste Program

Address / City: 918 East Divide Ave, Bismarck, 585011947

Email: cerickso@state.nd.us

Contact\_Phone: (701) 328-5166

## 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](http://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](http://www.ndhealth.gov/wm)

Contact\_Info: Gary Berreth, (701) 328-5167, [gberreth@state.nd.us](mailto: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](http://www.epa.gov/superfund/resources/soil/#user)

Contact\_Info:

Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other Groundwater Program

## Soil

### 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

## 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](mailto: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.

- |   |  |   |                                       |   |                                |
|---|--|---|---------------------------------------|---|--------------------------------|
| <input type="checkbox"/> RCRA_CA          | <input checked="" type="checkbox"/> Brownfields    | <input type="checkbox"/> DrinkingWater        | <input type="checkbox"/> SurfaceWater | <input type="checkbox"/> AirQuality (Clean Air Act) |                                |
| <input type="checkbox"/> SolidWsteLndfill | <input checked="" type="checkbox"/> VoluntaryClnUp | <input type="checkbox"/> SafeDrinkingWaterAct | <input type="checkbox"/> UST          | <input type="checkbox"/> WetlandsProgram            | <input type="checkbox"/> Other |

## Soil

### 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

### 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.

**Citation\_Location:** NDEQ's Protocol for VCP Remediation Goals Lookup Tables, available at: <http://www.deq.state.ne.us>; also EPA's Ecological Risk Assessment Guidance for Superfund (EPA 1997).

**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

## Soil

### 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

- 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.

#### 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 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.

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)
- SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

## Soil

### 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

## Regulatory

### 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](http://www.des.state.nh.us/orcb/doclist/pdf/Env-Wm_1600.pdf)

Contact\_Info: David Larson [dlarson@des.state.nh.us](mailto: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](http://www.des.state.nh.us/orcb/doclist/pdf/Env-Wm_1600.pdf) See also "Risk Characterization and Management Policy" <http://www.des.state.nh.us/orcb/doclist/pdf/rcmp.pdf>

Contact\_Info: Lori Siegel [lsiegel@des.state.nh.us](mailto: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.

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](http://www.des.state.nh.us/orcb/doclist/pdf/Env-Wm_1600.pdf)

Contact\_Info: David Larson [dlarson@des.state.nh.us](mailto: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.

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)
- SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other



## Soil

### 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

#### Soil

##### Direct Contact (Dermal)

**Basis:** Dermal contact and ingestion are combined to develop a risk based soil cleanup value

**Citation\_Location:** For Non-Petroleum sites soil cleanup guidelines are listed in the "Risk Characterization and Management Policy" <http://www.des.state.nh.us/orcb/doclist/pdf/rcmp.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.

##### Impact to Groundwater

**Basis:** For non petroleum sites leaching based soil guidelines are based on SESOIL and AT123D modeling

**Citation\_Location:** For Non-Petroleum sites soil cleanup guidelines are listed in the "Risk Characterization and Management Policy" <http://www.des.state.nh.us/orcb/doclist/pdf/rcmp.pdf>

**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.

##### Ingestion

**Basis:** Dermal contact and ingestion are combined to develop a risk based soil cleanup value

**Citation\_Location:** For Non-Petroleum sites soil cleanup guidelines are listed in the "Risk Characterization and Management Policy" <http://www.des.state.nh.us/orcb/doclist/pdf/rcmp.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.

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)
- SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

## Soil

### 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

## 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  
 Comments:

#### Ingestion

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:

#### Inhalation

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:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## Soil

### 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

### Not Specified

#### Soil

##### Ecological Risk

Basis: The following references are used as screening levels as well as a starting point in the development of site-specific remediation standards: 1) U.S. Department of Energy. August 1997. Efroymsen, R.A., Suter, G.W. II., Sample, B.E., and Jones, D.S. Preliminary remediation goals for ecological endpoints. Oak ridge National Laboratory. ES/ER/TM-162/R2. and 2) U.S. Environmental Protection Agency. 2003. Ecological soil screening level guidance. Draft. Office of Emergency and Remedial Response. Available at: [www.epa.gov/superfund/programs/risk/tooleco.htm](http://www.epa.gov/superfund/programs/risk/tooleco.htm)

Citation\_Location: None. Where applicable, ecological risk-based soil remediation standards will be developed on a site-specific basis.

Contact\_Info:

Comments:

Basis: The following references are used as screening levels as well as a starting point in the development of site-specific remediation standards: 1) U.S. Department of Energy. August 1997. Efroymsen, R.A., Suter, G.W. II., Sample, B.E., and Jones, D.S. Preliminary remediation goals for ecological endpoints. Oak ridge National Laboratory. ES/ER/TM-162/R2. and 2) U.S. Environmental Protection Agency. 2003. Ecological soil screening level guidance. Draft. Office of Emergency and Remedial Response. Available at: [www.epa.gov/superfund/programs/risk/tooleco.htm](http://www.epa.gov/superfund/programs/risk/tooleco.htm)

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<sup>-6</sup> 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.

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:

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<sup>-6</sup> for carcinogens; HQ = 1 for non-carcinogens

Citation\_Location: No "generic" numeric standards. Where applicable, soil impact to surface water are developed on a site-specific basis.

Contact\_Info: Contact person is Barry Frasco.

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## Soil

### 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

#### 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](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  
 Comments:

##### Inhalation

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  
 Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other



## Soil

### OKLAHOMA

Name: Catherine Sharp

Contact\_Title: Assistant Director

Organization: Browndfields and Voluntary Cleanup

Address / City:

Email: catherine.sharp@deq.state.ok.us

Contact\_Phone: (405) 702-5151

### Guidelines

#### Soil

##### *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:

##### *Ecological Risk*

Basis:

Citation\_Location: In addition to other appropriate guidance documents, we use the EPA Ecological Soils Screening document, November 2003, <http://www.epa.gov/ecotox/ecoss>.

Contact\_Info:

Comments:

##### *Impact to Groundwater*

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:

##### *Impact 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:

##### *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:

##### *Inhalation*

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:

## Soil

### 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

#### 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:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Soil

### 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

#### Soil

##### *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](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 therefoer 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](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 therefoer the same definition of acceptable risk.

##### *Impact to Groundwater*

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](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 therefoer the same definition of acceptable risk.

##### *Impact to Surface Water*

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](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 therefoer the same definition of acceptable risk.

##### *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](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 therefoer the same definition of acceptable risk.

##### *Inhalation*



## Soil

### 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

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](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)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Soil

### 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

#### Soil

##### *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> and <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 therefoer 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: 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 therefoer 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> and <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 therefoer the same definition of acceptable risk.

##### *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> and <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 therefoer the same definition of acceptable risk.

##### *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> and <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 therefoer the same definition of acceptable risk.

##### *Inhalation*

## Soil

### 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

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> and <http://www.deq.state.or.us/wmc/tank/rbdrm.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     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Soil

### 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

### 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>

#### Inhalation

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>

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>

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)
- SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

## Soil

### 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

### Not Specified

#### Soil

##### Ecological Risk

Basis: 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: <http://www.dem.ri.gov/pubs/regs/regs/waste/remreg04.pdf>

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>

##### Impact to Surface Water

Basis:

Citation\_Location: 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>

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     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:

Citation\_Location: <http://legis.state.sd.us/rules/DisplayRule.aspx?Rule=74:56>

Contact\_Info: Joane Lineburg, SDDENR 773-3296

Comments:

- RCRA\_CA   
 Brownfields   
 DrinkingWater   
 SurfaceWater   
 AirQuality (Clean Air Act)
- SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## Not Specified

### Soil

#### Direct Contact (Dermal)

Basis:

Citation\_Location: No specific regulations, site-specific cleanup criteria will be developed as necessary.

Contact\_Info: Joane Lineburg, SDDENR 773-3296

Comments:

#### Ecological Risk

Basis:

Citation\_Location: 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:

Citation\_Location: No specific regulations, site-specific cleanup criteria will be developed as necessary.

Contact\_Info: Joane Lineburg, SDDENR 773-3296

Comments:

#### Ingestion

Basis:

Citation\_Location: No specific regulations, site-specific cleanup criteria will be developed as necessary.

Contact\_Info: Joane Lineburg, SDDENR 773-3296

Comments:

#### Inhalation

Basis:

Citation\_Location: No specific regulations, site-specific cleanup criteria will be developed as necessary.

Contact\_Info: Joane Lineburg, SDDENR 773-3296

Comments:

- RCRA\_CA   
 Brownfields   
 DrinkingWater   
 SurfaceWater   
 AirQuality (Clean Air Act)
- SolidWsteLndfill   
 VoluntaryClnUp   
 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

## Guidelines

### Soil

#### *Impact to Groundwater*

Basis:

Citation\_Location: <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

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

### Soil

#### *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(c), 350.75(i)(6)  
Contact\_Info: Chet Clarke, Paul Lewis, or Kip Haney  
Comments:

#### *Ecological Risk*

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:

#### *Impact to Groundwater*

Basis:  
Citation\_Location: Title 30 Texas Administrative Code Chapter 350, <http://www.tceq.state.tx.us/remediation/trrp/trrprule.html>  
350.72, 350.74(f), 350.75(i)(7)  
Contact\_Info: Chet Clarke, Paul Lewis, or Kip Haney  
Comments:

#### *Impact to Surface Water*

Basis:  
Citation\_Location: Title 30 Texas Administrative Code Chapter 350, <http://www.tceq.state.tx.us/remediation/trrp/trrprule.html>  
350.72 and 350.74(h)  
Contact\_Info: Vickie Reat  
Comments:

#### *Ingestion*

Basis:  
Citation\_Location: Title 30 Texas Administrative Code Chapter 350, <http://www.tceq.state.tx.us/remediation/trrp/trrprule.html>  
350.72, 350.74(c), 350.75(i)(6)  
Contact\_Info: Chet Clarke, Paul Lewis, or Kip Haney  
Comments:

#### *Inhalation*

Basis:  
Citation\_Location: Title 30 Texas Administrative Code Chapter 350, <http://www.tceq.state.tx.us/remediation/trrp/trrprule.html>  
350.72, 350.74(b), 350.75(i)(6) and (8)  
Contact\_Info: Chet Clarke, Paul Lewis, or Kip Haney  
Comments:

#### *Other*

## Soil

### 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

Basis:

Citation\_Location: Title 30 Texas Administrative Code Chapter 350, <http://www.tceq.state.tx.us/remediation/trrp/trrprule.html>  
350.74(e)

Contact\_Info: Kip Haney

Comments: "Other" denotes the vegetable consumption pathway. Cumulative risk for multiple chemicals acting through a single pathway is 1E-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.

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Soil

### 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

### Guidelines

#### Soil

##### *Direct Contact (Dermal)*

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:

##### *Ecological Risk*

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:

##### *Impact to Groundwater*

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:

##### *Impact 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:

##### *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:

##### *Inhalation*

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: "Other" denotes the vegetable consumption pathway. Cumulative risk for multiple chemicals acting through a single pathway is 1E-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.

## Soil

### 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

### Guidelines

- RCRA\_CA  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)  
 SolidWsteLndfill  VoluntaryClnUp  SafeDrinkingWaterAct  UST  WetlandsProgram  Other

### UTAH

Name: Scott Everett Contact\_Title: Toxicologist  
 Organization: Voluntary Cleanup Program  
 Address / City:  
 Email: Severett@utah.gov Contact\_Phone: (801) 536-4117

### 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](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:

- RCRA\_CA  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)  
 SolidWsteLndfill  VoluntaryClnUp  SafeDrinkingWaterAct  UST  WetlandsProgram  Other

### 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:

- RCRA\_CA  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)  
 SolidWsteLndfill  VoluntaryClnUp  SafeDrinkingWaterAct  UST  WetlandsProgram  Other

## 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

#### Soil

##### *Direct Contact (Dermal)*

Basis: \* see note below

Citation\_Location: N/A

Contact\_Info:

Comments: 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 <http://www.deq.state.va.us/tanks/dwnllib.html#techmanfiles>. Contact jsbarnett@deq.virginia.gov. For RCRA Subtitle C, the federal regulations are adopted by reference. For Solid Waste DEQ uses Subtitle D federal criteria and guidance. Contact skthirunagari@deq.virginia.gov program specific basis.

##### *Ecological Risk*

Basis: \* see note below

Citation\_Location: 9VAC20-160-90

Contact\_Info: klgreene@deq.virginia.gov

Comments: 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 <http://www.deq.state.va.us/tanks/dwnllib.html#techmanfiles>. Contact jsbarnett@deq.virginia.gov. For RCRA Subtitle C, the federal regulations are adopted by reference. For Solid Waste DEQ uses Subtitle D federal criteria and guidance. Contact skthirunagari@deq.virginia.gov program specific basis.

##### *Impact to Groundwater*

Basis: MCL supercedes risk-based

Citation\_Location: 9VAC20-160-90

Contact\_Info: klgreene@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.

##### *Impact to Surface Water*

Basis: Water Quality Standards. 9 VAC 25-260-140.

Citation\_Location: 9VAC20-160-90

Contact\_Info: klgreene@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.

##### *Ingestion*

Basis: \* See Note Below.

Citation\_Location: 9VAC20-160-90

Contact\_Info: klgreene@deq.virginia.gov

Comments: 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 <http://www.deq.state.va.us/tanks/dwnllib.html#techmanfiles>. Contact jsbarnett@deq.virginia.gov. For RCRA Subtitle C, the federal regulations are adopted by reference. For Solid Waste DEQ uses Subtitle D federal criteria and guidance. Contact skthirunagari@deq.virginia.gov program specific basis.

##### *Inhalation*

## 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

**Basis:** 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 <http://www.deq.state.va.us/tanks/dwnllib.html#techmanfiles>. Contact jsbarnett@deq.virginia.gov. For RCRA Subtitle C, the federal regulations are adopted by reference. For Solid Waste DEQ uses Subtitle D federal criteria and guidance. Contact skthirunagari@deq.virginia.gov program specific basis.

Citation\_Location: 9VAC20-160-90

Contact\_Info: klgreene@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:

**Comments:** 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 <http://www.deq.state.va.us/tanks/dwnllib.html#techmanfiles>. Contact jsbarnett@deq.virginia.gov. For RCRA Subtitle C, the federal regulations are adopted by reference. For Solid Waste DEQ uses Subtitle D federal criteria and guidance. Contact skthirunagari@deq.virginia.gov program specific basis.

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

### Guidelines

#### Soil

##### Impact to Groundwater

**Basis:** MCL supercedes risk-based

Citation\_Location: [www.deq.virginia.gov/vrprisk/tables.html](http://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](http://www.deq.virginia.gov/vrprisk/tables.html)

Contact\_Info: pamcmurray@deq.virginia.gov

**Comments:**

##### Inhalation

**Basis:** (HQ for screening =0.1)

Citation\_Location: [www.deq.virginia.gov/vrprisk/tables.html](http://www.deq.virginia.gov/vrprisk/tables.html)

Contact\_Info: pamcmurray@deq.virginia.gov

**Comments:**

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## Soil

### 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

#### Soil

##### *Ecological Risk*

Basis: Site-specific

Citation\_Location: NR 720.19(6), wis. Adm. Code

Contact\_Info:

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: 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.

Citation\_Location: NR 720.19(4), 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.

##### *Impact to Surface Water*

Basis: Site-specific

Citation\_Location: NR 720.19(6), wis. Adm. Code

Contact\_Info:

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*

## Soil

### 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

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

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.

#### 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   
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  SurfaceWater   
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  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other



## Soil

### 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

### Guidelines

#### Soil

##### *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 (C<sub>sat</sub>), then C<sub>sat</sub> 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*

## Soil

### 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

### Guidelines

**Basis:** If the resulting direct-contact level exceeds the soil saturation concentration (C<sub>sat</sub>), then C<sub>sat</sub> 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.

#### Other

**Basis:** If the resulting direct-contact level exceeds the soil saturation concentration (C<sub>sat</sub>), then C<sub>sat</sub> 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   
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  AirQuality (Clean Air Act)
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  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)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Groundwater

### 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

### Regulatory

#### Groundwater

##### Direct Contact (Dermal)

Basis:

Citation\_Location: Arkansas Pollution Control and Ecology Commission (APC&EC) Regulation 2 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 groundwater. A remedial action pursuant to subdivision (e)(3) of this section shall eliminate unacceptable risks and prevent degradation of groundwaters and surface waters.

##### Discharge 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>) 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 groundwater. A remedial action pursuant to subdivision (e)(3) of this section shall eliminate unacceptable risks and prevent degradation of groundwaters and surface waters.

##### Drinking (Ingestion)

Basis:

Citation\_Location: Arkansas Pollution Control and Ecology Commission (APC&EC) 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 groundwater. A remedial action pursuant to subdivision (e)(3) of this section shall eliminate unacceptable risks and prevent degradation of groundwaters and surface waters.

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  UST   
  WetlandsProgram   
  Other

## Groundwater

### 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

#### Groundwater

##### Direct Contact (Dermal)

Basis: U.S. EPA. 2001. RAGS, Volume I: Human Health Evaluation Manual, Part E, Supplemental Guidance for Dermal Risk Assessment. Final. OSWER 9285.7-02EP. PB99-963312

Citation\_Location: EPA MCLs, MCLGs, or risk-based tap water screening values (presented in the EPA Region 6 HHMSSLs table: [http://www.epa.gov/earth1r6/6pd/rcra\\_c/pd-n/screenvalues.pdf](http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screenvalues.pdf)) 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.

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=bl:code>), 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.

##### Discharge to Surface Water

Basis: U.S. EPA Risk Assessment Guidance for Superfund (RAGS), [http://www.epa.gov/oswer/riskassessment/risk\\_superfund.htm](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](http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screenvalues.pdf)) 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.

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=bl:code>), 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.

##### Drinking (Ingestion)

Basis: U.S. EPA (Federal) MCLs

Citation\_Location: EPA MCLs, MCLGs, or risk-based tap water screening values (presented in the EPA Region 6 HHMSSLs table: [http://www.epa.gov/earth1r6/6pd/rcra\\_c/pd-n/screenvalues.pdf](http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screenvalues.pdf)).

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=bl:code>), 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.

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## Groundwater

### 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

### Regulatory

#### Groundwater

##### Direct Contact (Dermal)

Basis:

Citation\_Location: <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>

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).

##### Drinking (Ingestion)

Basis:

Citation\_Location: <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).

- 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

### 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](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>. "

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](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](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: msorensen@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](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

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

Basis:

Citation\_Location: "1. For risk assessment of lead exposures, see LeadSpread. (see <http://www.dtsc.ca.gov/AssessingRisk/leadsread.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>) "

Contact\_Info:

Comments:

- RCRA\_CA
  Brownfields
  DrinkingWater
  SurfaceWater
  AirQuality (Clean Air Act)
- SolidWsteLndfill
  VoluntaryClnUp
  SafeDrinkingWaterAct
  UST
  WetlandsProgram
  Other

## Groundwater

### COLORADO

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Contact\_Title: Environmental Protection Specialist III

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Contact\_Phone: (303) 692-3395

### 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/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/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/waterregs/100242sitespecificclassgroundwater.pdf>  
<http://www.cdphe.state.co.us/op/regs/waterqualitycontroldivision/100301primarydrinkingwater.pdf>  
<http://www.cdphe.state.co.us/op/regs/waterregs/100241basicstandardsforgroundwater.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>). The Regulations provide for special consideration of wetlands and intermittent 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>) 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 lott 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>) 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 lott at traci.iott@po.state.ct.us

Comments:

RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## Not Specified

### Groundwater

#### Discharge to Surface Water

Basis:

Citation\_Location: No additional guidance has been developed. However, future guidance is expected as the regulations are revised.

Contact\_Info: Traci lott at traci.iott@po.state.ct.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

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Email: traci.iott@po.state.ct.us

Contact\_Phone: (860) 424-3082

## 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](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:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## 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:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

### Guidelines

#### Groundwater

##### Discharge to Surface Water

Basis:

Citation\_Location: Uniform Riskbased Standards

Contact\_Info: Qazi Salahudin

Comments:

##### Drinking (Ingestion)

Basis:

Citation\_Location: Uniform Riskbased Standards

Contact\_Info: Uniform Riskbased Standards

Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Groundwater

### 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

#### Groundwater

##### 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:

##### 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](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](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)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Groundwater

### 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

#### 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>  
 Contact\_Info: Bob Drustrup, (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, standands 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  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)  
 SolidWsteLndfill  VoluntaryClnUp  SafeDrinkingWaterAct  UST  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, standands 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  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)  
 SolidWsteLndfill  VoluntaryClnUp  SafeDrinkingWaterAct  UST  WetlandsProgram  Other



## Groundwater

### ILLINOIS

Name: Heather Nifong

Contact\_Title: Programs Advisor

Organization: Division of Remediation Management, Bureau of Land

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Email: heather.nifong@epa.state.il.us

Contact\_Phone: (217) 785-4729

## 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 simliar 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)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Not Specified

### Groundwater

#### Discharge to Surface Water

Basis:

Citation\_Location: None. Developed on site-specific basis.

Contact\_Info: IEPA Toxicity Assessment Unit, 217-785-0830

Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Groundwater

### 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

### Guidelines

#### Groundwater

##### 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: Ground water Cleanup Criteria available at: [http://www.in.gov/idem/land/risc/tech\\_guide/index.html](http://www.in.gov/idem/land/risc/tech_guide/index.html)

Contact\_Info: Contact person is Megan Hamilton, (317) 234-3928, mhamilto@idem.in.gov

Comments:

##### Discharge 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: Ground water Cleanup Criteria available at: [http://www.in.gov/idem/land/risc/tech\\_guide/index.html](http://www.in.gov/idem/land/risc/tech_guide/index.html)

Contact\_Info: Contact person is Megan Hamilton, (317) 234-3928, mhamilto@idem.in.gov

Comments:

##### Drinking (Ingestion)

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: Ground water Cleanup Criteria available at: [http://www.in.gov/idem/land/risc/tech\\_guide/index.html](http://www.in.gov/idem/land/risc/tech_guide/index.html)

Contact\_Info: Contact person is Megan Hamilton, (317) 234-3928, mhamilto@idem.in.gov

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
 WetlandsProgram   
 Other

## Groundwater

### KENTUCKY

Name: Wesley Turner, et.al.

Contact\_Title: Supervisor Federal Section Superfund

Organization: Division of Waste Mangement Superfund

Address / City: 14 Reilly Road, Frankfort, 40601

Email: wesley.turner@ky.gov

Contact\_Phone: (502) 564-6716

## 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>

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>

Contact\_Info: Larry Taylor

Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Groundwater

### 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

#### Groundwater

##### Direct Contact (Dermal)

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>

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.

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>

Contact\_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

Comments:

##### Drinking (Ingestion)

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>

Contact\_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

Comments:

##### Other

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>

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

### Guidelines

#### Groundwater

##### Discharge to Surface Water

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>

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

## 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)

Basis: 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 "ceiling limits".

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, 6176-556-1160

Comments:

#### Discharge to Surface Water

Basis: 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>

Citation\_Location: 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 "ceiling limits".

Contact\_Info: Nancy Bettinger, MassDEP Office of Research and Standards, Nancy.Bettinger@state.ma.us, 6176-556-1160

Comments:

#### Drinking (Ingestion)

Basis: 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 "ceiling limits".

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, 6176-556-1160

Comments:

#### Other

Basis: 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 "ceiling limits".

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, 6176-556-1160

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)
- SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

## Groundwater

### 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

#### 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:  
 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:

##### 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 26.04.01.06-07  
 Contact\_Info: ERRP (410) 537-3493  
 Comments:

- RCRA\_CA  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)  
 SolidWsteLndfill  VoluntaryClnUp  SafeDrinkingWaterAct  UST  WetlandsProgram  Other

### 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:

- RCRA\_CA  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)  
 SolidWsteLndfill  VoluntaryClnUp  SafeDrinkingWaterAct  UST  WetlandsProgram  Other

## Groundwater

### MICHIGAN

Name: Christine Flaga Contact\_Title: Chief, Toxicology Unit, Remediation and Redevelo  
 Organization: Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Stora  
 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 is 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](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](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](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

## Groundwater

### MICHIGAN

Name: Christine Flaga

Contact\_Title: Chief, Toxicology Unit, Remediation and Redevelo

Organization: Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Stora

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: 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: \*\* The 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)  
 SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
 WetlandsProgram   
 Other



## Groundwater

### MICHIGAN

Name: Christine Flaga Contact\_Title: Chief, Toxicology Unit, Remediation and Redevelo  
 Organization: Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Storag  
 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

### 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 RBSLs; TSD: Groundwater Contact Criteria  
 Citation\_Location: Cleanup Criteria available at: [http://www.deq.state.mi.us/documents/deq-rrd-OpMemo\\_1.pdf](http://www.deq.state.mi.us/documents/deq-rrd-OpMemo_1.pdf); <http://www.deq.state.mi.us/documents/deq-erd-tds4.pdf>  
 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 RBSLs; TSD:GSI  
 Citation\_Location: Cleanup Criteria available at: [http://www.deq.state.mi.us/documents/deq-rrd-OpMemo\\_1.pdf](http://www.deq.state.mi.us/documents/deq-rrd-OpMemo_1.pdf); [http://www.deq.state.mi.us/documents/deq-rrd-OpMemo\\_5.pdf](http://www.deq.state.mi.us/documents/deq-rrd-OpMemo_5.pdf)  
 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 RBSLs; TSD - Attachment 3: Drinking Water Criteria (DWC)  
 Citation\_Location: Cleanup Criteria available at: [http://www.deq.state.mi.us/documents/deq-rrd-OpMemo\\_1.pdf](http://www.deq.state.mi.us/documents/deq-rrd-OpMemo_1.pdf); [http://www.deq.state.mi.us/documents/deq-rrd-OpMemo\\_1-Attachment3DrinkingWaterCriteriaTechnicalSupportDocument.pdf](http://www.deq.state.mi.us/documents/deq-rrd-OpMemo_1-Attachment3DrinkingWaterCriteriaTechnicalSupportDocument.pdf)  
 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 Redevelo  
Organization: Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Storag  
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

### Guidelines

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 RBSLs; TSD: Groundwater and Soil Volatilization to Indoor Air Inhalation Criteria

Citation\_Location: Cleanup Criteria available at: [http://www.deq.state.mi.us/documents/deq-rrd-OpMemo\\_1.pdf](http://www.deq.state.mi.us/documents/deq-rrd-OpMemo_1.pdf);  
<http://www.deq.state.mi.us/documents/deq-erd-td5.pdf>

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     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Groundwater

### 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

### 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](mailto: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](mailto:helen.goeden@health.state.mn.us)

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)
- SolidWsteLndfill   
  VoluntaryClnUp   
  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](mailto: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](mailto:helen.goeden@health.state.mn.us)

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)
- SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

## 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

## 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:

Citation\_Location: Clean Water Act, Missouri Water Quality Standards

Contact\_Info: Public Drinking Water Program

Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## 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). <http://www.dnr.mo.gov/env/hwp/mrbca/workgroup.htm>. Cancer risk 1x10<sup>-5</sup>, noncancer risk HQ=1

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

Contact\_Info: Missouri Risk-Based Corrective Action (MRBCA) Technical Guidance (2005 Draft). <http://www.dnr.mo.gov/env/hwp/mrbca/workgroup.htm>. Cancer risk 1x10<sup>-5</sup>, noncancer risk HQ=1

Comments:

##### Other

Basis: Missouri Risk-Based Corrective Action (MRBCA) Technical Guidance (2005 Draft). <http://www.dnr.mo.gov/env/hwp/mrbca/workgroup.htm>. Cancer risk 1x10<sup>-5</sup>, noncancer risk HQ=1

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

Contact\_Info:

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)
- SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

## Groundwater

### 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

### Groundwater

#### Discharge to Surface Water

Basis: Subpart II - Brownfield Risk Evaluation Procedures

Citation\_Location:

Contact\_Info: [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:

#### Drinking (Ingestion)

Basis: Subpart II - Brownfield Risk Evaluation Procedures

Citation\_Location:

Contact\_Info: [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     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Groundwater

### 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

### Groundwater

#### Discharge to Surface Water

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:

#### 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:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other Groundwater Remediation

## Guidelines

### Groundwater

#### Drinking (Ingestion)

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:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other Groundwater Remediation

## Groundwater

### NORTH DAKOTA

Name: Curt Erickson

Contact\_Title: Program Manager

Organization: Hazardous Waste Program

Address / City: 918 East Divide Ave, Bismarck, 585011947

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](http://www.legis.nd.gov/information/acdata/pdf/33-17-01.pdf)

Contact\_Info:

Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## 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:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     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

## Regulatory

### Groundwater

#### Discharge to Surface Water

Basis:

Citation\_Location: Nebraska Title 117 - Nebraska Surface Water Quality Standards, available at: <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.

#### 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>

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     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     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

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

## Regulatory

### Groundwater

#### 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)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Groundwater

### 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

### 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<sup>-6</sup> 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/> Contact person is Barry Frasco.  
 Comments:

- 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

### Regulatory

#### Groundwater

##### Drinking (Ingestion)

Basis: Federal MCL's  
 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)  
 SolidWsteLndfill  VoluntaryClnUp  SafeDrinkingWaterAct  UST  WetlandsProgram  Other

## Groundwater

### 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

#### 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)
- SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 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

### Regulatory

#### Groundwater

##### 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](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 therefoer 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: OAR 340-122-0115 [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)  
 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 therefoer 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](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 therefoer 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](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 therefoer the same definition of acceptable risk.

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 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> and <http://www.deq.state.or.us/wmc/tank/rbdrm.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 therefoer 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> and <http://www.deq.state.or.us/wmc/tank/rbdrm.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 therefoer 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> and <http://www.deq.state.or.us/wmc/tank/rbdrm.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 therefoer 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>  
 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 therefoer the same definition of acceptable risk.

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)
- SolidWsteLndfill     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

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>

- RCRA\_CA   
  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

Contact\_Phone: (401) 862-5250

### Guidelines

#### Groundwater

##### Direct Contact (Dermal)

Basis:

Citation\_Location: 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:

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>

Citation\_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](mailto: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](http://www.rules.state.ri.us/rules/released/pdf/DOH/DOH_3355.pdf)

Citation\_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](mailto: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:

Citation\_Location: 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:

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)
- SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

## Groundwater

### 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

### Groundwater

#### Direct Contact (Dermal)

Basis:

Citation\_Location: <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>

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>

Contact\_Info: Joane Lineburg, SDDENR 773-3296

Comments:

- RCRA\_CA   
 Brownfields   
 DrinkingWater   
 SurfaceWater   
 AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## Guidelines

### Groundwater

#### Direct Contact (Dermal)

Basis:

Citation\_Location: <http://legis.state.sd.us/rules/DisplayRule.aspx?Rule=74:54>

Contact\_Info:

Comments:

#### Discharge to Surface Water

Basis:

Citation\_Location: <http://legis.state.sd.us/rules/DisplayRule.aspx?Rule=74:54>

Contact\_Info:

Comments:

#### Drinking (Ingestion)

Basis:

Citation\_Location: <http://legis.state.sd.us/rules/DisplayRule.aspx?Rule=74:54>

Contact\_Info:

Comments:

- RCRA\_CA   
 Brownfields   
 DrinkingWater   
 SurfaceWater   
 AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## 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>  
350.72, 350.74(f), 350.75(i)(7)

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>  
350.72, 350.74(b), 350.75(i)(7)

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)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## 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

### 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: "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)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Groundwater

### UTAH

Name: Scott Everett

Contact\_Title: Toxicologist

Organization: Voluntary Cleanup Program

Address / City:

Email: Severett@utah.gov

Contact\_Phone: (801) 536-4117

## 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) Interested party may review document at [http://www.undergroundtanks.utah.gov/prop\\_rules.htm](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:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     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)

Basis: \* see note below

Citation\_Location: N/A

Contact\_Info:

Comments: 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 <http://www.deq.state.va.us/tanks/dwnllib.html#techmanfiles>. Contact jsbarnett@deq.virginia.gov. For RCRA Subtitle C, the federal regulations are adopted by reference. For Solid Waste DEQ uses Subtitle D federal criteria and guidance. Contact skthirunagari@deq.virginia.gov

##### Discharge to Surface Water

Basis: Water Quality Standards. 9 VAC 25-260-140.

Citation\_Location: 9VAC20-160-90

Contact\_Info: klgreene@deq.virginia.gov

Comments:

##### Drinking (Ingestion)

Basis: MCL supercedes risk-based

Citation\_Location: 9VAC20-160-90

Contact\_Info:

Comments:

##### Other

Basis: \* see note below

Citation\_Location: N/A

Contact\_Info: 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 <http://www.deq.state.va.us/tanks/dwnllib.html#techmanfiles>. Contact jsbarnett@deq.virginia.gov. For RCRA Subtitle C, the federal regulations are adopted by reference. For Solid Waste DEQ uses Subtitle D federal criteria and guidance. Contact skthirunagari@deq.virginia.gov

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)
- SolidWsteLndfill   
 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

### Guidelines

#### Groundwater

##### Direct Contact (Dermal)

Basis: HQ=0.1 for screening; MCL supercedes risk-based

Citation\_Location: [www.deq.virginia.gov/vrprisk/tables.html](http://www.deq.virginia.gov/vrprisk/tables.html)

Contact\_Info: pamcmurray@deq.virginia.gov

Comments:

##### Discharge to Surface Water

Basis:

Citation\_Location: N/A

Contact\_Info:

Comments: 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 <http://www.deq.state.va.us/tanks/dwnlib.html#techmanfiles>. Contact jsbarnett@deq.virginia.gov. For RCRA Subtitle C, the federal regulations are adopted by reference. For Solid Waste DEQ uses Subtitle D federal criteria and guidance. Contact skthirunagari@deq.virginia.gov

##### Drinking (Ingestion)

Basis: HQ=0.1 for screening; MCL supercedes risk-based

Citation\_Location: [www.deq.virginia.gov/vrprisk/tables.html](http://www.deq.virginia.gov/vrprisk/tables.html)

Contact\_Info: pamcmurray@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 VRP risk assessment guidance for screening levels for construction worker exposure and vapor intrusion

Citation\_Location: [www.deq.virginia.gov/vrprisk/tables.html](http://www.deq.virginia.gov/vrprisk/tables.html)

Contact\_Info: pamcmurray@deq.virginia.gov

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## 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:

Comments: 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.

##### 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: 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.

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)
- SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

### 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: 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.

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)
- SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other



## 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

Comments:

##### 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:

Comments:

##### 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:

Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## 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 Contact\_Phone: (501) 682-0689

### 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)  
 SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

## 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 Contact\_Phone: (501) 682-0689

### 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](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](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&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: U.S. EPA, Ecological Risk Assessment Guidance for Superfund, <http://www.epa.gov/oswer/riskassessment/ecorisk/ecorisk.htm>

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&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: 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: 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](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&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)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## 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, 850072952

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     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     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: msorensen@dtsc.ca.gov

Contact\_Phone: (916) 255-6660

### Regulatory

#### Surface Water

##### *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:

##### *Drinking (Ingestion)*

Basis:

Citation\_Location: "Cleanup criteria can established based on human health risk or utilize MCLs if the surface water 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:

##### *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>) 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:

##### *Fish Consumption*

Basis:

Citation\_Location: Pertinent statute: To protect public health - California Health and Safety Code (CHSC), Section 59009. To advise local health authorities - CHSC, Section 59011. To issue health advisories - the California Water Code Section 13177.5.

Contact\_Info: California Office of Environmental Health Hazard Assessment, Fish and Water Quality Evaluation Unit, (916) 324-2831. (see <http://www.oehha.ca.gov/fish.html>)

Comments:

##### *Other*

## Surface Water

### 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

### Regulatory

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>.

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)  
 SolidWsteLndfill     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: msorensen@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](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](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:

*Ecological Risk*

## Surface Water

### 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

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:

#### Fish Consumption

Basis:

Citation\_Location: Draft Development of Guidance Tissue Levels and Screening Values for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene. The California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (OEHHA) announces the availability of the draft report entitled "Development of guidance tissue levels and screening values for common contaminants in sport fish: Chlordane, DDTs dieldrin, methylmercury, PCBs, selenium, and toxaphene." Guidance tissue levels (GTLs) are designed to provide a number of recommended fish meals that correspond to the range of contaminant concentrations found in fish. GTLs are used to provide meal consumption advice to prevent consumers from being exposed to more than the average daily reference dose for non-carcinogens or to a risk level greater than 1x10<sup>-4</sup> for carcinogens. Screening values are specific guidance tissue levels used to identify situations where contaminant concentrations in fish are of potential health concern and further action (e.g., additional sampling or developing consumption advice) is recommended.

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)
- SolidWsteLndfill
  VoluntaryClnUp
  SafeDrinkingWaterAct
  UST
  WetlandsProgram
  Other



## Surface Water

### COLORADO

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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/wq/Assessment/TMDL/TMDLs.html>

Contact\_Info: Division Staff at (303) 692-3500 or [cdphe.wqcc@state.co.us](mailto:cdphe.wqcc@state.co.us)

Comments:

##### Drinking (Ingestion)

Basis:

Citation\_Location: <http://www.cdphe.state.co.us/op/regs/waterregs/100231basicstandards1205and1207.pdf>

Contact\_Info: Division Staff at (303) 692-3500 or [cdphe.wqcc@state.co.us](mailto:cdphe.wqcc@state.co.us)

Comments:

##### Ecological Risk

Basis:

Citation\_Location: <http://www.cdphe.state.co.us/op/regs/waterregs/100231basicstandards1205and1207.pdf>,  
<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](mailto:cdphe.wqcc@state.co.us)

Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## 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 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 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 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:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

### 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)  
 SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

## Surface Water

### DELAWARE

Name: Stephen Johnson

Contact\_Title: Environmental Engineer

Organization: Site Investigation and Restoration Branch

Address / City:

Email:

Contact\_Phone: (302) 395-2600

### Regulatory

#### Surface Water

##### Direct Contact (Dermal)

Basis: varies according to surface water body designation

Citation\_Location: Surface Water Quality Standards

Contact\_Info: Qazi Salahudin

Comments:

##### Drinking (Ingestion)

Basis: varies according to surface water body designation

Citation\_Location: Surface Water Quality Standards

Contact\_Info: Qazi Salahudin

Comments:

##### Ecological Risk

Basis: varies according to surface water body designation

Citation\_Location: Surface Water Quality Standards

Contact\_Info: Qazi Salahudin

Comments:

##### Fish Consumption

Basis: varies according to surface water body designation

Citation\_Location: Surface Water Quality Standards

Contact\_Info: Qazi Salahudin

Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Surface Water

### 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

#### Surface Water

##### Direct Contact (Dermal)

Basis: Determined on a site-specific basis.

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](http://www.gaepd.org/Documents/rules_exist.html)

Contact\_Info:

Comments:

##### Drinking (Ingestion)

Basis: Determined on a site-specific basis.

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](http://www.gaepd.org/Documents/rules_exist.html)

Contact\_Info:

Comments:

##### 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:

##### Fish Consumption

Basis: Determined on a site-specific basis.

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](http://www.gaepd.org/Documents/rules_exist.html)

Contact\_Info:

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

### Guidelines

#### Surface Water

##### 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](http://www.gaepd.org/Files_PDF/techguide/hwb/swmurisk.pdf)

Contact\_Info: jim\_brown@dnr.state.ga.us

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

## Surface Water

### 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

### 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](mailto:connie.dou@dnr.state.ia.us)

Comments:

- |   |  |   |  |   |                                |
|---|--|---|--|---|--------------------------------|
| <input type="checkbox"/> RCRA_CA          | <input checked="" type="checkbox"/> Brownfields    | <input type="checkbox"/> DrinkingWater        | <input checked="" type="checkbox"/> SurfaceWater | <input type="checkbox"/> AirQuality (Clean Air Act) |                                |
| <input type="checkbox"/> SolidWsteLndfill | <input checked="" type="checkbox"/> VoluntaryClnUp | <input type="checkbox"/> SafeDrinkingWaterAct | <input checked="" type="checkbox"/> UST          | <input checked="" type="checkbox"/> WetlandsProgram | <input type="checkbox"/> Other |

## Surface Water

### ILLINOIS

Name: Heather Nifong

Contact\_Title: Programs Advisor

Organization: Division of Remediation Management, Bureau of Land

Address / City: 1021 North Grand Ave East, Springfield, 627949276

Email: heather.nifong@epa.state.il.us

Contact\_Phone: (217) 785-4729

### 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:

Basis:

Citation\_Location: None. Developed on site-specific basis.

Contact\_Info: IEPA Toxicity Assessment Unit, 217-785-0830

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:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

### 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:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## 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](mailto: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](mailto: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](mailto: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](mailto:dclark@idem.in.gov)

Comments:

- RCRA\_CA   
 Brownfields   
 DrinkingWater   
 SurfaceWater   
 AirQuality (Clean Air Act)
- SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

### Guidelines

#### Surface Water

##### Fish Consumption

Basis:

Citation\_Location: 2005 Indiana Fish Consumption Advisory [http://www.in.gov/isdh/dataandstats/fish/fish\\_adv\\_index.htm](http://www.in.gov/isdh/dataandstats/fish/fish_adv_index.htm). Please see the FDA/EPA Consumer Advice for more information (<http://www.cfsan.fda.gov/admehg3.html>) and to determine which commercial fish species are safest.

Contact\_Info:

Comments:

- RCRA\_CA   
 Brownfields   
 DrinkingWater   
 SurfaceWater   
 AirQuality (Clean Air Act)
- SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## Surface Water

### KENTUCKY

Name: Wesley Turner, et.al.

Contact\_Title: Supervisor Federal Section Superfund

Organization: Division of Waste Mangement Superfund

Address / City: 14 Reilly Road, Frankfort, 40601

Email: wesley.turner@ky.gov

Contact\_Phone: (502) 564-6716

### Regulatory

#### Surface Water

##### Other

Basis: 401 KAR Chapters 4,5 6, 8

Citation\_Location: <http://www.lrc.ky.gov/kar/TITLE401.HTM>

Contact\_Info: Larry Taylor

Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

### Guidelines

#### Surface Water

##### Ecological Risk

Basis: 401 KAR 100:030 "Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments (1997)", and "Guidelines for Ecological Risk Assessment (1998)".

Citation\_Location: <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



## 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

### Regulatory

#### Surface Water

##### *Direct Contact (Dermal)*

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>

Contact\_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

Comments:

##### *Drinking (Ingestion)*

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>

Contact\_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

Comments:

##### *Ecological Risk*

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>

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>

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)*

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>

Contact\_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

Comments:

##### *Drinking (Ingestion)*

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>

Contact\_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425

Comments:

##### *Ecological Risk*

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>

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>

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

### 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)

Basis: Hazard Index=0.2, Cancer Risk= 1E-06. Standards consider ingestion of contaminated water. The standards also consider quantitation limits, cost and treatment issues.

Citation\_Location: Massachusetts MCLs. 310 CMR 22 - Mass Drinking Water Regulation, applicable to Class A Surface Water bodies (reservoirs) <http://mass.gov/dep/water/laws/regulati.htm>

Contact\_Info: Dave Terry, David.Terry@state.ma.us, (617) 292-5529

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)
- SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

### Guidelines

#### Surface Water

##### Ecological Risk

Basis: Ecological Hazard Index = 1, using USEPA National Recommended Water Quality Criteria or similar value as target level and considering fate/transport factors.

Citation\_Location: Benchmark levels in surface water identified in background documentation for the MCP groundwater GW-3 standards. 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)
- SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

## Surface Water

### 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

#### Surface Water

##### 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 26.04.01.06-07

Contact\_Info: ERRP (410) 537-3493

Comments:

##### Ecological Risk

Basis:

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:

##### Fish Consumption

Basis:

Citation\_Location: COMAR 26.08.02.03-2

Contact\_Info: TRSA (410) 537-3906

Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Surface Water

### 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

### Guidelines

#### Surface Water

##### Direct Contact (Dermal)

Basis: EPA RBC  
Citation\_Location: EPA RAGS  
Contact\_Info: MDE Cleanup Standards  
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:

##### Ecological Risk

Basis: MDE Cleanup Standards, Ambient Water Quality Criteria (AWQC), COMAR 26.08.02.03-2  
<http://www.dsd.state.md.us/comar/26/26.08.02.03%2D2.htm>  
Citation\_Location: Ecological Risk Assessment Guidance for Superfund, U.S. EPA <http://www.epa.gov/oswer/riskassessment/ecorisk/ecorisk.htm>  
Contact\_Info:  
Comments:

##### Fish Consumption

Basis:  
Citation\_Location: Ambient Water Quality COMAR 26.08.02.03-2 <http://www.dsd.state.md.us/comar/26/26.08.02.03%2D2.htm>  
Contact\_Info:  
Comments:

RCRA\_CA  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)  
 SolidWsteLndfill  VoluntaryClnUp  SafeDrinkingWaterAct  UST  WetlandsProgram  Other

## Surface Water

### MICHIGAN

Name: Christine Flaga

Contact\_Title: Chief, Toxicology Unit, Remediation and Redevelo

Organization: Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Storag

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

#### Surface Water

##### Direct Contact (Dermal)

Basis:

Citation\_Location: "Refer to the Soil Standards sheet for the groundwater venting to surface water criteria (GSI). "

Contact\_Info:

Comments:

##### Drinking (Ingestion)

Basis:

Citation\_Location: "Refer to the Soil Standards sheet for the groundwater venting to surface water criteria (GSI). "

Contact\_Info:

Comments:

##### 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](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:

##### Fish Consumption

Basis:

Citation\_Location: "Refer to the Soil Standards sheet for the groundwater venting to surface water criteria (GSI). "

Contact\_Info:

Comments:

##### Other

Basis: Hazardous substance-specific values for acute toxicity to aquatic life are listed in the Rule 57 Water Quality Values Spreadsheet (R 323.1057 of Part 4, Toxic Substances, of Part 31, Water Resources Protection, of the NREPA). The Rule 57 Water Quality Values Spreadsheet is available at

Citation\_Location: Available at [www.michigan.gov/deq](http://www.michigan.gov/deq) select "Water," Water Quality Monitoring, "Assessment of Michigan Waters", Rule 7 Water Quality Values).

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

Comments:

- RCRA\_CA   
 Brownfields   
 DrinkingWater   
 SurfaceWater   
 AirQuality (Clean Air Act)
- SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## Surface Water

### MICHIGAN

Name: Christine Flaga Contact\_Title: Chief, Toxicology Unit, Remediation and Redevelo  
Organization: Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Storang  
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

### Guidelines

#### Surface Water

##### Direct Contact (Dermal)

Basis:

Citation\_Location: "Refer to the Soil Standards sheet for the groundwater venting to surface water criteria (GSI). "

Contact\_Info:

Comments:

##### Drinking (Ingestion)

Basis:

Citation\_Location: "Refer to the Soil Standards sheet for the groundwater venting to surface water criteria (GSI). "

Contact\_Info:

Comments:

##### Fish Consumption

Basis:

Citation\_Location: "Refer to the Soil Standards sheet for the groundwater venting to surface water criteria (GSI). "

Contact\_Info:

Comments:

##### Other

Basis: Rule 57 Water Quality Values (R 323.1057 of Part 4, Toxic Substances, of Part 31, Water Resources Protection, of the NREPA).

Citation\_Location: Available at [www.michigan.gov/deq](http://www.michigan.gov/deq) select "Water," Water Quality Monitoring, "Assessment of Michigan Waters", Rule 7 Water Quality Values).

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

Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## 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

### 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>

Contact\_Info: Dan White, 651-296-7237, [dan.white@pca.state.mn.us](mailto: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>

Contact\_Info: Dan White, 651-296-7237, [dan.white@pca.state.mn.us](mailto: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>

Contact\_Info: Dan White, 651-296-7237, [dan.white@pca.state.mn.us](mailto:dan.white@pca.state.mn.us)

Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other



## 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>

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/>

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:

##### *Ecological Risk*

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:

##### *Fish Consumption*

Basis:

Citation\_Location: No formal guidelines. May refer to: <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)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Surface Water

### 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

#### Surface Water

##### Drinking (Ingestion)

Basis: Missouri Risk-Based Corrective Action (MRBCA) Technical Guidance (2005 Draft).  
<http://www.dnr.mo.gov/env/hwp/mrbca/workgroup.htm>. Cancer risk 1x10-5, noncancer risk HQ=1

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 1x10-6, non-cancer risk HQ=1

Contact\_Info:

Comments:

##### Ecological Risk

Basis:

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:

Comments:

##### Fish Consumption

Basis:

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:

Comments:

##### Other

Basis: Missouri Risk-Based Corrective Action (MRBCA) Technical Guidance (2005 Draft).  
<http://www.dnr.mo.gov/env/hwp/mrbca/workgroup.htm>. Cancer risk 1x10-5, noncancer risk HQ=1

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 1x10-6, non-cancer risk HQ=1

Contact\_Info:

Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## 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:

Contact\_Info: Surface Water Division - Randy Reed 601-961-5171

Comments: Our Surface Water Division has Water Quality Regulations and Standards

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

### 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

Name: Curt Erickson

Contact\_Title: Program Manager

Organization: Hazardous Waste Program

Address / City: 918 East Divide Ave, Bismarck, 585011947

Email: cerickso@state.nd.us

Contact\_Phone: (701) 328-5166

### 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](http://www.legis.nd.gov/information/acdata/pdf/33-17-01.pdf)

Contact\_Info:

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  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](http://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   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
 WetlandsProgram   
 Other

## Surface Water

### 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

### 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>

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>

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>

Contact\_Info: John Bender, 402/471-4201, john.bender@ndeq.state.ne.us

Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Surface Water

### 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

#### Surface Water

##### Drinking (Ingestion)

Basis: Surface water standards for drinking water would follow Safe Drinking Water Act MCLs.

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:

##### Ecological Risk

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:

##### Human Health Risk

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:

- 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 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

### Regulatory

#### Surface Water

##### Drinking (Ingestion)

Basis: See comments section below.  
 Citation\_Location: Surface Water Remediation Standards (N.J.A.C. 7:26E-1.13. These standards are identical to the Surface Water Quality Standards N.J.A.C. 7:9B. See comments section below.  
 Contact\_Info: The contact person is Barry Frasco.  
 Comments: The Surface Water Quality Standards (N.J.A.C. 7:9B) classify the surface water of New Jersey into 7 categories. Class FW1 (fresh water) and PL (pinelands) surface waters have surface water quality standards that are based on natural background. Class FW2 (fresh water) surface water have surface water quality standards that are based primarily on potability with secondary consideration of ecological risk and bioaccumulation. Class SE1, SE2, SE3 and SC surface waters have surface water quality standards based on ecological risk and bioaccumulation.

##### Ecological Risk

Basis: See comments section below.  
 Citation\_Location: Surface Water Remediation Standards (N.J.A.C. 7:26E-1.13. These standards are identical to the Surface Water Quality Standards N.J.A.C. 7:9B. See comments section below.  
 Contact\_Info: The contact person is Barry Frasco.  
 Comments: The Surface Water Quality Standards (N.J.A.C. 7:9B) classify the surface water of New Jersey into 7 categories. Class FW1 (fresh water) and PL (pinelands) surface waters have surface water quality standards that are based on natural background. Class FW2 (fresh water) surface water have surface water quality standards that are based primarily on potability with secondary consideration of ecological risk and bioaccumulation. Class SE1, SE2, SE3 and SC surface waters have surface water quality standards based on ecological risk and bioaccumulation.

##### Fish Consumption

Basis: See comments section below.  
 Citation\_Location: Surface Water Remediation Standards (N.J.A.C. 7:26E-1.13. These standards are identical to the Surface Water Quality Standards N.J.A.C. 7:9B. See comments section below.  
 Contact\_Info: The contact person is Barry Frasco.  
 Comments: The Surface Water Quality Standards (N.J.A.C. 7:9B) classify the surface water of New Jersey into 7 categories. Class FW1 (fresh water) and PL (pinelands) surface waters have surface water quality standards that are based on natural background. Class FW2 (fresh water) surface water have surface water quality standards that are based primarily on potability with secondary consideration of ecological risk and bioaccumulation. Class SE1, SE2, SE3 and SC surface waters have surface water quality standards based on ecological risk and bioaccumulation.

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other





## 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:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

### 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:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## 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](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 therefoer 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](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 therefoer 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](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 therefoer 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](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 therefoer 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](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 therefoer the same definition of acceptable risk.

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## 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> and <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 therefoer 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> and <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 therefoer 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: 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 therefoer 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> and <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 therefoer 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>  
 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 therefoer the same definition of acceptable risk.

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     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

##### Direct Contact (Dermal)

Basis:

Citation\_Location: See Comments

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: <http://www.dem.ri.gov/pubs/regs/regs/water/h20qlty.pdf>

##### Drinking (Ingestion)

Basis:

Citation\_Location: See Comments

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: <http://www.dem.ri.gov/pubs/regs/regs/water/h20qlty.pdf>

##### Ecological Risk

Basis:

Citation\_Location: See Comments

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: <http://www.dem.ri.gov/pubs/regs/regs/water/h20qlty.pdf>

##### Fish Consumption

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Citation\_Location: See Comments

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

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Basis:

Citation\_Location: See Comments

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: <http://www.dem.ri.gov/pubs/regs/regs/water/h20qlty.pdf>

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  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

### 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:  
<http://www.dem.ri.gov/pubs/regs/regs/water/h20qlty.pdf>

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:  
<http://www.dem.ri.gov/pubs/regs/regs/water/h20qlty.pdf>

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## 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

## Regulatory

### Surface Water

#### Direct Contact (Dermal)

Basis:

Citation\_Location: <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>

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>

Contact\_Info: Patrick Snyder, SDDENR 773-3351

Comments:

- RCRA\_CA   
 Brownfields   
 DrinkingWater   
 SurfaceWater   
 AirQuality (Clean Air Act)
- SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

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



## Surface Water

### 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

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



## Surface Water

### 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

### 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:

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-24, <http://www.tceq.state.tx.us/remediation/trrp/guidance.html>, Procedures to Implement the Texas Surface Water Quality Standards, [http://www.tceq.state.tx.us/comm\\_exec/forms\\_pubs/pubs/rg/rg-194.html](http://www.tceq.state.tx.us/comm_exec/forms_pubs/pubs/rg/rg-194.html)  
 Contact\_Info: Vickie Reat  
 Comments:

##### Fish Consumption

Basis:  
 Citation\_Location: TRRP-18, TRRP-24, <http://www.tceq.state.tx.us/remediation/trrp/guidance.html>, Procedures to Implement the Texas Surface Water Quality Standards, [http://www.tceq.state.tx.us/comm\\_exec/forms\\_pubs/pubs/rg/rg-194.html](http://www.tceq.state.tx.us/comm_exec/forms_pubs/pubs/rg/rg-194.html)  
 Contact\_Info: Vickie Reat  
 Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Surface Water

### UTAH

Name: Scott Everett

Contact\_Title: Toxicologist

Organization: Voluntary Cleanup Program

Address / City:

Email: Severett@utah.gov

Contact\_Phone: (801) 536-4117

### 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     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     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     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     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:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

### 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:

##### Fish Consumption

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:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## 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)*

Basis:

Citation\_Location: Ambient Water Quality Criteria NR 105.09 (4)a, use NR809 MCL if lower and water is classified as a drinking water source.

Contact\_Info:

Comments:

##### *Fish Consumption*

Basis:

Citation\_Location: NR 105.08 for non-carcinogens and NR 105.09 for carcinogens

Contact\_Info:

Comments:

##### *Other*

Basis: Based on ingestion during Swimming and other Recreational uses

Citation\_Location: NR 105.08 for non-carcinogens and NR 105.09 for carcinogens

Contact\_Info:

Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Vapor Intrusion

### 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

#### Vapor Intrusion

##### Inhalation

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:  
 RCRA\_CA  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)  
 SolidWsteLndfill  VoluntaryClnUp  SafeDrinkingWaterAct  UST  WetlandsProgram  Other

### Guidelines

#### Vapor Intrusion

##### Inhalation

Basis:  
 Citation\_Location: Risk Assessment Procedures Manual (this document is sdopted by reference in 18 AAC 75)  
 Contact\_Info: Jill\_Taylor@dec.state.ak.us

Comments:  
 RCRA\_CA  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)  
 SolidWsteLndfill  VoluntaryClnUp  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

#### Vapor Intrusion

##### Inhalation

Basis: U.S. EPA Users Guide for Evaluating Subsurface Vapor Intrusion into Buildings, [http://www.epa.gov/oswer/riskassessment/airmodel/pdf/2004\\_0222\\_3phase\\_users\\_guide.pdf](http://www.epa.gov/oswer/riskassessment/airmodel/pdf/2004_0222_3phase_users_guide.pdf). February 2004. Based on Johnson Ettinger Model; risk levels are chosen site specifically.  
 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  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)  
 SolidWsteLndfill  VoluntaryClnUp  SafeDrinkingWaterAct  UST  WetlandsProgram  Other

## Vapor Intrusion

### 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

### Regulatory

#### Vapor Intrusion

##### Inhalation

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)

Contact\_Info:

Comments: 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.

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Vapor Intrusion

### 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

### 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:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

# Vapor Intrusion

## 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

#### Vapor Intrusion

##### Inhalation

Basis:

Citation\_Location: "1. Guidance For The Evaluation And Mitigation Of Subsurface Vapor Intrusion To Indoor Air. (See [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)) 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. 2. 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](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: "1. 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. 2. 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. 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>) "

Contact\_Info:

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
  VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other



# Vapor Intrusion

## COLORADO

Name: Barbara O'Grady

Contact\_Title: Environmental Protection Specialist III

Organization: Remedial Programs/Hazardous Materials and Waste Menegement

Address / City: 4300 Cherry Creek Drive South, Denver, 80246

Email: barbara.ograde@state.co.us

Contact\_Phone: (303) 692-3395

### Guidelines

#### Vapor Intrusion

##### Inhalation

Basis: U.S. EPA 2005. "Human Health Risk Assessment, Risk-Based Concentration Table, October 2005 update".  
<http://www.epa.gov/reg3hwmd/risk/human/index.htm>  
[http://www.epa.gov/reg3hwmd/risk/human/index.htm#swr/riskassessment/airmodel/johnson\\_ettinger.htm](http://www.epa.gov/reg3hwmd/risk/human/index.htm#swr/riskassessment/airmodel/johnson_ettinger.htm)

Citation\_Location: <http://www.cdphe.state.co.us/hm/indoorair.pdf>

Contact\_Info: Walter Avramenko 303-692-3362 [walter.avramenko@state.co.us](mailto:walter.avramenko@state.co.us)

Comments:

##### Other

Basis:

Citation\_Location: <http://www.cdphe.state.co.us/hm/indoorair.pdf>

Contact\_Info: Walter Avramenko 303-692-3362 [walter.avramenko@state.co.us](mailto: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.

- |   |  |   |                                       |   |                                |
|---|--|---|---------------------------------------|---|--------------------------------|
| <input checked="" type="checkbox"/> RCRA_CA | <input checked="" type="checkbox"/> Brownfields    | <input type="checkbox"/> DrinkingWater        | <input type="checkbox"/> SurfaceWater | <input type="checkbox"/> AirQuality (Clean Air Act) |                                |
| <input type="checkbox"/> SolidWsteLndfill   | <input checked="" type="checkbox"/> VoluntaryClnUp | <input type="checkbox"/> SafeDrinkingWaterAct | <input type="checkbox"/> UST          | <input type="checkbox"/> WetlandsProgram            | <input type="checkbox"/> Other |

## Vapor Intrusion

### 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

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

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

### DELAWARE

Name: Stephen Johnson

Contact\_Title: Environmental Engineer

Organization: Site Investigation and Restoration Branch

Address / City:

Email:

Contact\_Phone: (302) 395-2600

### Guidelines

#### Vapor Intrusion

##### Inhalation

Basis: EPA guidance

Citation\_Location: under development--

Contact\_Info: Qazi Salahudin

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## 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](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 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

#### Vapor Intrusion

##### Inhalation

Basis:  
 Citation\_Location: Subrule 567 IAC 137.6(9) <http://www.iowadnr.com/land/consites/index.html>  
 Contact\_Info: Bob Drustrup, (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

## Vapor Intrusion

### ILLINOIS

Name: Heather Nifong Contact\_Title: Programs Advisor

Organization: Division of Remediation Management, Bureau of Land

Address / City: 1021 North Grand Ave East, Springfield, 627949276

Email: heather.nifong@epa.state.il.us Contact\_Phone: (217) 785-4729

### 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)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

### 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

### Guidelines

#### Vapor Intrusion

##### Inhalation

Basis: 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>

Citation\_Location: In the process of developing Vapor Intrusion Pilot Program Guidance

Contact\_Info: John Clark, (317) 234-0999, [jclark@idem.in.gov](mailto:jclark@idem.in.gov)

Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Vapor Intrusion

### KENTUCKY

Name: Wesley Turner, et.al. Contact\_Title: Supervisor Federal Section Superfund  
 Organization: Division of Waste Mangement Superfund  
 Address / City: 14 Reilly Road, Frankfort, 40601  
 Email: wesley.turner@ky.gov Contact\_Phone: (502) 564-6716

### 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)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

### 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

#### Vapor Intrusion

##### Inhalation

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>  
 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

### Guidelines

#### Vapor Intrusion

##### Inhalation

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>  
 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

## Vapor Intrusion

### 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)  
 SolidWsteLndfill   
 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)  
 SolidWsteLndfill   
 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)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## Vapor Intrusion

### MICHIGAN

Name: Christine Flaga Contact\_Title: Chief, Toxicology Unit, Remediation and Redevelo  
 Organization: Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Storang  
 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

#### Vapor Intrusion

##### 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 user 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).

- RCRA\_CA  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)  
 SolidWsteLndfill  VoluntaryClnUp  SafeDrinkingWaterAct  UST  WetlandsProgram  Other

### Guidelines

#### Vapor Intrusion

##### 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 user 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).

- RCRA\_CA  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)  
 SolidWsteLndfill  VoluntaryClnUp  SafeDrinkingWaterAct  UST  WetlandsProgram  Other

### 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

#### Vapor Intrusion

##### Human Health Risk

Basis:  
 Citation\_Location: Gudelines 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:

- RCRA\_CA  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)  
 SolidWsteLndfill  VoluntaryClnUp  SafeDrinkingWaterAct  UST  WetlandsProgram  Other

## Vapor Intrusion

### 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).  
<http://www.dnr.mo.gov/env/hwp/mrbca/workgroup.htm>. Cancer risk 1x10<sup>-5</sup>, noncancer risk HQ=1

Citation\_Location: U.S. EPA Users Guide for Evaluating Subsurface Vapor Intrusion into Buildings,  
[http://www.epa.gov/oswer/riskassessment/airmodel/pdf/2004\\_0222\\_3phase\\_users\\_guide.pdf](http://www.epa.gov/oswer/riskassessment/airmodel/pdf/2004_0222_3phase_users_guide.pdf). Feb 2004. Based on Johnson Ettinger Model; risk levels chosen site specifically.

Contact\_Info: 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 1x10<sup>-6</sup>, non-cancer risk HQ=1

Comments:

RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     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,  
[http://www.epa.gov/oswer/riskassessment/airmodel/pdf/2004\\_0222\\_3phase\\_users\\_guide.pdf](http://www.epa.gov/oswer/riskassessment/airmodel/pdf/2004_0222_3phase_users_guide.pdf). February 2004. Based on Johnson Ettinger Model; risk levels are chosen site specifically.

Citation\_Location:

Contact\_Info:

Comments:

RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other



## Vapor Intrusion

### 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

### 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

Contact\_Title: Program Manager

Organization: Hazardous Waste Program

Address / City: 918 East Divide Ave, Bismarck, 585011947

Email: cerickso@state.nd.us

Contact\_Phone: (701) 328-5166

### 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](http://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

## Vapor Intrusion

### 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   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)
- SolidWsteLndfill   
  VoluntaryClnUp   
  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](http://www.des.state.nh.us/orcb/doclist/pdf/vapor_intrusion.pdf)

**Contact\_Info:** Robin Mongeon rmongeon@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   
  AirQuality (Clean Air Act)
- SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

## Vapor Intrusion

### 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<sup>-6</sup> 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](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)  
 SolidWsteLndfill   
  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

### Regulatory

#### 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](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 therefoer the same definition of acceptable risk.

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
 UST   
  WetlandsProgram   
  Other

### Guidelines

#### Vapor Intrusion

##### Inhalation

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/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 therefoer the same definition of acceptable risk.

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
  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/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>

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

### 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:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## Vapor Intrusion

### UTAH

Name: Scott Everett

Contact\_Title: Toxicologist

Organization: Voluntary Cleanup Program

Address / City:

Email: Severett@utah.gov

Contact\_Phone: (801) 536-4117

### Guidelines

#### Vapor Intrusion

##### Inhalation

Basis:

Citation\_Location: Guidelines currently under review

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

Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

### VIRGINIA

Name: Pat McMurray

Contact\_Title: Toxicologist

Organization: Department of Environmental Quality

Address / City:

Email: pamcmurray@deq.virginia.gov

Contact\_Phone: (804) 698-4186

### Guidelines

#### Vapor Intrusion

##### Inhalation

Basis: HQ=0.1for screening; screening levels are for soil vapor and groundwater; VRP uses EPA Region III RBC for indoor air screening level.

Citation\_Location: [www.deq.virginia.gov/vrprisk/tables.html](http://www.deq.virginia.gov/vrprisk/tables.html)

Contact\_Info: pamcmurray@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.

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Vapor Intrusion

### 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

#### Vapor Intrusion

##### Inhalation

Basis:

Citation\_Location: 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).

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.

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

### Guidelines

#### Vapor Intrusion

##### Inhalation

Basis: 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>

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.

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## Sediment

### 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

### 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:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## 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:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other



## 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

Basis: U.S. EPA, Ecological Risk Assessment Guidance for Superfund, <http://www.epa.gov/oswer/riskassessment/ecorisk/ecorisk.htm>  
 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

Basis: U.S. EPA, Risk Assessment Guidance for Superfund (RAGS), U.S. EPA [http://www.epa.gov/oswer/riskassessment/risk\\_superfund.htm](http://www.epa.gov/oswer/riskassessment/risk_superfund.htm)  
 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](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

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

## Regulatory

### Sediment

#### 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>) 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:

#### 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>) 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:

#### 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>.

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)
- SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

## Sediment

### 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

### 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](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)  
 SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

## Sediment

### 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

### 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 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, Remedation Standard Regulations

Contact\_Info: Traci lott at traci.iott@po.state.ct.us

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 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:

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

## Guidelines

### Sediment

#### Human Health 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 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, Remedation Standard Regulations

Contact\_Info: Traci lott at traci.iott@po.state.ct.us

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## Sediment

### DELAWARE

Name: Stephen Johnson

Contact\_Title: Environmental Engineer

Organization: Site Investigation and Restoration Branch

Address / City:

Email:

Contact\_Phone: (302) 395-2600

### 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)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Sediment

### 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

### 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](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)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## 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](http://www.gaepd.org/Files_PDF/techguide/hwb/swmurisk.pdf)

Contact\_Info: jim\_brown@dnr.state.ga.us

Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Sediment

### 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

### Not Specified

#### Sediment

##### Other

Basis:  
 Citation\_Location:  
 Contact\_Info:  
 Comments: 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.

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

### ILLINOIS

Name: Heather Nifong Contact\_Title: Programs Advisor  
 Organization: Division of Remediation Management, Bureau of Land  
 Address / City: 1021 North Grand Ave East, Springfield, 627949276  
 Email: heather.nifong@epa.state.il.us Contact\_Phone: (217) 785-4729

### Guidelines

#### Sediment

##### Ecological Risk

Basis:  
 Citation\_Location: 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:  
 Citation\_Location: 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.

RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Sediment

### 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

## Guidelines

### Sediment

#### Ecological Risk

Basis:

Citation\_Location: Ecological Risk Assessment Guidance for Superfund for Designing and Conducting Ecological Risk Assessments  
<http://www.epa.gov/oerrpage/superfund/programs/risk/ecorisk/ecorisk.htm>

Contact\_Info:

Comments:

#### 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:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other



## Sediment

### KENTUCKY

Name: Wesley Turner, et.al.

Contact\_Title: Supervisor Federal Section Superfund

Organization: Division of Waste Mangement Superfund

Address / City: 14 Reilly Road, Frankfort, 40601

Email: wesley.turner@ky.gov

Contact\_Phone: (502) 564-6716

## Regulatory

### Sediment

#### Ecological Risk

Basis: 401 KAR 100:030 Ecological Risk Assessment for Superfund, Region 4 Ecological Screening Values

Citation\_Location:

Contact\_Info: Larry Taylor

Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Guidelines

### Sediment

#### Ecological Risk

Basis: 401 KAR 100:030 401 KAR 100:030 "Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments (1997)", and "Guidelines for Ecological Risk Assessment (1998)"., Region 4 Ecological Screening Values

Citation\_Location:

Contact\_Info: Larry Taylor

Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Sediment

### 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

### Sediment

#### Ecological Risk

Basis: Ecological Assessment Plan submitted  
 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>  
 Contact\_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425  
 Comments:

#### Human Health Risk

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>  
 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

## Guidelines

### Sediment

#### Ecological Risk

Basis: Ecological Assessment Plan submitted  
 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>  
 Contact\_Info: Patrick J. Lobos patrick.lobos@la.gov 225-219-3425  
 Comments:

#### Human Health Risk

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>  
 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

## Sediment

### 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

### Sediment

#### Human Health Risk

Basis: See Soil Standards for acceptable values.

Citation\_Location:

Contact\_Info:

Comments:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     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>

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)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Sediment

### 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

### Sediment

#### Ecological Risk

Basis:

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:

#### Human Health Risk

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)  
 SolidWsteLndfill   
  VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## Guidelines

### Sediment

#### Ecological Risk

Basis: MDE Cleanup Standards, Ambient Water Quality Criteria (AWQC), COMAR 26.08.02.03-2  
<http://www.dsd.state.md.us/comar/26/26.08.02.03%2D2.htm>

Citation\_Location: Ecological Risk Assessment Guidance for Superfund, U.S. EPA <http://www.epa.gov/oswer/riskassessment/ecorisk/ecorisk.htm>

Contact\_Info:

Comments:

#### Human Health Risk

Basis: EPA RBC

Citation\_Location: EPA RAGS

Contact\_Info: MDE Cleanup Standards

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
  VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## Sediment

### MICHIGAN

Name: Christine Flaga

Contact\_Title: Chief, Toxicology Unit, Remediation and Redevelo

Organization: Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Stora

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

### 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/0,1607,7-135-3311\\_4109\\_9846-58095--,00.html](http://www.michigan.gov/deq/0,1607,7-135-3311_4109_9846-58095--,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/0,1607,7-135-3311\\_4109\\_9846-58095--,00.html](http://www.michigan.gov/deq/0,1607,7-135-3311_4109_9846-58095--,00.html) specifically R299.5730 and R299.5532

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

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

## 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](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](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:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
  VoluntaryClnUp   
  SafeDrinkingWaterAct   
  UST   
  WetlandsProgram   
  Other

## Sediment

### 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

### Not Specified

#### Sediment

##### Ecological Risk

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:  
Citation\_Location: None, guidelines are developed on a site specific basis.  
Contact\_Info: Laura Solem, 218-529-6254, laura.solem@pca.state.mn.us  
Comments:

- RCRA\_CA  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)  
 SolidWsteLndfill  VoluntaryClnUp  SafeDrinkingWaterAct  UST  WetlandsProgram  Other

### 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

#### Sediment

##### Ecological Risk

Basis: EPA Consensus-based freshwater sediment quality guidelines. June 2000. EPA 905/R-00/007  
Citation\_Location: U.S. EPA Ecotox Thresholds, EPA 540/F-95/038, January 1996. <http://www.dnr.mo.gov/env/hwp/mrbca/workgroup.htm>.  
Contact\_Info:  
Comments:

- RCRA\_CA  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)  
 SolidWsteLndfill  VoluntaryClnUp  SafeDrinkingWaterAct  UST  WetlandsProgram  Other

## 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

Basis: U.S. EPA, Ecological Risk Assessment Guidance for Superfund, <http://www.epa.gov/oswer/riskassessment/ecorisk/ecorisk.htm>  
Citation\_Location:  
Contact\_Info:  
Comments:

- RCRA\_CA  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)  
 SolidWsteLndfill  VoluntaryClnUp  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

#### Sediment

##### Ecological Risk

Basis: See comment below  
Citation\_Location: See "Evaluation of Sediment Quality Guidance Document" [http://des.nh.gov/PDF/WD-04-9\\_Evaluation\\_of\\_Sediment.pdf](http://des.nh.gov/PDF/WD-04-9_Evaluation_of_Sediment.pdf)  
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  Brownfields  DrinkingWater  SurfaceWater  AirQuality (Clean Air Act)  
 SolidWsteLndfill  VoluntaryClnUp  SafeDrinkingWaterAct  UST  WetlandsProgram  Other

## Sediment

### 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

#### Sediment

##### Ecological Risk

Basis: "The following references are used as screening levels as well as a starting point in the development of site-specific sediment remediation standards: 1) Marine/Estuarine sediment: Long, E.R., MacDonald, D.D., Smith, S.L., and Calder, F.D. 1995. Incidence of adverse biological effects within ranges of chemical concentrations in marine and estuarine sediments. Environmental Management Vol.19, No.1. pp. 81-97. and 2) Freshwater sediment: Persaud, D., Jaagumagi, R., and Hayton, A. 1993. Guidelines for the protection and management of aquatic sediment quality in Ontario. ISBN 0-7729-9248-7. Ontario Ministry of the Environment, Ottawa, Ontario. 23p. "

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)  
 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

#### 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

Basis: ILCR = 1E-06, HI =1

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)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other



## Sediment

### 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

#### Sediment

##### *Ecological Risk*

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:

##### *Human Health Risk*

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:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 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](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 therefoer 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](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 therefoer the same definition of acceptable risk.

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## 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 therefoer 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 therefoer the same definition of acceptable risk.

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Sediment

### 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

### 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)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## 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   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## 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   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## Sediment

### 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

### Sediment

#### *Ecological Risk*

Basis:

Citation\_Location: No specific regulations, site-specific cleanup criteria will be developed as necessary.

Contact\_Info:

Comments:

#### *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:

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Sediment

### 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

### Sediment

#### Ecological Risk

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: Cumulative risk for multiple chemicals acting through a single pathway is 1E-4. The hazard quotient is 1.

#### Human Health Risk

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: Cumulative risk for multiple chemicals acting through a single pathway is 1E-4. The hazard quotient is 1.

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Guidelines

### Sediment

#### Ecological Risk

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: Cumulative risk for multiple chemicals acting through a single pathway is 1E-4. The hazard quotient is 1.

#### Human Health Risk

Basis:  
 Citation\_Location: TRRP-18, TRRP-24, <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.

- RCRA\_CA     Brownfields     DrinkingWater     SurfaceWater     AirQuality (Clean Air Act)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other

## Sediment

### UTAH

Name: Scott Everett

Contact\_Title: Toxicologist

Organization: Voluntary Cleanup Program

Address / City:

Email: Severett@utah.gov

Contact\_Phone: (801) 536-4117

### Guidelines

#### Sediment

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

### VIRGINIA

Name: Pat McMurray

Contact\_Title: Toxicologist

Organization: Department of Environmental Quality

Address / City:

Email: pamcmurray@deq.virginia.gov

Contact\_Phone: (804) 698-4186

### Not Specified

#### Sediment

##### Human Health Risk

Basis:

Citation\_Location: www.deq.virginia.gov/vrprisk/tables.html

Contact\_Info: pamcmurray@deq.virginia.gov

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

### Guidelines

#### Sediment

##### Ecological Risk

Basis: VRP recommends the Region III BTAG screening levels but they have not been incorporated into the guidance

Citation\_Location: N/A

Contact\_Info: pamcmurray@deq.virginia.gov

Comments:

- RCRA\_CA   
  Brownfields   
  DrinkingWater   
  SurfaceWater   
  AirQuality (Clean Air Act)  
 SolidWsteLndfill   
 VoluntaryClnUp   
 SafeDrinkingWaterAct   
 UST   
 WetlandsProgram   
 Other

## Sediment

### 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

## 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)  
 SolidWsteLndfill     VoluntaryClnUp     SafeDrinkingWaterAct     UST     WetlandsProgram     Other